

CLIMATE LEADERSHIP ACADEMY

CityLinks Pilot Partnership Between US and ASEAN Member States

# Urban Climate Adaptation

FROM RISK BARRIERS TO RESULTS

Managing the Social, Political, Environmental,  
& Financial Risks of Urban Infrastructure

Final Report



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## List of Acronyms

AWGESC – ASEAN Working Group on Environmentally Sustainable Cities

ASEAN – Association of Southeast Asian Nations

CLA – Climate Leadership Academy

EAS – East Asia Summit

EAS EMM – East Asia Summit Environment Ministers Meeting

EAS FMM – East Asia Summit Foreign Ministers’ Meeting

ES – Ecosystem Services

ESC – Environmentally Sustainable Cities

ESC MCP – Environmentally Sustainable Cities Model Cities Program

HLS – High Level Seminar

ICMA – International City/County Management Association

IGES – Institute for Global Environmental Strategies

ISC – Institute for Sustainable Communities

JAIF – Japan-ASEAN Integration Fund

NFP – National Focal Points

M&E – Monitoring and Evaluation

RDMA – Regional Development Mission for Asia

USAID – United States Agency for International Development

USG – United States Government

## Executive Summary

This report summarizes the major activities and intermediate results of the CityLinks™ Climate Leadership Academy (CLA) on urban climate adaptation held August 13-15, 2013 in Jakarta, Indonesia as part of the CityLinks Pilot Partnership between US and ASEAN Member States. The purpose of the CLA was to accelerate and advance urban climate adaptation activities in select cities of ASEAN Member States.

Cities in Southeast Asia are urbanizing at an unprecedented rate, and are among the most vulnerable cities in the world in terms of climate impacts. To support their urban adaptation efforts, the CLA utilized a peer-learning workshop methodology that customized content to the needs and priorities of participants, and maximized the transfer of lessons learned and best practices. Teams of four cross-sector, senior level adaptation practitioners from eight cities, joined by one senior level member of the respective national government participated.

The CLA was designed and organized in partnership with the Association of Southeast Asian Nations (ASEAN), the US Mission to ASEAN, and USAID / RDMA. It was launched at the fourth Environmentally Sustainable Cities High Level Seminar (ESC HLS) in March 2013 in Hanoi, Vietnam with support from the ASEAN Working Group on Environmentally Sustainable Cities (AWGESC).

Twenty-seven qualifying applications were received from various ASEAN cities and eight teams were selected by the AWGESC National Focal Points. CityLinks interviewed all participants in advance of the workshop and identified the following five main themes shared across the teams:

1. *Building Broad-Based Support*, including establishing cross-sector working groups for adaptation planning.
2. *Restoring Urban Ecosystem Services* to assist with climate change impacts such as flooding and extreme heat.
3. *Re-Thinking Conventional Management of Urbanization Processes*, including investing in alternative, adaptive infrastructure that is more resilient to climate impacts.
4. *Aligning Financial Investments*. Taking measures to reduce climate-related investment risks and maximizing the potential for investments in adaptive infrastructure.
5. *Elevating Social Equity*, including providing opportunities for poor and vulnerable populations to understand climate risks and identify local solutions enhances potential pathways from poverty and a strengthened democratic process.

These themes were then used to create a peer-learning agenda customized to the participants. A Resource Guide accompanied the CLA that included an introduction and overview describing key challenges in urban climate adaptation in Southeast Asia, case studies of successful urban climate adaptation programs in the U.S., CLA team profiles and contact information, and resource lists with additional information.

Each team created a three-month Action Plan that described two or three things that they would do differently as a result of the workshop when they returned home. Action plans focused on 1) establishing or strengthening working groups; 2) developing or refining strategic plans for urban climate adaptation; 3) developing or enhancing climate data and vulnerability assessments; 4) engaging citizens, stakeholders, and technical resources; and 5) restoring ecosystem services.

CityLinks distributed a feedback form at the CLA to collect data on various monitoring and evaluation indicators. Some notable outputs/outcomes included the following, demonstrating very strong outcomes in terms of capacity building of both stakeholders and institutions from the training provided at the workshop:

- ***40 stakeholders with increased capacity to adapt to the impacts of climate vulnerability and change as a result of USG assistance***
- ***25 institutions with improved capacity to address climate change issues as a result of USG assistance***
- ***973 Person hours of training completed in climate change supported by USG assistance***

Overall, the CLA was successful in advancing individual stakeholders and participating institutions urban climate adaptation activities. It provided clear evidence that peer-learning can be a successful intervention within the ASEAN context. As a result of the CLA, AWGESC can now incorporate peer learning and exchange as part of their regular agenda as an effective method for capacity building.

## Background

CityLinks™ is a program of the International City/County Management Association (ICMA) that allows city officials in developing and transitioning countries to draw on the resources of U.S. local governments to find sustainable solutions tailored to the real needs of their communities. CityLinks works to improve the capacity of cities to provide quality services to residents, create a better living space for the community—and sustain those improvements after the specific CityLinks project ends.

Thanks to a five-year agreement (2011-2016) with the U.S. Agency for International Development (USAID), ICMA and its partners implement the CityLinks program, with a focus on urban climate change mitigation and adaptation, food security, and water and sanitation access.

The CityLinks Climate Leadership Academy (CLA) workshop on Urban Climate Adaptation was conducted in partnership between the US and ASEAN Member States. The CLA advanced urban adaptation in Southeast Asian cities, which are some of the most vulnerable to the effects of climate change. It was based on the concept of peer learning: that practical, on-the-job training delivered by peers is the best way to learn and take on new challenges. . The following provides some background on how the project was started, and its relationship to existing climate change activities in ASEAN.

### ***Environmentally Sustainable Cities Agenda and the ASEAN ESC Model Cities Program***

ASEAN's current focus on urban sustainability began with the Singapore Declaration on Climate Change, Energy, and the Environment, issued at the Third East Asia Summit (EAS) in November 2007. This resulted in the formation of the East Asia Summit Environment Ministers Meeting (EAS EMM), inaugurated in October, 2008 in Hanoi, Vietnam, which prioritized an "Environmentally Sustainable Cities" (ESC) agenda and established the ESC HLS as the agenda's implementing body.

The first ESC HLS was held in Jakarta, Indonesia in March 2010. At this meeting, the ASEAN ESC Model Cities Programme (ESC-MCP) was proposed as a mechanism to advance the ESC agenda for ASEAN nations. The program was designed to be implemented by AWGESC with support from the Institute for Global Environmental Strategies (IGES) and the Japanese government.

The ESC-MCP was officially launched one year later at the second HLS in March, 2011 in Kitakyushu, Japan, with funding from the Japan-ASEAN Integration Fund (JAIF). The program launched pilot projects with 14 cities in seven (7) countries and focused on capacity development in areas such as low-carbon city development, water and sanitation, solid waste management, and urban greenery.

At the 3<sup>rd</sup> HLS in March, 2012 in Siem Reap, Cambodia, results from the first year of the ESC-MCP were presented. The program was seen as a success, with the following lessons learned:

- City-to-city learning is popular, but it requires a structured and strategic approach to be effective;
- There is a need to match cities with similar profiles and learning needs;
- Participation of other cities, including EAS countries (Australia, China, India, Japan, Korea, United States, Russia), would enhance the program; and
- The program should try to expand the pool of potential matches, particularly by linking with associations of local authorities in each country.

In July 2012, the EAS Foreign Ministers' Meeting (EAS-FMM) endorsed the ESC-MCP, and emphasized the importance of people-to-people exchanges and building "resilient societies."

### ***CityLinks and AWGESC Pilot Partnership***

Given the initial success and endorsement of the ESC-MCP, its emphasis on city-to-city exchanges, and the call by the ESC HLS for involvement from the United States, USAID / Regional Development Mission-Asia (RDMA) brought the opportunity to partner with the AWGESC to the attention of CityLinks, and requested their assistance to help support ASEAN.

A concept note (see appendix 1a.) was proposed in January 2013 to create an ASEAN-U.S. CityLinks partnership. The partnership's objective was to establish and strengthen technical support networks and capacity building among cities in the ASEAN region and between ASEAN and U.S. cities for integrated climate change adaptation planning at the local level. By creating peer-to-peer learning opportunities among ASEAN and U.S. counterparts using interactive training and knowledge exchange conferences, hands-on technical skill exchanges, and virtual technical advice, the partnership would support AWGESC's specific climate adaptation goals of: 1) advancing the 2nd year objectives of the MCP framework; 2) designing a clearinghouse for ESC-related data and information; and 3) continuing to build ESC capacity in climate adaptation.

With the support of USAID / RDMA and the U.S. Embassy to ASEAN, CityLinks staff were invited to attend the 4<sup>th</sup> HLS in March 2013 in Hanoi, Vietnam. A closed door meeting was arranged with AWGESC National Focal Points (NFP) to formally present the ASEAN-US CityLinks Pilot Partnership program to the AWGESC for approval and to receive their input on the design of the next steps for realizing the proposed CLA (see appendix 1d for a list of participants).

Approval for the program was granted at the meeting, and the pilot partnership between CityLinks and the AWGESC was established (see appendix 1b).



## Workshop Design Methods

The CityLinks design for the ASEAN CLA was based on the Institute for Sustainable Communities (ISC) peer-learning climate workshop methodology. The premises of this methodology are: 1) urban climate adaptation practitioners learn best from one another, especially when it comes to developing and testing new strategies and approaches; and 2) to accelerate scale-up in urban adaptation programs, peer-learning should be done within and across teams that represent a diverse cross section of community leaders and their counterparts.

This CLA also aimed to improve sub-national – national coordination on climate adaptation strategies by including one senior official from the national government within each city team. By providing an opportunity for teams to focus on their urban adaptation strategies for three days, participants can return home with shared understandings to inform future efforts.

The following outlines the six steps taken to design the CLA peer-learning workshop:

- 1) Create a Logic Model and Data Collection Table;
- 2) Design Learning Objectives and the Team Selection Process;
- 3) Conduct Needs and Wants Inquiries of Participants;
- 4) Select “Resource Team” Members;
- 5) Develop a Supporting Resource Guide; and
- 6) Design and Deliver the CLA Agenda.

### ***Create a Logic Model and Data Collection Table***

To ensure the results of the CLA would be in line with relevant USAID Climate Change and Development Strategy indicators, CityLinks created a Logic Model and accompanying Data Collection Table (see appendix 7a. and appendix 7b).

The **Logic Model** described the following for the CLA:

1. *Inputs* that included CityLinks partners’ expertise and experience.
2. *Activities* that included participant outreach and recruitment, agenda design methods, etc.
3. *Outputs* that described quantifiable products, such as the number of participants at the CLA, and case studies provided, etc. Outputs included data on the person-hours of training completed in climate change supported by United States Government (USG) assistance.
4. *Short-term and Intermediate Outcomes* that demonstrate measurable capacity increases for participants. These outcomes include data on the number of stakeholders and institutions with increased capacity to adapt to and address climate change impacts and issues as a result of USG assistance.
5. *Overall Impact* that connected USAID F indicators and Intermediate Results toward strategic objectives.

The **Data Collection Table** outlined a data collection plan to help demonstrate progress toward outcomes and impact. It included the following:

1. *Indicators* that the data support;
2. *Indicator Types* including outputs and short- and long-term outcomes;
3. *Data Collection Methods*, such as feedback forms, phone interviews, etc.;
4. *Data Collection Frequency*, including baseline, three to six-months post event;
5. *Data Analysis*, such as thematic analysis, descriptive statistics, etc.;
6. *Responsible Party*, including the CityLinks partner organizations.
7. *Data Verification*, including the source material for data.

### ***Design Learning Objectives and the Team Selection Process***

The learning objectives and team selection process for the CLA was devised at the 4<sup>th</sup> HLS in Hanoi, Vietnam in March 2013.

**Learning objectives** for the CLA included:

- Understand local and regional climate risks and barriers to adopting new, resilient urban infrastructure;
- Collaborate with key, local stakeholders to adopt new tools and strategies for advancing resilient urban infrastructure including law, policy agreements, regulations, and financing options;
- Learn from, network, and share best practices with counterparts in other cities in Southeast Asia that are facing similar challenges;
- Share local best practices with regional counterparts; and
- Appreciate the importance of designing urban infrastructure in the face of resource constraints, climate change, and new challenges associated with urban growth.

These learning objectives were intended to communicate the value proposition for participants, and to guide the development of city selection criteria.

The following strategy was developed as the **Team Selection Process** for the CLA (see appendix 1b):

1. *Open Applications*. It was decided at the HLS in Hanoi that each ASEAN country would select one city from the application pool to attend the CLA. The selection process would be administered through an online, competitive, and open application (see appendix 2a.). The purpose of this structure was to ensure that only voluntary, dedicated city teams applied, and to obtain information about each city early in the process to design an agenda. Application forms were developed by CityLinks, and distributed through the National Focal Points (NFPs) and other channels such as USAID/RDMA.
2. *Selection Criteria*. CityLinks staff was responsible for collecting and qualifying applications based on an agreed upon set of selection criteria (see appendix 2b.), then delivering the applications directly to the NFPs.
3. *Final Selections*. Final city selections were made by respective ASEAN Sustainable City Working Group National Focal Points at the 11<sup>th</sup> Meeting of the AWGESG in Singapore in June 2013.

A total of 27 qualifying applications were received. The following eight cities were selected for the CLA:

- Palembang, Indonesia
- Jakarta, Indonesia
- Ho Chi Minh City, Vietnam
- Kuantan, Malaysia
- Paksane, Lao PDR
- Chiang Rai, Thailand
- Phnom Penh, Cambodia
- Legazpi, Philippines

### ***Conduct Needs and Wants Inquiries of Participants***

To better understand the state of climate adaptation practice in ASEAN cities, the challenges encountered by participant teams, and participants' hopes and expectations for the CLA, CityLinks staff interviewed each selected team via teleconference. Interviews focused on where each team stood in their sustainability programs, where they would like to be, what particular implementation challenges they face, what they hoped to learn, and what replicable "promising practices" they could share with their peer teams.

CityLinks staff categorized the results of the interviews and identified the following five main themes:

1. *Building Broad-Based Support.* Urban climate impacts are wide-ranging and affect all sectors, populations, and levels of government. To respond effectively, cities must take systemic approaches that include all stakeholders, while building broad-based support for adaptation efforts. While this task is not easy, it builds a necessary foundation for successful adaptation strategies.
2. *Restoring Urban Ecosystems.* ASEAN countries enjoy rich ecosystems and strong biodiversity. On a national level, countries have committed to ecosystem preservation, protecting forests, rivers and lakes, and the quality of life they afford. This important work is now being applied at the urban-scale with significant efforts to identify and restore the services – clean air and water, flood control, reduced heat islands, recreation, etc. – that healthy urban ecosystems provide.
3. *Re-Thinking Conventional Management of Urbanization Processes.* All cities that were interviewed saw themselves at crossroads. While effective at reducing poverty, conventional development pathways, especially in the face of climate change, do not adequately address new risks from population growth, resource constraints, pollution, public health, and other urban challenges. Yet cities are also embracing new opportunities. They better understand climate vulnerabilities and are investing in alternative, adaptive infrastructure that can improve integration of urban systems with natural and social systems. A new vision of an adaptive, resilient city is starting to emerge.

4. *Aligning Financial Investments.* Many ASEAN cities face scarce government resources to fund adaptation efforts. Yet with rapid urbanization across all of the ASEAN cities there is no shortage of investment potential and funding opportunities for adaptation. The challenge is to prioritize adaptation efforts that reduce investment risks and open new, adaptive development potential.
5. *Elevating Social Equity.* As the populations of cities increase, so does the need to engage citizens in participatory decision-making. Climate impacts tend to affect poor populations first, which typically have less leverage in government policy-making. Providing opportunities for poor and vulnerable populations to understand climate risks and identify local solutions enhances potential pathways from poverty and a strengthened democratic process.

CityLinks staff then catalogued and matched “promising practices” to those themes to provide a deep framework for the CLA agenda (see appendix 7).

### **Select “Resource Team” Members**

To complement the existing knowledge shared by the teams, eight international “Resource Team” members were selected and participated pro bono in the CLA. Resource Team members represented a range of expertise and perspectives that were carefully matched to the needs and wants of the participant teams.

Resource Team members included:

- Greg Bruce, Executive Manager, City of Townsville, Queensland, Australia;
- Joseph Fiksel, Executive Director, Center for Resilience, The Ohio State University;
- Robert Mather, Head of Southeast Asia Country Group, International Union of the Conservation of Nature;
- Phong Tran, Technical Lead, Institute for Social and Environmental Transition;
- Lee Feldman, City Manager, City of Fort Lauderdale, FL, USA; and
- Saengroaj Srisawaskraisorn, Climate Change Adaptation Specialist, USAID/RDMA.

### **Develop an Accompanying Resource Guide**

Based on the results of the Needs/Wants Inquiries, CityLinks Staff developed a Resource Guide to help practitioners incorporate workshop material into to their daily work. It represents a synthesis of information selected for the practitioners participating in the CLA. The Resource Guide will help practitioners in ASEAN cities address local challenges related to managing the social, political, environmental and financial risks of urban infrastructure to improve climate adaptation and resilience.

The **Resource Guide** includes:

- *An Introduction and Overview* describing the challenges of urbanization and climate change in Southeast Asia, the commitment of ASEAN to urban climate adaptation, and the results of the Needs/Wants Inquiries
- *Case Studies* that discuss how various local government practitioners in the US have made progress on climate adaptation planning and are surmounting associated social, political, financial, and environmental challenges

- *Community Team Profiles* of each participant team. Profiles include basic geographic information, climate risks, and best practices.
- *Contact Information and Biographies* for participant teams, Resource Team & Keynote Speakers, and the CityLinks team.
- *Resource List of Additional Information*, with sections on: Adaptation Planning, Getting a Commitment, Risk Assessments, Infrastructure, Water Resource Management and Adaptation, Financing, Ecosystem Services, Monitoring & Evaluation, Coastal Regions & Climate Change, and General Resources.

### ***Design and Deliver the CLA Agenda***

The CLA Agenda was designed based on the results of the Needs/Wants Inquiry and advice from the Resource Team and partner organizations. It was intended to maximize information exchange and lessons learned by highlighting stories and best practices that address common themes. The Agenda was designed to provide each team with an opportunity to prepare an action plan that described two or three things they would do differently as a result of the workshop when they return home.

The **Agenda** included the following main elements:

- *Opening Ceremony*. The Opening Ceremony welcomed all participants of the workshop to ASEAN. The Master of Ceremony was Joseph Lombardo, CityLinks Program Director. Speakers included Mdm. Alicia Dela Rosa Bala, Deputy Secretary-General for ASEAN Socio-Cultural Community, and David Carden, Ambassador, US Mission to ASEAN.
- *Orientation*. The Orientation provided an opportunity for CityLinks staff to review the results of the Needs/Wants Inquiry, describe the importance of urban climate adaptation, and emphasize that the workshop is designed to maximize participant engagement.
- *Panel Discussions*. Panel discussions highlighted some of the most promising practices that address key themes. Each panel discussion featured a moderator, up to three speakers, and time for questions and answers from the audience.
- *Keynote Speakers*. Keynote speakers were selected based on their relevance to common themes from the Needs/Wants Inquiries. They described particular programs or approaches that would be potentially replicable among participant cities.
- *Team Huddles*. Team huddles allowed each team to meet privately to refine their learning objectives for the workshop and to develop their action plan for their return home. A team huddle guide was provided to each team. During these huddles, a Resource Team member and a team huddle guide provided support. Team huddles were the primary time to get work done at the workshop.
- *Concurrent Sessions*. Concurrent sessions were smaller sessions comprised of 10-15 people to discuss a particular topic in more depth. Concurrent sessions were led by one speaker who would describe a particular challenge or practice for 10-15 minutes. A facilitator would then facilitate a group dialogue focused on the specific session topic. There was a designated note-taker at each session.

## Results of the CLA

By all measures, participants found the CLA highly useful and relevant to urban climate adaptation efforts in their cities. This design and execution of the CLA itself played a key role in this result: the content was highly customized to the needs, wants, and challenges of the participants, it highlighted relevant implementation stories and lessons learned, and it was participant-focused, with most sessions led by city teams, not outside experts.

The following outlines key outputs from the CLA. It includes a summary of the results of our Feedback Form which was distributed and collected at the CLA.

### ***Feedback Form Results Summary***

As part of its data collection plan, CityLinks designed a Feedback Form, which was distributed to participants during the CLA (see appendix 7g). The Feedback Form included questions concerning participant satisfaction, how well the CLA advanced local adaptation challenges, the degree to which participants learned new skills and information, and specific feedback on each session (see appendix 7c.). Thirty-one surveys were collected from a participant pool of 41, yielding a response rate of over 75 percent. Overall, the feedback from the CLA was extremely positive. 100 percent of respondents rated the quality of the workshop as “very good” or “excellent.” The same percentage reported that the workshop helped address challenges faced communities “well” or “extremely well.”

Data was collected for specific indicators, which were outlined in the data collection plan (see appendix 7b). The following outlines data collected for three key indicators, prioritized by USAID.

- 4.8.2-26: Number of stakeholders with increased capacity to adapt to the impacts of climate vulnerability and change as a result of USG assistance
- 4.8.2-14: Number of institutions with improved capacity to address climate change issues as a result of USG assistance
- 4.8.2-6: Person hours of training completed in climate change supported by USG assistance

### ***40 stakeholders with increased capacity to adapt to the impacts of climate vulnerability and change as a result of USG assistance<sup>1</sup>***

This indicator was measured directly by the following two questions in the feedback form:

- **Question 2.3: How confident are you that you have the ability to address climate change adaptation challenges in your community?** 97 percent of those that responded (28 out of 29 total, including 12 male, 6 female, and 12 anonymous responses) reported a change from low to moderate confidence to “very and extremely” high confidence in their capacity to adapt to the impact of climate change as a result of the workshop. The one respondent that reported no change was male.

<sup>1</sup> 40 stakeholders with increased capacity were calculated by taking 97% of the total participants (41). The 97% comes from the “97 percent of those that responded (28 out of 29 total, including 12 male, 6 female, and 12 anonymous responses) reported a change from low to moderate confidence to “very and extremely” high confidence in their capacity to adapt to the impact of climate change as a result of the workshop.”

- **Question 1.2: How well did the workshop help you address the challenges your community faces?** 100 percent of the respondents (31 total, including 13 male, 6 female, and 12 anonymous responses) responded that the workshop was “very good” or “excellent” in helping them address their challenges.

Below is a summary of two other question sets that provide additional evidence for this indicator.

**Table 1 includes select survey questions that address general satisfaction with the CLA, how well the CLA increased learning capacity, and how well the CLA increased team cohesion. The following display results for respondents that indicated the workshop was “very good” or “excellent.” Most of the results show a “very good” or “excellent” response rate in the 90 or 100 percent range, indicating that the CLA was highly successful in building capacity in these areas. Table 1: Feedback Survey Results for Select Questions**

q #	Question Summary	# Respondents for Very Good	# Respondents for Excellent	% of Total Respondents for Excellent + Very Good
1.1	Overall, how would you rate the quality of the workshop?	17	14	100
1.4	Would you recommend this workshop to others?	5	21	100
2.1	How well did the workshop assist you in learning from counterparts from other communities?	25	4	97
2.2	How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?	18	8	90
3.1	How well did the workshop assist you in collaborating with your team members?	25	5	97
3.2	How well did the workshop assist you in collaborating with other teams?	22	4	84
3.3	How well did the workshop promote or facilitate your team cohesion?	22	7	94
5.2	How useful will the Resource Guide be to your work?	18	10	97
5.3	What was the overall quality of support you received from CityLinks staff during the workshop?	14	15	97

Table 2 includes questions that asked respondents to assess their level of confidence in core competencies before and after the CLA. Most of the responses demonstrated a marked improvement in confidence in these competencies after the CLA.

<b>Table 2: Before and After Questions on Various Competencies</b>											
Question 2.3: How confident are you that you:		Not Confident		Less Confident		Somewhat Confident		Very Confident		Extremely Confident	
#		Before	After	Before	After	Before	After	Before	After	Before	After
a.	Know about successful tools and models related to adaptive urban infrastructure?	0%	0%	29%	0%	71%	13%	0%	77%	0%	10%
b.	Can identify peers from other locations working on initiatives similar to yours?	3%	0%	6%	3%	61%	10%	29%	77%	0%	10%
c.	Know how to collaborate within your team to advance your community's climate change adaptation initiatives	0%	0%	19%	0%	58%	10%	23%	65%	0%	26%
d.	Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation activities	0%	0%	17%	0%	67%	3%	17%	77%	0%	20%
e.	Have the ability to address climate change adaptation challenges in your community, overall	0%	0%	27%	0%	63%	20%	10%	70%	0%	10%



**25 institutions with improved capacity to address climate change issues as a result of USG assistance<sup>2</sup>**

The term “institutions” used here indicates the participating teams in the CLA, ASEAN, national governments, local governments, and other key stakeholders represented at the CLA (see appendix 7c. for a full list of attendees and institutions). CityLinks™ demonstrated that peer-to-peer learning increases institutions’ ability to communicate and collaborate more effectively. As a result of the CLA, not only will city teams be more prepared to work together, but the global and national institutions that support them will be better equipped to deal with varying climate change adaptation challenges as a result of rapid urbanization. The data generated from the feedback forms below shows the voluntary responses from the members of various city teams.

Table 3 indicates how well the workshop increased capacity to address climate adaptation challenges overall. 88 percent (7 out of 8) of participant institutions reported a change from “low confidence” to “very and extremely high confidence” in their capacity to adapt to the impact of climate change as a result of the workshop. This represented a change from 6 percent of respondents reporting “very and extremely high confidence” before the workshop to 82 percent of respondents after the workshop.

At least 75 percent of each team except Jakarta, Indonesia reported they were “very confident” or “extremely confident” in their abilities after the workshop, up from zero percent “very confident” or “extremely confident” before the workshop. Jakarta reported that 50 percent of their team was “very confident” or “extremely confident” in the abilities after the CLA (note: Jakarta had a response rate of just 2 team members). Jakarta was the only team that reported no change before and after the workshop. This was likely due to the fact that Jakarta was invited to attend the workshop because it was the host city, not because it matched the capacity needs of other participant teams.

<b>Table 3: How confident are you that you have the ability to address climate adaptation challenges in your community, overall?</b> (Feedback question 2.3.e)			
Extremely + Very Confident Before and After			
	Before	After	Number of Respondents
Palembang, Indonesia	0%	75%	4
Legazpi, Philippines	0%	100%	2
Ho Chi Minh, Vietnam	0%	100%	2
Kuantan, Malaysia	0%	75%	4
Jakarta, Indonesia	50%	50%	2
Paksane, Lao PDR	0%	100%	1
Chiang Rai, Thailand	0%	100%	2
<b>Total</b>	<b>6%</b>	<b>82%</b>	<b>17</b>

<sup>2</sup> 25 institutions with increased capacity were calculated by taking 88% of the total number of institutions present at the event (28). The 88% figure is from the “88 percent or (7 out of 8) of participant institutions that reported a change from “low confidence” to “very and extremely high confidence” in their capacity to adapt to the impact of climate change as a result of the workshop.”

The following data shows evidence of more specific dimensions of capacity building for teams at the CLA.

Table 4 indicates how well the workshop improved capacity to collaborate with other team members. Increased collaboration is assumed to increase capacity to implement cross-cutting and innovative urban climate adaptation programs. 100 percent of teams reported that the workshop assisted them in collaborating with their team members “very well” or “extremely well.”

<b>Table 4: How well did the workshop assist you in collaborating with your team members?</b>			
(Feedback question 3.1)			
Extremely + Very Well			
	Extremely Well	Very Well	Number of Respondents
Palembang, Indonesia	0%	100%	4
Legazpi, Philippines	100%	0%	2
Ho Chi Minh, Vietnam	50%	50%	2
Kuantan, Malaysia	25%	75%	4
Phnom Penh, Cambodia	0%	100%	1
Jakarta, Indonesia	0%	100%	3
Paksane, Lao PDR	0%	100%	1
Chiang Rai, Thailand	0%	100%	2

Table 5 indicates how well the workshop improved capacity of teams to collaborate with other teams. Increased collaboration across teams is assumed to increase networking and the transfer of promising practices. 100 percent of every team except Jakarta, Indonesia reported the workshop assisted them in collaborating with other teams “extremely well” or “very well.” 33 percent of the Jakarta team indicated that the workshop assisted them “somewhat well,” while 76 percent reported the workshop assisted them “extremely well” or “very well.”

<b>Table 5: How well did the workshop assist you in collaborating with other teams?</b>				
(Feedback question 3.2)				
Extremely, Very + Somewhat Well				
	Extremely Well	Very Well	Somewhat Well	Number of Respondents
Palembang, Indonesia	0%	100%	0%	4
Legazpi, Philippines	100%	0%	0%	2
Ho Chi Minh, Vietnam	50%	50%	0%	2
Kuantan, Malaysia	0%	100%	0%	4
Phnom Penh, Cambodia	0%	100%	0%	1
Jakarta, Indonesia	0%	67%	33%	3
Paksane, Lao PDR	100%	0%	0%	1
Chiang Rai, Thailand	0%	100%	0%	2

Table 6 indicates how well the workshop improved team cohesion. Increased cohesion within teams is assumed to increase capacity to collaborate across departments and implement cross-cutting urban adaptation solutions. 100 percent of every team except Palembang, Indonesia reported the workshop assisted them in collaborating with other teams “extremely well” or “very well.” 25 percent of the Palembang team indicated that the workshop assisted them “somewhat well,” while 75 percent reported the workshop assisted them “extremely well” or “very well.”

<b>Table 6: How well did the workshop promote or facilitate your team cohesion?</b>				
(Feedback question 3.3)				
Extremely, Very + Somewhat Well				
	Extremely Well	Very Well	Somewhat Well	Number of Respondents
Palembang, Indonesia	0%	75%	25%	4
Legazpi, Philippines	100%	0%	0%	2
Ho Chi Minh, Vietnam	0%	100%	0%	2
Kuantan, Malaysia	50%	50%	0%	4
Phnom Penh, Cambodia	0%	100%	0%	1
Jakarta, Indonesia	0%	100%	0%	3
Paksane, Lao PDR	100%	0%	0%	1
Chiang Rai, Thailand	0%	100%	0%	2

***973 Person hours of training completed in climate change supported by USG assistance***

The CLA program included 2.5 days of training, for a total of 23.75 hours. 41 participants were included in the training, which represented participant teams. As a result, the CLA provided 973 person-hours of training (23.75 total training hours x 41 participants).

## City Action Plans

The primary output for each team was to create a three-month Action Plan that described two or three things that they would do differently as a result of the workshop when they returned home. Action Plans were devised by answering the following three questions, which were described in each team's "Team Huddle Guide."

1. Based on what you've learned at the workshop, please describe two or three specific actions, strategies, plans, policies, or projects you will initiative, create, modify, or adapt when your team returns home
2. What steps will you take in the next three months to pursue the actions above? Include how your team will:
  - a. Apply specific tools, knowledge, or connections gained at the workshop; and
  - b. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.
3. What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?

Action Plans allowed each team to turn what they learned at the CLA into actionable steps they can take when the return home. They also provided data to the CityLinks team on how well the workshop met its Learning Objectives, and to identify the best leverage follow-up activities for pilot projects. Based on these action plans, CityLinks will develop a formal city-to-city partnership between a U.S. or with a third country city with at least one city from Southeast Asia in consultation with ASEAN.

The following summarizes common actions from the teams' Action Plans:

1. **Establish or Strengthen Working Groups.** None of the CLA teams had a dedicated sustainability officer to coordinate climate change adaptation efforts. The primary strategy among the teams was therefore to establish internal working groups with shared responsibility for strategizing and implementing adaptation activities. For many, the CLA offered new tools and techniques for establishing or strengthening these groups, and bridging silos for more integrated approaches to urban climate adaptation planning.

Some examples include:

- Chiang Rai, Thailand committed to enhancing shared learning among its Climate Change Resilient Learning Center members through a bi-annual workshop.
- Kuantan, Malaysia will establish a Climate Change Adaptation Committee to promote collaboration within and among agencies, stakeholders, and the public.
- Paksane, Lao PDR will clarify responsibilities among agencies in urban climate adaptation, and convene a meeting to propose next steps.
- Palembang, Indonesia will review the membership of its climate change working group and expand members to include members from the provincial and national level.
- Phnom Penh, Cambodia will create a city steering committee to steer the implementation of its climate action plan.

- 2. Develop or Refine Strategic Plans for Urban Climate Adaptation.** The CLA teams brought many approaches to urban climate adaptation strategies. Many embedded activities within existing departmental plans, and some created stand-alone documents meant to bring together various planning agencies. Regardless of the approach, many CLA teams saw the workshop as an opportunity to develop a new approach to adaptation planning, or to refine existing efforts.

Some examples include:

- Ho Chi Minh City, Vietnam committed to pursuing specific technical strategies for their wastewater, water management, and low-carbon city strategies. They set goals such as 80 percent landfill diversion, using anaerobic digestion for industrial energy recovery, and recycling rainwater for street cooling.
- Chiang Rai, Thailand committed to extending its CC Resilience Learning Center to include the entire Northern Region of Thailand so that they can plan beyond the metropolitan scale.
- Jakarta, Indonesia will make adaptation policy recommendations for spatial planning at the District, Provincial and National levels.

- 3. Develop or Enhance Climate Data and Vulnerability Assessments.** Urban Climate Adaptation Planning needs to account for uncertainties inherent in predicting local climate impacts. To work with the best available data, many cities are partnering with local universities or research institutions to enhance local data and inform vulnerability assessments. CLA teams understood the importance of this work, and committed to taking steps to improving the science that drives their policy.

Some examples include:

- Kuantan, Malaysia will carry out a local climate vulnerability assessment that uses a compilation of data from different municipal agencies. They will use their existing GIS mapping system to map vulnerabilities across the city (similar to the work that Jakarta shared at the CLA).
- Palembang, Indonesia will finalize a vulnerability assessment study they commissioned before the CLA by soliciting public comment and dialogue. They will then create priority actions for the year 2014 with appropriately allocated resources.

- 4. Engage Citizens, Stakeholders, and Technical Resources.** It was widely understood at the CLA that urban adaptation planning must include citizens, a wide range of stakeholders, and appropriate technical resources. The more inclusive the planning process, the better the outcome and ultimately the more resilient the city will become. CLA teams developed a range of creative ways to engage their populations that were tailored to their particular circumstances and risks.

Some examples include:

- Chiang Rai, Thailand committed to launching a capacity building campaign among stakeholders focused on both climate change mitigation and adaptation. They would also strengthen their network by establishing a social networking presence through

Facebook and creating a digital collaboration space through SharePoint and/or Digital Hub.

- Kuantan, Malaysia will promote a public awareness campaign about climate adaptation aimed at encouraging participation and engagement in the climate change planning process.
- Paksane, Lao PDR will expand their network of non-profit and other organizations that can support their adaptation planning efforts moving forward.

**5. Restore Ecosystem Services.** Functioning ecosystem services are key to creating more resilient environments. Four key ecosystems services, including provisioning (e.g., food, fiber, fresh water), regulating (e.g., flood control, pollination, etc.), supporting (e.g., soil formation, nutrient cycling), and cultural (e.g., spiritual or religious, heritage), were seen by the CLA teams as building blocks for sound adaptation strategies.

Some examples include:

- Legazpi, Philippines will rehabilitate its river system to control flooding.
- Paksane, Lao PDR will build into its climate adaptation plan a proposal to restore ecological systems by preserving its forests, wetlands, and rivers.

## Conclusions

The CLA was a unique opportunity for CityLinks to partner with ASEAN to advance urban climate adaptation. As a result of the CLA, the AWGESC can now incorporate peer learning and exchange as part of their regular agenda as an effective method for capacity building.

The peer-learning methodology proved to be a successful intervention within the ASEAN context. The CLA provided clear evidence that such peer-learning and exchange workshops are effective means for building local capacity of individual stakeholders and participating institutions in climate change adaptation. Significantly, 97 percent of CLA feedback survey respondents reported a change from “low confidence” to “very and extremely high confidence” in their capacity to adapt to the impact of climate change as a result of the workshop. And 88 percent (7 out of 8) of participant teams/institutions reported a change from “low confidence” to “very and extremely high confidence” in their capacity to adapt to the impact of climate change as a result of the workshop.

The three-to-six month post-CLA survey will validate participant learning outcomes by measuring to what extent participant teams were able to apply their learning as evidenced through implementation of their respective action plans.

The results of the post-CLA survey and feedback survey will be used to inform the selection (with consultation from ASEAN) of one or more cities for targeted technical assistance from CityLinks. Technical assistance will complement the CLA and provide additional capacity-building for ASEAN cities to adapt to climate change.

# APPENDIX 1: AWGESC – CityLinks™ Communications

## A. ASEAN Concept Note



## CONCEPT NOTE

1	<b>Proposed title of project:</b> CityLinks Pilot Partnership between US and ASEAN Member States
2	<b>Location of Project:</b> ASEAN and US Cities
3	<b>Proposed start date:</b> June 2013
4	<b>Project duration:</b> 12 – 18 months
5	<b>Funding Usage:</b> ICMA will finance the CityLinks Pilot Partnership between US and ASEAN Member States costs, including travel and transportation costs for participants, through its USAID-funded CityLinks Cooperative Agreement.
6	<b>Source of funding:</b> USAID through the ICMA CityLinks Leader with Associates Award.
7	<b>Implementing Agency:</b> ICMA’s CityLinks Program in coordination with ASEAN and USAID/RDMA.
8	<b>Identification of Relevant ASEAN Sector Body:</b> ASEAN Working Group on Environmentally Sustainable Cities
9	<b>Project Details:</b> <b>A. Problem Statement and Opportunity</b>  ASEAN cities are at the top of the global list of cities most vulnerable to climate change. More than 50 percent of the approximately 600 million people of ASEAN now live in cities/urban areas and this figure is expected to grow. This is a compelling reason for national and local governments to focus on developing and implementing their climate adaptation plans and actions without delay.  The ASEAN Socio-Cultural Community (ASCC) Blueprint highlights environmental sustainability as one of its primary goals as well as promotes quality living standards in ASEAN cities and responds to climate change and its impacts. Specifically, the ASCC Blueprint calls for ASEAN to “ensure cities/urban areas in ASEAN are environmentally sustainable, while meeting the social and economic needs of the people.” ASEAN and the United States share priorities of adapting to climate change, enhancing community resilience to natural disasters, and improving environmental governance. <sup>1</sup>  Additionally at its inaugural meeting, the East Asia Summit (EAS) Environment Ministers Meeting adopted Environmentally Sustainable Cities (ESC) as a priority area for environmental collaboration among EAS participating countries. The

<sup>1</sup>The ASEAN-US Plan of Action (2011-2015) identifies the following relevant *Environment* priority areas: promoting community resilience to disasters by enhancing cooperation on disaster risk reduction and climate change adaptation through information sharing, including best practices; supporting cooperation to develop climate resilient cities through exchanges on mitigation and adaptation; and, providing technical assistance and training on environmental management and climate change.

ASEAN ESC Model Cities Programme (ESC Model Cities), implemented through the ASEAN Working Group on Environmentally Sustainable Cities (AWGESC) with support from the Institute for Global Environmental Strategies (IGES) and the Japanese government, launched pilot projects focusing on supporting capacity development for low carbon city development, water and sanitation, solid waste management, urban greenery and more, and has assisted 14 cities in 7 countries in year 1. At the same meeting results and lessons learned from year 1 and proposed directions for year 2 were presented including:

- City-to-city learning is popular, but it requires a structured and strategic approach to be effective;
- There is a need to match cities with similar profiles and learning needs;
- Participation of other cities including those from EAS participating countries (Australia, China, India, Japan, Korea, United States, Russia) would enhance the program; and
- The program should try to expand the pool of potential matches, particularly by linking up with associations of local authorities in each country.

The 3rd High Level Summit on Environmentally Sustainable Cities (HLS-ESC) (March 2012), concluded that the ASEAN ESC Model Cities is successful and should be moved into the 2nd year of implementation. It also reaffirmed that the ESC Model Cities is an overarching framework to pursue the 5 recommended objectives of the 1st HLS-ESC, which include: 1) an East Asian “Model Cities” initiative; 2) a clearinghouse for ESC-related data and information; 3) a Public and Private Sector Forum on ESC; 4) an ESC Capacity Building Programme and 5) EAS ESC awards based on performance indicators.

In July 2012, the Chairman Statement of the Second EAS Foreign Ministers’ Meeting (EAS-FMM) took special note of the outcomes of the 3rd HLS-ESC (March 2012) and the continuation of the ESC Model Cities into the 2nd year, emphasizing the importance of people-to-people exchanges and of building “resilient societies.”

### *Background*

As part of the ASEAN-US Technical Assistance and Training Facility (TATF) Work Plan, the ASEAN Working Group on Environmentally Sustainable Cities (AWGESC) endorsed the US support to ASEAN climate resilient cities and has included it as a follow-on concept in previous approvals for activities under the TATF. At the first ASEAN Climate Resilient Cities Best Practices Exchange and Measuring and Monitoring Tools workshop held in Jakarta, Indonesia January 18 - 19, 2011 the Member States and city participants concurred on the value of and need for city exchanges. Furthermore, the Yogyakarta City Greenhouse Gases (GHG) Emissions and HEAT+ - Launch and Training: In collaboration with ICLEI - Local Governments for Sustainability, the Facility held a two-day workshop , 20-21 September 2012, in Yogyakarta, Indonesia, to present the Yogyakarta City Greenhouse Gases (GHG) Emission Inventory Report and to demonstrate the use of ICLEI’s internationally recognized monitoring software system the Harmonized Emissions Analysis Tool (HEAT+).

The ICMA (International City/County Management Association) CityLinks Program is a USAID-funded program, which facilitates city officials in developing and transitioning countries to draw on resources and knowledge of their US, international, and regional counterparts to find sustainable solutions tailored to the

real needs of their cities in areas of climate change, food security and water and sanitation. The CityLinks program delivers the majority of technical assistance through city-to-city partnerships, a tested mechanism that effectively builds the capacity of counterpart local government officials and stakeholders, engages citizens in government decision-making, and promotes long-lasting working relationships.

CityLinks brings together a consortium of various organizations with expertise in the field of climate change and urban governance. ICMA is an association of city managers in the US and around the world. Its 9,000 members and 25 international affiliate associations represent 32 countries. The membership comprises a network of professional city managers skilled at forging task-oriented partnerships among national governments, municipal governments, communities and business organizations. ICMA's Knowledge Network, a sustained professional knowledge sharing platform, has mobilized 18,000 users globally who ask questions, post blogs, share answers and access more than 7,000 resources. ICMA has implemented city partnership programs for over 14 years. ICMA's partner, the Institute for Sustainable Communities (ISC), specializes in capacity building and public-private partnerships with a focus on accelerating urban climate solutions through peer-learning and technical assistance. The team is complemented by additional organizations involved in climate change adaptation, including ICLEI, Shack/Slum Dwellers International (SDI), and the Urban Management Center (UMC). ICMA is in the process of selecting a local anchor organization based in the region through a competitive process to help support the project. We expect to have made final selection by the end of April 2013.

### **B. Aims and Objectives**

The CityLinks Pilot Partnership between US and ASEAN Member States is aimed at establishing and strengthening technical support networks and capacity building among cities in the ASEAN region and between ASEAN and US cities with a focus on integrated climate change adaptation planning across sectors to build urban resiliency.

The objective of the partnership is to make available peer-to-peer learning opportunities among ASEAN and US counterparts using platforms such as interactive training and knowledge exchange conferences, hands-on technical skill exchanges, and virtual technical advice from a distinguished group of climate specialists to develop and adapt practical approaches to address the impact of climate change at the local level. Partnering ASEAN and US cities through these learning opportunities will directly support ASEAN city planning and implementation of actions to enhance resilience by helping cities adapt to climate change, including mitigating risks from natural disasters resulting from climate change.

### **C. Activities**

The CityLinks Pilot Partnership between US and ASEAN Member States will support AWGESC's specific goals of: 1) advancing the 2nd year objectives of the ESC Model Cities framework; 2) supporting a clearinghouse framework for ESC-related data and information; and 3) continuing to build ESC capacity in climate adaptation.

Specifically, CityLinks will focus on three main activities: Climate Leadership Academy; Pilot Cluster Partnership engaging ASEAN cities in technical exchanges with US and ASEAN regional counterparts; and technical assistance for improved city-level ESC-related data collection and analysis on selected municipal websites.

1. **Climate Adaptation Leadership Academy:** A Climate Adaptation Leadership Academy on Sustainable Urban Infrastructure will be conducted entitled “From Risk Barriers to Results – Managing the Social, Political, Environmental and Financial Risks of Urban Infrastructure.” Tentatively, a call for applications will be made for participant teams from secondary and tertiary cities within ASEAN. CityLinks, with the concurrence of ASEAN and in consultation with USAID, will select up to 10 municipalities for participation. Participating municipalities will form teams of 3 officials to represent their cities. The Leadership Academy a 2-3 day peer-learning event that brings together the selected ASEAN cities and US partner cities, along with associations of local authorities and local partner NGOs and other stakeholders to enhance capacity, showcase practical solutions, share best practices, and identify networking opportunities related to urban climate adaptation. This event will help build municipal capacity for infrastructure development, prioritize urban climate adaptation needs and discuss applicable and replicable best practices. Prior to the Academy, preliminary interviews with participating city teams will identify key issues to guide the development of the Academy agenda. The technical challenges and best practices identified at the Academy will inform the future work plan of the CityLinks-funded ASEAN pilot cluster partnership.
2. **ASEAN Pilot Partnership:** After the Leadership Academy is completed, 3-4 participating ASEAN cities will be matched with US cities. CityLinks will arrange technical exchanges with US cities, as well as regional networking opportunities to enhance peer-to-peer learning. Technical exchanges will provide opportunities for participating cities to gain exposure innovative approaches, good governance tools, and appropriate technologies to enhance their ability to adapt to climate change impacts.

*Regional Networking:* The regional networking will facilitate the sharing of experiences, technical information, and lessons learned from the ASEAN-US pilot partnership. Other ESC Model Cities may also be invited to showcase programs and other regional networks such as CityNet and the Asian Cities Climate Change Resilience Network (ACCCRN) could be drawn on to share expertise and experiences, as well.

*International Networking:* An international advisory panel – a distinguished group of climate experts, which may include academics and C40 members – will be available to discuss specific strategies and resiliency plans the partner cities will be considering. The interaction will take place via the ICMA Knowledge Network.

3. **Supporting a Clearinghouse Framework for ESC-related Data:** The program will help participating cities assess their data needs and find the most effective way to collect, analyze, and maintain this data on their respective websites.

	<p><b>D. Target Recipients</b></p> <p>There will be an estimated three to four ASEAN cities and one or more US cities participating in the pilot partnerships. CityLinks partners will work with ASEAN to define a set of city selection criteria for participation at the Leadership Academy and to become one of the partnership cities to be paired with U.S. cities. Pairing criteria may include economic drivers, similar priorities and learning needs, city size, demographics, geographical location, the type of urban challenges faced, and political support.</p> <p>Relevant ASEAN staff, participating city officials, and other stakeholders may be invited to participate in the Leadership Academy and ensuing technical exchanges, as appropriate.</p>
10	<p><b>Expected Results:</b></p> <p>The overarching outcome of the CityLinks Pilot Partnership between US and ASEAN Member States is to augment the number of regional stakeholders with capacity to adapt to the impacts of climate variability and change. Specific outcome and/or output indicators will be developed for each component of the program and reflected the in the component's respective design. Baseline and results data will be collected to help evaluate program performance.</p>

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B. Next Action Summary from the ASEAN-CityLinks Side Event at the 3<sup>rd</sup> ESC HLS

**HLS AWGESC  
ASEAN – US CityLinks Program  
Next Actions Summary – Side Event  
March 22, 2013  
Hanoi, Viet Nam**

**Introduction:**

The ASEAN–U.S. CityLinks Partnership is a USAID funded, 18 month program focusing on strengthening urban climate resilience and adaptation in selected cities in Southeast Asia. Beginning April 1, 2013, the ASEAN–U.S. CityLinks Partnership responds directly to ASEAN needs (and EAS priority program area needs) for a structured and strategic approach to city–to–city learning on environmental sustainability; and, it builds on the initial success of the ASEAN Environmentally Sustainable Cities (ESC) Model Cities Programme. The program consists of three major activities:

1. Climate Leadership Academy
2. Pilot City–to–City Partnership
3. Knowledge Sharing

This brief summary reports reflects the successful March 22, 2013 side event meeting in Hanoi and the agreement on next steps. The meeting agenda is included here as appendix 1.

**Agreed Next Actions:**

- The draft Climate Leadership Academy (CLA) City Selection Criteria will be sent this week to ASEC, to be distributed to the WG for their input and comments. One week is scheduled for comments to the city selection criteria. The application for ASEAN cities will then be posted on the Internet April 12, 2013.
- The National Focal Points of the AWGESC will disseminate the invitation to city governments to apply. Other institutions that will collaborate with disseminating the opportunity include USAID, ICMA, ISC, ICLEI and other general distribution channels with cooperating institutions. The goal is to receive as many applications as possible.
- The city application process will commence April 12, 2013 and will remain active until May 12, 2013. Interested cities will complete the application via website.
- When the application period closes on May 12, the applications received will be organized by country and forwarded to ASEC to be shared with the respective AWGESC National Focal Points (NFP) for their review and selection of participating cities.
- The design capacity of the CLA is for the participation of a total of 10 cities. Teams of 4 from each city, paired with 1 National Government Representative (also selected by the AWGESC NFP). City Teams should be cross–disciplinary from different departments within the municipal

- government and can include NGO or relevant private sector representation as well. (see selection criteria)
- It was agreed at the meeting that there would be at least one team from each ASEAN country. The final allocation approval and allocation of all 10 teams will be determined by ASEAN–CityLinks Steering Committee (SC). This SC will be AWGESC in partnership with USAID and the US Mission to ASEAN.
  - Once participant cities are selected by the SC, –ISC will commence the direct needs wants inquiries (NWI) with each team. The results of the NWI will be used to design the specific agenda and content of the CLA to ensure it responds to the participants’ particular priorities and challenges.
  - For the 2 ½ day CLA, we propose the dates of Aug 6–9 or Aug 13–15.
  - Effort will be made to bring new cities into the CLA, rather than cities who have participated in AGWESC activities in the past.
  - All communications will go through Dr. Raman and the ASEC.
  - ASEAN ESC Indicators will be highlighted in the resource guide and CLA agenda.
  - Effort will be made to help build capacity in cities for data collection.

#### **Time Line:**

##### April 5:

- AWGESC comments received and CLA City Selection Criteria is Finalized
- AWGESC selects CLA dates: Aug 6–9 or Aug 13–15, 2013.

##### April 12

- Application process opened. Posted on the internet.
- Invitation to apply disseminated widely by all parties.

##### May 12

- CLA Application process closed.
- Applications received organized by country and forwarded to ASEC.
- ASEC shares with AWGESC members for participant selection.
- AWGESC NFPs begin evaluation process for participants.
- AWGESC NFPs identify team member from national government to join city team.

##### June 10

- AWGESC NFPs final city selection shared with ASEC.
- ASEC delivers final selections and contact information to ISC.



- June 10– July 15: ISC begins communications with participant teams to conduct Needs -Wants Inquiry to begin designing CLA agenda based on participant needs and priorities.

**Climate Leadership Academy: Aug. 6–9 or Aug 13–14, 2013.**

## **Appendix 1**

### **Program Agenda**

Side Event: ASEAN-U.S. CityLinks Pilot Partnership

Fri, 22 March – 12:30–14:00

Location: Calidas Landmark, Peridot Room

(Please Bring your “Farewell Lunch” to the Peridot Room)

#### **Purpose**

To formally present the ASEAN-U.S. CityLinks Pilot Partnership program to the AWGESC and capture its input to inform next steps.

#### **Participants**

ASEAN Working Group on Environmentally Sustainable Cities (AWGESC) delegates to the 4<sup>th</sup> HLS-ESC.

#### **U.S. Delegation**

- International City/County Management Association (ICMA)
- Institute for Sustainable Communities (ISC)
- USAID/Regional Development Mission for Asia (RDMA)
- U.S. Mission to ASEAN (USASEAN)

#### **Agenda**

- |             |  |
|-------------|--|
| 12:30–12:45 | <b>Welcoming Remarks</b>   |
|             | <ul style="list-style-type: none"><li>– U.S. Ambassador to ASEAN David L. Carden</li><li>– Dr. Raman Letchumanan, Head, Environment Division, ASEC</li><li>– Dra. Masnellyarti Hilman, Chairperson of the AWGESC</li></ul>   |
| 12:45–13:00 | <b>ASEAN-U.S. CityLinks Partnership – Background and Overview</b>  |
|             | <ul style="list-style-type: none"><li>– Shraddha Kharel-Pandey, Director, Asia Programs, ICMA<ul style="list-style-type: none"><li>• Overview of CityLinks program and three components- including; Leadership Academy, Pilot Projects, and Knowledge Network.</li></ul></li></ul> |
| 13:00–14:00 | <b>Discussion on CityLinks Pilot Partnership Planning and implementation</b>   |

– Moderated by Shraddha Kharel–Pandey and Scott Muller,  
Senior Manager, International Climate Programs, ISC

14:00

## **Adjourn**

### **Background and Discussion Questions for the AWG–ESC**

ICMA, through its CityLinks program funded by USAID, is developing an 18-month city-to-city partnership exchange pilot program focusing on urban climate change adaptation in selected cities in Southeast Asia. The ASEAN–U.S. CityLinks Partnership responds directly to ASEAN needs (and EAS priority program area needs) for a structured and strategic approach to city-to-city learning on environmental sustainability; and, it builds on the initial success of the ASEAN Environmentally Sustainable Cities (ESC) Model Cities Programme. The program consists of three major activities:

1. Leadership Academy
2. Pilot City-to-City Partnership
3. Knowledge Sharing

As part of the program design, ICMA wishes to take the opportunity to elicit your input to ensure it is responsive to the needs of cities within the region and is designed to permit participating cities to actively engage in the program. To this end, ICMA and its CityLinks partner ISC will host an event at the HLS where they will outline the program and its components, and afford you an opportunity to provide feedback on the initial design and contribute to the process for ensuring the success of this CityLinks–ASEAN program.

**To make the most of this opportunity, below are some questions you may want to consider for discussion at the presentation:**

#### **A. Activity #1: Leadership Academy**

1. Which leading organizations in adaptation should we invite to the Leadership Academy as subject-matter experts?
2. What is the best date and location for the Leadership Academy, the first of the three Pilot activities – July 2013 in Jakarta?

#### **B. Activity #2: Pilot City-to-City Partnership**

1. Which city typologies (e.g. coastal cities, riverbank cities) should the Pilot focus on?
2. What city size?
3. Should cities with past experience on climate adaptation planning be considered (Model Cities Programme participants), or should we focus instead on cities with no experience at all?
4. What are possible achievable project-based indicators for cities to monitor and evaluate progress?

#### **C. Outcomes**

1. What are your desired outcomes for the ASEAN–U.S. CityLinks program?

D. Role of AWG–ESC in CityLinks Program

1. If you want to be involved in program design at the working level between now and implementation of Pilot activities, who should be the point of contact with the CityLinks team?

Expected Deliverables and Outcomes

- Sustained, online, stand alone Knowledge Network community to connect ASEAN city officials to exchange case studies, share best practices and results.
- Development and implementation of innovative approaches by participating ASEAN cities to adapt to climate change.
- Enhanced ability of the ASEAN partner cities to learn from other cities and inform their replication of successful and relevant approaches through regional networking.
- International Advisory Panel: an experienced international network of climate change specialists and city professionals available to ASEAN cities for virtual consultation to support climate and disaster planning and decision–making.

\*\*\*\*\*

C. Invitation to the AWGESC – CityLinks Side Event at the 4<sup>th</sup> ESC HLS



Ref: ASCC/CSC/008/ENV/HLS-ESC/Vol.1/003

1 March 2013

**AWGESC Chairperson  
AWGESC National Focal Points**

Dear Sir/Madam,

**Subject: Invitation to 4th High Level Seminar on Environmentally Sustainable Cities (HLS-ESC) Side Event "ASEAN-U.S. CityLinks Pilot Partnership"**

On behalf of the United States Mission to ASEAN, we are pleased to invite you to participate in the 4<sup>th</sup> HLS-ESC Side Event: **ASEAN-U.S. CityLinks Pilot Partnership:**

Day/Date: Friday, 22 March 2013  
Time: 12:30-14:00  
Location: Thien Ha Travel and Convention Center - Platinum Room  
(Lunch will be served at this time in the same room)

Further to ASEAN Secretariat's email dated 29 January 2013, International City/County Management Association (ICMA) will present the ASEAN-U.S. CityLinks Pilot Partnership program to the AWGESC at this side event. They will outline the program and its components, and afford AWGESC an opportunity to provide feedback on the initial design and contribute to the process for ensuring the success of this CityLinks-ASEAN program. Please find the draft program agenda of the Side Event for your kind reference.

As a background, the CityLinks program funded by USAID is developing an 18-month city-to-city partnership exchange pilot program focusing on urban climate change adaptation in selected cities in Southeast Asia. The ASEAN-U.S. CityLinks Partnership responds directly to ASEAN needs (and EAS priority program area needs) for a structured and strategic approach to city-to-city learning on environmental sustainability; and, it builds on the initial success of the ASEAN Environmentally Sustainable Cities (ESC) Model Cities Programme. The program consists of three major activities:

1. Leadership Academy;
2. Pilot City-to-City Partnership;
3. Knowledge Sharing.

We would appreciate very much your participation in this side event.

Thank you for your continued support and cooperation.

*One Vision, One Identity, One Community*

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'R. Letchumanan', with a long horizontal stroke extending to the right.

**DR. RAMAN LETCHUMANAN**  
Head, Environment Division  
ASEAN Socio-Cultural Community Department

D. List of Participants for the AWGESC – CityLinks Side Event at the 4<sup>th</sup> ESC HLS



**4<sup>th</sup> HIGH LEVEL SEMINAR ON  
ENVIRONMENTALLY SUSTAINABLE CITIES (HLS ESC)**

**SIDE EVENT “CITYLINKS PILOT PARTNERSHIP  
BETWEEN US AND ASEAN MEMBER STATES”**

22 March 2013

Hanoi, Viet Nam

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# APPENDIX 2: Applications and Supporting Materials

## A. Overview of the Opportunity

# Climate Leadership Academy on Urban Climate Adaptation

## FROM RISK BARRIERS TO RESULTS – MANAGING THE SOCIAL, POLITICAL, ENVIRONMENTAL, AND FINANCIAL RISKS OF URBAN INFRASTRUCTURE

Date: August 13-15, 2013

Location: Jakarta, Indonesia

Application Form Due: May 21, 2013

### OVERVIEW OF THE OPPORTUNITY

The International City/County Management Association ([ICMA](#)) and the Institute for Sustainable Communities ([ISC](#)) invite **teams of three to five senior officials and/or key decision-makers or stakeholders from up to 10 second tier (populations between 1 and 4 million) and third tier (populations less than 1 million) cities and metropolitan regions** to participate in a regional Climate Leadership Academy (CLA) on Urban Climate Adaptation—a unique training and peer-learning opportunity, focused on improving, expanding, and accelerating your cities' efforts to better assess, prioritize, and manage the local risks of climate change. **Most costs for participants will be covered.**

ASEAN cities are some of the most vulnerable to climate change. With more than 50 percent of the approximately 600 million people of ASEAN now living in cities, new climate-related risks, including extreme precipitation, heat events, and sea-level rise, are forcing more adaptive approaches to urban development. As a result, city practitioners across Southeast Asia are designing and building more resilient, ecologically integrated urban infrastructure, engaging their populations in inclusive decision-making, and collaborating across jurisdictions. These activities are generating innovations and investment opportunities that are shaping the future of growth throughout the region.

This workshop is part of ICMA's USAID-funded [CityLinks](#) program, which enables municipal officials in developing and decentralizing countries to draw on the resources of their U.S. counterparts to find sustainable solutions tailored to the real needs of their cities. The workshop will be co-facilitated by ICMA and ISC.

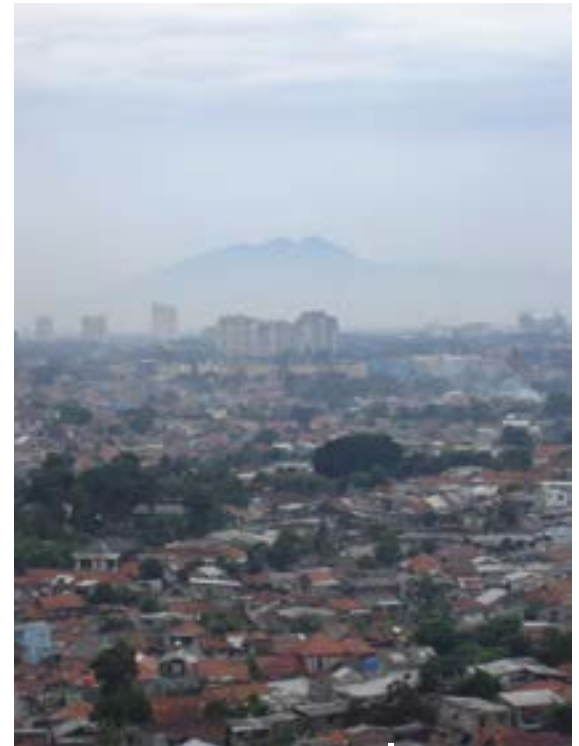
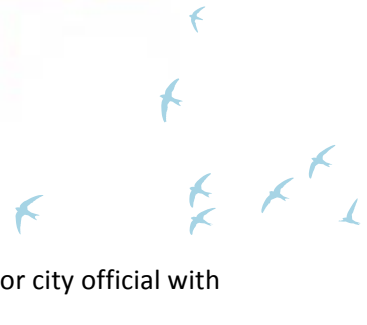


PHOTO CREDIT: [Shreyans Bhansali](#)

*"We got three months of work done in three days..."* - Larry Frank, Deputy Mayor for Neighborhood and Community Services, City of Los Angeles, USA (participant in ISC's CLA)

*"It felt like stealing. There was no reasonable way to get that much high-quality information in such a short period of time."* - Charles Whatley, Director of Commerce and Entrepreneurship, Atlanta Development Authority, USA (participant in ISC's CLA)



## WHO SHOULD COME?

Each city-led team should consist of:

1. **A team leader**, either a departmental level director or another senior city official with leadership responsibility for climate change adaptation
2. **Up to four other key stakeholders** who are—or will need to be—deeply engaged in the local/regional climate adaptation strategy and/or infrastructure decisions. At least one team member should be a representative from your national government.



Teams should be composed of individuals with decision-making authority in programs that are directly related to the climate adaptation challenges faced by your community. These may include managers with responsibilities for public works and infrastructure, water supply, utilities, public health, emergency response, ports, natural resource management, or land use planning.

In addition, as appropriate for the local context, the team may wish to include a senior representative of a key regional and/or national partner, such as a regional or state planning agency, nongovernmental organization, university, private-sector organization, foundation, or advocacy group.

The idea is for team leaders to assemble partners from across departments and agencies with whom they can both share this unique training and peer-learning opportunity, and continue collaboration for building climate resilience and adapting to climate change after they return home. Team composition choices should be driven by the nature of the adaptation challenges your community faces.

While this academy is geared toward serving community teams that have some experience in developing local adaptation strategies, it is also open to communities that have yet to begin formalizing an adaptation strategy but have identified adaptation as a key priority for their city.

The final team selection will be determined by national representatives from the ASEAN Working Group on Environmentally Sustainable Cities.

## WHY PARTICIPATE?

The Climate Leadership Academy will help you and your team advance and improve climate change adaptation efforts by providing you the best available information, expertise, and thinking in the field, and by offering opportunities to learn from your peers across the region. Cities that take systematic approaches to adapt to a changed global climate will be best positioned to inform and benefit from national efforts and investment opportunities, and will ultimately be able to better protect their residents and local economies from climate disruption.



The Leadership Academy will provide training support to help participants:

- Understand local and regional risk barriers to adopting new, resilient urban infrastructure;
- Learn new tools and strategies for addressing risk barriers, including law, policy agreements, regulations, and financing options;
- Understand the technology tools such as spatial data analysis to support urban adaption;
- Learn from, network, and collaborate with peer cities facing similar challenges, as well as international experts;
- Share local best practices with regional counterparts;
- Appreciate the importance of designing urban infrastructure in the face of resource constraints, climate change, and new challenges associated with urban growth.

The CityLinks team will finalize the scope and design of this CLA by consulting with the selected cities. ISC staff will contact participants to learn what specific challenges they are facing and to determine the types of training and peer-learning opportunities they most need and want.

### **HIGHLIGHTS OF THE WORKSHOP**

Highlights of this CLA will include:

1. A diverse mix of 10 city-led teams of practitioners from throughout Southeast Asia;
2. Plenty of time for networking, learning, and strategizing within and across those teams;
3. A "Resource Team" consisting of leading international experts and practitioners;
4. One or more inspiring keynote presentations;
5. A resource guide synthesizing the best available information, ideas and "promising practices";
6. A blend of interactive panel discussions and small-group working sessions focused on key challenges, including but not limited to the following:
  - Prioritizing risks and setting priorities for action;
  - Making the case for climate adaptation and communicating climate risks (e.g., cost-benefit analysis, communication strategies, etc.);
  - Developing and implementing climate adaptation plans, strategies, and actions;
  - Integrating climate adaptation and mitigation strategies and activities;
  - Financing climate adaptation;
  - Collaborating with key partners at the local/regional, state, and national levels; linking national and subnational climate adaptation plans;
  - Monitoring, evaluation, and adjustment of risk management strategies.

By leaving daily responsibilities behind and working with your team for three days, you will have the chance to cement new relationships and return home with shared understandings that can inform your future efforts. Unlike other events where individuals attend in isolation, the Climate Leadership Academy creates powerful team learning opportunities, which resonate long after participants return home.





## THE CITYLINKS PILOT PARTNERSHIP

After the Climate Leadership Academy, CityLinks will select up to four cities to participate in a CityLinks Pilot Partnership to gain more exposure to innovative approaches, good governance tools, and appropriate technologies to enhance their ability to adapt to climate change impacts. The program will match selected cities with counterparts in the United States to enhance peer learning and technical exchange.

## WHERE AND WHEN—AND WHO PAYS?

This workshop will take place in Jakarta, Indonesia, beginning on August 13 and ending after noon on August 15.

**Most costs are covered.** CityLinks will arrange and cover the flight costs and hotel stay of the three to five team members for the workshop dates and will provide breakfast, lunch, and snacks to participants throughout the course of the program. A stipend will be provided to cover dinner, local transportation, and incidentals. Expenses for any additional days and nights must be covered by the participant.

## ABOUT ICMA

ICMA, the International City/County Management Association, develops and advances professional local government management to create sustainable communities that improve lives worldwide. ICMA provides member support; publications; data and information; peer and results-oriented assistance; and training and professional development to nearly 9,000 city, town, and county experts and other individuals and organizations throughout the world. The management decisions made by ICMA's members affect millions of individuals living in thousands of communities, from small villages and towns to large metropolitan areas.

## ABOUT ISC AND THE SUSTAINABLE COMMUNITIES LEADERSHIP ACADEMY

ISC has a 22- year history building the capacity of communities around the world to meet their sustainable development challenges and opportunities. ISC's Leadership Academy program has been providing high-caliber, affordable training and peer-learning services to cities around the world forging local solutions to global climate disruption and fostering sustainable communities. Previous SCLA workshops have focused on low-carbon transportation; low-carbon urban development; building energy efficiency and retrofitting; sustainable economic development; climate adaptation and resilience; and sustainable community/regional development.

In all, ISC has managed more than 91 projects in 25 countries. For more information, please visit [www.iscvt.org](http://www.iscvt.org). ISC is proud to be part of the CityLinks team. CityLinks is a program by ICMA on behalf of USAID.



## B. Selection Criteria

# **ASEAN – US CityLinks CLA: “From Risk Barriers to Results: Managing the Social, Political, Environmental and Financial Risks of Urban Infrastructure “**

The purpose of this suggested City Selection Criteria is to assist the AWGESC National Focal Points select the best applicant from their respective country for participation in the August 2013 Climate Leadership Academy.

## **Selection Criteria**

### **Application– Level**

1. Team Seniority, Diversity, and Collaboration
  - a. Do the applicants have senior–level, direct decision–making authority over infrastructure investments? Are they the ‘go–to’ people for infrastructure in their city?
  - b. Do the applicants represent diverse points of view? Do they represent different city departments and sectors, including civil society?
  - c. Have the applicants worked together previously? Not necessary. But do they have the potential to work together? Will they be able to do new things together?
  - d. Are the applicants aware of their city’s vulnerability to climate change? Is addressing these risks a priority for them?
  - e. Is there a clear team lead with sufficient seniority?
  
2. Project Readiness
  - a. Has the city taken steps to evaluate infrastructure options and goals in the context of climate change, changing demographics, and resource availability?
  - b. Has the city identified its own capacity–building needs to advance urban infrastructure planning? How closely do those needs match the learning objectives of the workshop?
  - c. Is the team likely to adopt new best practices as a result of the workshop?
  - d. Are there any large infrastructure investments in motion or recently completed?

### 3. Sharing Potential

- a. Has the city identified lessons learned and/or innovative approaches to urban infrastructure that might be beneficial to other participants?
- b. Would members of the team provide important networking opportunities for other participants?

### 4. Quality of Application

- a. Is the application clearly written and does it convey an eagerness to participate?

### **Participant Cohort-level**

1. Do the participants represent a diverse geographic range?
2. Is there a diversity of city populations? (city size should be between 500,000 – 4,000,000)

APPENDIX 3: CLA Meeting Minutes (ICLEI)

# Climate Leadership Academy on Urban Adaptation: CityLinks Pilot Partnership Between US and ASEAN Member States

Managing the Social, Political, Environmental, and Financial  
Risks of Urban Infrastructure

13-15 August 2013 • Jakarta, Indonesia  
Written Record of Proceedings

ICLEI-Local Governments for Sustainability  
Southeast Asia Secretariat

## DAY 1 • FRAMING THE CHALLENGE

### I. OPENING REMARKS

Mr. Joseph Lombardo, CityLinks Program Director and Master of Ceremonies, welcomed everyone to the event. He introduced the two keynote speakers, Madam Alicia Bala, Deputy Secretary General of the ASEAN Socio-Cultural Community and David Carden, Ambassador, US Mission to the ASEAN who addressed the participants; their speeches serving to officially open the event.

#### A. MADAM ALICIA BALA, ASEAN DEPUTY SECRETARY GENERAL FOR SOCIO-CULTURAL COMMUNITY

The Deputy Secretary General expressed appreciation for ISC, ICMA, and ICLEI for organizing the event and acknowledged the presence of different local government officials, dignitaries, and experts.

##### ASEAN Community: Overview

The ASEAN community consists of 600 million people, with Indonesia, as one of the top five (5) countries with the highest population. The environmental issues the community and its cities must contend with are compounded by rural-urban migration, high population densities, and the strain these put on the already limited resources and capacities.

The ASEAN Roadmap covers political, security, economic, socio-cultural, and environmental communities and the plan for ASEAN integration is included in its Second Workplan. By 2015, the ASEAN community is envisioned to be politically-cohesive, fully implementing climate change measures at the regional level. It (ASEAN community) aims to strengthen its platform for coordination to address climate change.

##### Current ASEAN Programs

1. Eco-modal Cities Program – covers 14 ASEAN cities and is implemented together with the Japan Integration Fund. It is guided by the environmentally-sustainable communities (ESC) framework and will run until 2014.
2. Clean Air for Smaller Cities – aims to enhance capacities of local governments to improve air quality to contribute to sustainable city development. This is undertaken with support from the GIZ.
3. ASEAN Sustainable City Award – highlights best practices to make cities cleaner, greener, and more livable.

The workshop, which brings together select ASEAN cities, associations of local governments, NGOs, and other stakeholders, are in line with the ASEAN's efforts aforementioned and as such, can significantly contribute to its efforts of integration. Moreover, the training will also enhance the capacity of key stakeholders and facilitate learning of practical actions and discussion of applicable and replicable best practices.

These best practices will inform future workplans for ASEAN partnerships. Specifically that between the ASEAN and the US, enables hands-on learning among key stakeholders, provides technical advice and interactive capacity building activities.

## **B. MR. DAVID CARDEN, US AMBASSADOR TO THE ASEAN**

A story of three (3) cities: Chicago, Yangon, and Boston.

### 1. Chicago

The Burnham plan for the city of Chicago (1904/1907) was the most comprehensive urban plan ever drafted for a city at that time. It includes child care facilities, recreational areas, open spaces, and effective and equitable housing for everyone. Burnham established office in Chicago and opened it to the public.

A similar Burnham plan was done in Manila but this was not implemented during Pres. Quezon's time. The differences between how the two cities, Manila and Chicago, have developed today are stark.

In short, planning is one thing, but following through on that plan (i.e., implementation) is just as important. Moreover, how these plans are communicated to concerned stakeholders as well as the general public is just as vital.

### 2. Yangon

The city had a comprehensive urban plan in the sense that it incorporated and took into account all the issues that needed to be addressed to undertake an effective and sustainable urban development.

### 3. Boston

Boston is the example of a city that got completely ruined but was able to come back. The city owned all the ruined buildings so when these were re-developed, it only gave the rights to develop (and not to own), which provided a revenue screen for the city and allowed it to rehabilitate to what it is today.

#### Lessons from Three Cities

- The work and the issues the teams need to respectively address are daunting, it is much easier for the speaker, who is in a position to meet different groups of people and know about these efforts second-hand, and simply talk about it.
- These three examples underscore the importance of science in climate change adaptation measures; how these can teach and guide key actors, implementers, and stakeholders in their plans are likewise imperative. For instance, for every month that monsoon season is delayed, there will be 10 percent less amount of water that will fall that year – these and other similar seemingly gradual changes have economic and social implications that need to be taken into account.
- Actions need to be strategic, for example, undertake tax reforms to finance activities of cities.
- The expertise and resources of the private sector need to be tapped. Chicago, for example, was saved by private industries.



- Partnerships between cities and national governments need to be re-examined. The role the former plays in solving its own problems (and not look to the federal and/or central government for solutions) should be taken into account.
- The socio-political, economic, financial implications of climate change adaptation need to be integrated.
- Failure to communicate is and can be a challenge and the consequences of not doing may pose bigger problems, but it is doable. Now, more than ever, it is an imperative that groups talk to one another; that the different government agencies coordinate with one another.
- Listen, as there is much to be learned in listening to what others have to say.

The portfolio of the Ambassador to the ASEAN (and not just to a specific country) is unique in the sense that it has to deal with shared problems and opportunities. However, it is also in a unique position to develop relationships to do what is necessary. While the tasks and issues at hand may appear daunting, they are not impossible; doable solutions exist.

## II. ORIENTATION

**MIKE ROWLEY AND SCOTT MULLER, ISC**

The workshop's overarching goal is to help the participants, as individuals and as a team, do their jobs more effectively. It will do so by providing information on barriers and opportunities to improve urban climate adaptation through resilient urban infrastructure.

The workshop will cover five (5) main themes:

1. Building broad-based support – recognizing the wide-ranging impacts of climate change, affecting the government at different levels as well as other sectors. Thus, to be able to respond effectively, systematic approaches need to be developed with a range of stakeholders. An example is the city of Palembang's Climate Change Working Group, whose membership cuts across sectors to develop the city's climate action plan.
2. Restoring urban ecosystems – recognizing that ecosystems are central to the development of healthy environments. Among the teams, Chiang Rai, Thailand embodied this – they worked with key stakeholders to help control flooding as well as the spread of vector-borne diseases in the city.
3. Re-thinking urbanization – as a strategy to reduce poverty. Rapid urbanization poses new constraints on a city's resources, creates new issues, and stresses ecosystems; climate change increases these risks (through increased rain, drought, sea level rise, and the like). The city of Legazpi works with the provincial government in using a new computer program to develop updated hazard maps for the city and province.
4. Aligning financial investments – there are funding sources available but there is a "limited supply" of projects that can be financed. The social and political risks in investing need to be identified and addressed and a strategy and/or plan to align funds to (better) address climate change impacts. Kuantan, Malaysia's Local Agenda 21, CSR, and regional project initiatives are some examples.
5. Elevating social equity – recognizing that poor populations are always the first and most affected but have the least leverage to protect themselves. Jakarta, for example, has been overlaying the map to reflect slum neighbourhoods with areas affected by flooding.

### III. PANEL DISCUSSION: PRIORITIZING ADAPTATION IN URBAN INFRASTRUCTURE PLANNING MODERATOR: DR. JOSEPH FIKSEL

#### A. URBAN SYSTEMS

DR. JOSEPH FIKSEL, EXECUTIVE DIRECTOR, CENTER FOR RESILIENCE, OHIO STATE UNIVERSITY

Main themes covered, include:

1. The relationship and/or difference between assets and resilience and resources and sustainability; and
2. Importance of systematic approaches and integration in addressing sustainability and resilience.

The USEPA, in particular, is interested in understanding systems that promote sustainable cities and ensure their resilience.

#### Assets and resources

The assets that cities have at their disposal— built capital, natural capital, social capital (i.e., people, skills, and citizens’ capabilities), enterprises that support economic growth, and governance – are results of investments made over time. Resources, on the other hand, refer to consumable goods. These include: minerals, energy, water, food, and waste. In many developed countries, waste is often overlooked as a potential resource, e.g. source of energy such as biogas.

Given these, the key question is, “How do we manage and protect our assets in such a way that our resources are used in a sustainable manner?” The *circular economy*, a concept, initially introduced in China, sees that materials (goods and services) that flow through the system can be used and re-used. This system, if institutionalized, can eliminate the concept of waste and create continual stream/supply of resources.

#### Sustainability and resilience

Sustainability refers to the capacity of cities to achieve long-term goals (e.g., human health and well-being, economic viability and prosperity, and abundance of environmental resources). Though often mistakenly interchanged, resilience is different (from the concept of sustainability) in the sense that it is characterized by the capacity to respond to unexpected problems (e.g., catastrophes) and the ability to adapt to change.

Though conceptually different, these two reinforce each other. The former determines fitness for resilience; resilience, on the other hand, ensures continuity, i.e., the city stays on track towards achieving its long-term goals of sustainability.

**B. PLANNING FOR INTEGRATED COASTAL ADAPTATION STRATEGIES (PICAS): STRENGTHENING SPATIAL PLANNING IN ADAPTING JAKARTA TO FLOOD THROUGH QUALITATIVE APPROACH**  
**DR. HENDRICUS ANDY SIMARMATA, LECTURER/RESEARCHER, UNIVERSITY OF INDONESIA**

PICAS has undertaken measures to make Jakarta adaptable to flood are guided by the following principles:

1. The concept of locally-embedded adaptation planning and the importance of community-based qualitative approaches;
2. Complement existing knowledge with local knowledge and lived experiences (i.e., bottom-up approach); and
3. Importance of collaboration when developing a team.

#### The Qualitative Approach

The value of the qualitative approach arose from several workshops held in Bangkok and Taipei. Discussions pointed to the fact that the impact of and interventions for climate change are not solely physical/concrete in nature. “Soft infrastructure” is recognized as integral to addressing issues related to and undertaking climate change adaptation measures. These soft infrastructures can be in the form of adjustments in regulations and social adaptation at the community level.

Opportunities for national policy dialogues with various stakeholders were made available. And it was in these dialogues that it was identified that the poor are the most vulnerable group.

#### Context

Sea level rise, tidal flood, and land subsidence are identified to be among the major climate threats in the coastal areas of northern Jakarta. Having identified the poor to be the most vulnerable to climate change impacts, PICAS aims to work with and enhance the capacity of urban kampongs and informal settlements in the area. Kampongs, ubiquitous not only in Jakarta, but also in other Indonesian cities; these small villages, the incumbent Jakarta Governor believes, is the starting point of sustainable development for the city.

#### Main goals of PICAS

- Develop locally-embedded adaptation plan, which covers profiling, vulnerability assessment, adaptation activities, recommendations, and proposals; and
- Develop special technique flood plain zones, housing and settlement guidelines for adapting kampongs, building on the existing local knowledge;

#### The process

In order to achieve the goals identified, PICAS established a Project Team, comprised of a Secretariat, members of the academe, experts and practitioners (i.e. NGOs, climate experts, scientists, and anthropologists), young planners, and government officials. The involvement of young planners is emphasized, as climate change is a new dimension in urban planning in Indonesia that the more senior urban planners have not been trained for. Moreover, the inclusion of national government officials in the process as proposals will be made to adjust the guidelines according to climate change adaptation plans.

### Lessons learned

- There is a need to focus on participatory methods and combine technical expertise with local knowledge or “self-reflective methodologies”; these utilize and take advantage of the decades of experiences the people have had in dealing with flood and other adverse environmental impacts in their immediate environment.
- Assessment should be conducted by mixing various modes of communication available in the kampongs (e.g., *arisan*, *pengajian* (Moslem prayers), *obrolan warung* (chatting in small shops in villages, and the like) with the technical knowledge the planners have. These were found to be more effective means of communication, as the members of the community are better able to articulate issues about their environment. Planners become facilitators and do not follow the conventional role and process of planning.

### Issues

- Shift in impact assessment – from a regional focus to a more people-centred approach.
- Shift in methodology in assessing vulnerability – from quantitative to qualitative. There is recognition that the former cannot accommodate micro-/community level information, as climate scenarios are typically difficult to downscale.
- Shift from participatory to self-reflective planning.
- Find and/or create synchronizing tools that will serve as a common platform in developing connections.
- Translation of technical, “hard” data into accessible language for public awareness.

### **C. PRIORITIZING ADAPTATION IN URBAN INFRASTRUCTURE PLANNING LEGAZPI, ALBAY, PHILIPPINES**

#### Background

The Philippines is visited by around 6-10 typhoons each year, with strengths approximating 250 km an hour. Legazpi City, situated 532 km south of Manila, is often devastated by these typhoons. These weather threats are exacerbated by climate risks, volcanic hazards, and seismologic and geologic hazards.

Amidst these threats, the city, with the Mayor’s helm, is at the forefront of disaster risk reduction and climate change adaptation efforts at the local level. It is also owing to these threats that the local government has institutionalized their mitigation and adaptation measures; a City Disaster Risk Reduction Office was created. This is a reflection of the city government’s realization that disaster risk reduction and climate change adaptation efforts cannot be sustainable without a permanent structure, dedicated staff, and funding.

The Office’s structure is flexible, such that, its organizational structure changes during calamities as it becomes a disaster-action office, with all of its activities, manpower, and resources geared towards immediate rescue and relief.

At any other time, it undertakes the following activities, identified in the city's DRRM Plan:

- Regularly conduct activities to raise community awareness on the nature and effects of climate and weather-related hazards;
- Continuously update data on and locate population-at-risk;
- Periodic updating of risk maps;
- Conduct of Zero Casualty Strategy training at the community level, acknowledging it as the first line of defence. These include: early warning system and/or real-time warning, prediction, forecast, detection, decision, communication, communication protocol, mobilization – of volunteers and resources, and evacuation procedures; and
- Conduct of capacity building activities regularly.

#### The City Climate Change Adaptation Plan

The city's climate change adaptation plan is characterized primarily by the construction of DRR and CCA infrastructures, such as emergency safe evacuation centres in each of the identified vulnerable areas as well as emergency relocation centres. With the support of JICA, six (6) evacuation centres have been built and with funding assistance from the national government amounting to USD 11M, pumping station has been constructed to prevent rain water from inundating the city.

#### Other efforts at institutionalization

The comprehensive land use plan (CLUP) for the city begins with risk mapping (i.e. reviewing existing land uses to identify gaps), integrates DRR and CCA components, and ensures policy support. Currently, DRR- and CCA-related activities are being mainstreamed into regular local planning and programming. Moreover, the local development budget allocates five (5) percent to implementation of DRR and CCA-related activities, which the city government considers as economic investments.

Lastly, alternative approaches (e.g., green infrastructure), natural landscapes, and ecosystem services to mitigate flooding are likewise being explored.

#### **D. COMMENTS AND CLARIFICATIONS**

**Q:** How is social adaptation reconciled with prevention measures?

The former supplements the existing planning process. While Jakarta has flood infrastructures in place, it does not recognize the existence of kampongs, their needs, and what they have been doing during floods. A regulatory framework, specifically for kampongs, is being proposed; this will hopefully integrate social adaptation with prevention measures. It is in their favour that the new Jakarta leadership supports their efforts to develop and/or focus on kampongs.

#### **IV. REGIONAL, NATIONAL, AND INTERNATIONAL COLLABORATION FOR URBAN ADAPTATION**

**MODERATOR: PHONG TRAN**

##### **A. REGIONAL, NATIONAL, AND INTERNATIONAL COLLABORATION**

**PHONG TRAN, INSTITUTE FOR SOCIAL AND ENVIRONMENTAL TRANSITION (ISET), VIETNAM**

##### The Asian Cities Climate Change Resilience Network

Conceptualized and funded by the Rockefeller Foundation, the nine-year initiative covers 10 medium-sized cities in four (4) countries: Thailand, Indonesia, Vietnam, and Indonesia. It aims to initiate funding and action on building the poor and other vulnerable groups' capacity for climate change resilience in cities; create robust models and methodologies for assessing and addressing climate risks; implement local adaptation measures; and build recognition and support for urban climate resilience.

It builds on the experiences of ACCCRN and MBRACE cities and works with and expands the former's established partners. The project is currently on its third phase.

##### Overall ACCCRN Process

- Assess climate vulnerability
- Learn from SLDs, sector studies, pilot projects/initiatives
- Resilience planning; produce resilience strategy
- Develop proposals and identify these for high priority action
- Implementation

The effectiveness of the ACCCRN and MBRACE resilience-building processes are attributed to the fact that these are led by the local government; facilitated capacity building and shared learning within and among cities; involved engagement of key stakeholders in project development and implementation; and work plan was developed collaboratively.

In understanding vulnerability, the project is guided by the framework wherein agents, institutions, and systems interact and affect one another. For example, in an Integrative Education for Urban Climate Resilience program, the systems refer to the plan to improve the school and community facilities and disaster response systems in cases of extreme events. The students, teachers, and their families act as agents who are involved in planning for the improvement of systems and who respond to and are (immediately) affected by climate impacts. Lastly, through the introduction of an innovative curriculum that will improve practices of climate education and training, improve information/knowledge flows on climate change and urbanization, thereby enhancing the capacity of institutions.

##### Challenges

- Top-down planning has been the common practice
- Extreme vulnerability to climate change and rapid urbanization
- Technocratic viewpoint; i.e. focus on physical systems, rather than institutions and agents
- Coordination among multi-stakeholders with different perspectives and priorities
- Components of resilience planning are new concepts for the communities
- Traditional "predict-then-act" approach vs. ISET resilience approach of "learn from and adapt to unexpected events"

### Lessons learned

- Resilience approach, though new, has been well received
- SLD and the iterative approach that bring different actors together to discuss and share experiences are effective ways to build capacity and strengthen knowledge
- Though slower, the fact that the city undertake the work themselves results in greater ownership and increases the chance for sustainability
- The ability to collaborate, rather than having the technical expertise, is critical
- Timelines need to be flexible (as the process takes time)
- Support from the political leadership is a double-edged sword

### **B. REGIONAL LEARNING NETWORKS IN THAILAND: PROMOTION OF URBAN AND ENVIRONMENTAL GOVERNANCE MUNICIPAL LEAGUE OF THAILAND**

The network's main objective is to strengthen and build the capacity of local governments on urban and environmental management and to support the decentralization policy on good governance towards localized action. The former involves not only increased budget allocation but also enhancing their capacity to deal with issues previously addressed by the national government (e.g. climate change impacts). The overarching strategy to achieve these is the promotion of learning networks of local government in five (5) regions.

The Municipality League of Thailand acts as the focal coordinating council. The network abides by the King's philosophy of self-sufficiency – i.e. ensure personal/organizational sufficiency before receiving money from others.

### Factors that make collaborative programs effective

- Support from the national government, local government association (LGA), and academic institutions
- Appreciation, interest, and creativity of municipalities
- Proper planning and appropriate activities to move the network
- The RCC Coordinator
- Conduct of regular meetings among Regional Coordinating Centres (RCCs)

### Challenges

- Change of political leadership in the LGA as well as in the RCCs. Change in leadership unsympathetic to the cause shifts the priority and/or performance of a coordinating centre; this hampers implementation of events and activities and affects sustainability of the network and its programs.
- RCC's lack of planning to make the network more active
- Lack of clarity as to which issues should be jointly/collectively addressed
- (Lack of) contribution to RCCs by membership and LGA

The RCC has been able to facilitate and establish better relationships among local governments. A city, on its own, would be easily “broken” when beset by overwhelming environmental challenges and climate change impacts; a group of five or more cities, on the other hand, are better able to withstand

and address these. With networks, the process of peer-to-peer learning among city governments/members are better facilitated and common environmental problems more easily solved/addressed.

Currently, the network has expanded and is part of the DELGOSEA, Partnership for Democratic Local Governance in SEA.

### **C. CLIMATE CHANGE BUREAU HO CHI MINH CITY, VIETNAM**

Ho Chi Minh City (HCMC) has been behind in the awareness of climate change impacts and consequently, effective measures to address them. Other countries in the region, like Thailand, for example, have been implementing climate change programs since early- or mid-2000. In HCMC, even as late as 2009, most of the people in HCMC were still unfamiliar with the concept of climate change. The first C40 Summit in Seoul, Korea made them realize just how far behind they have been in climate change efforts.

Thus, an advisory group, comprised of representatives from each department worked together to draft a 2010-2015 (climate change) action plan. To ensure success of urban management and climate change programs, the group ensured that the staff members it employed are technically competent and spoke English, as coordination among various international groups is imperative.

It took the group around three (3) years to draft the plan as constant changes in political leadership often discontinued the progress reached with the predecessor and the challenge to raise public awareness on and understanding of the concept of climate change. This is also owing to the fact that majority of the population in HCMC are from the rural migrants who stay in the city for the employment. Owing to the rather temporary nature of their stay in the city, there is very little sense of ownership in how it develops or the environmental changes that may hamper it.

#### (Lack of) NGOs in Vietnam

In other cities/countries, this gap in public information and participation is filled in by NGOs. However, Vietnam policies do not support non-profit organizations. Instead, there is only one (1) social-based organization (SBO) in the country and a women's union. The current system in Vietnam states that social organization work is from the government and thus, serves political rather than social purposes. The surplus of stakeholders/actors, there is a general lack of capacity among them.

Moreover, there is a lack of streamlined processes between the national and local governments in Vietnam. Most local governments lack the capacity to undertake programs (that address climate change) but are likewise mandated and/or expected to do so. In Vietnam, these types of initiatives are funded through: multilateral and international organizations (50%), national government (30%), enterprise (10%), and local government (10%).

However, the bulk of these resources (i.e. 50 percent from the international organizations) are transferred directly to the national government, which then appropriates the funds at its discretion. This



makes it cumbersome for local governments to access it. This government-to-government policy hampers implementation of initiatives at the local level.

#### City-to-city links

To address this resource gap, HCMC has initiated direct links to other cities, such as Osaka in Japan and Rotterdam in the Netherlands that have had more experience and success in addressing climate change impacts in their respective areas. In 2009, together with multilateral organizations and linked with international programs, the city established a Climate Change Bureau.

#### **D. COMMENTS AND CLARIFICATIONS**

**Q:** How are cities selected for each country? What is the process and what are the indicators? What is the extent and nature of involvement of local governments?

The Rockefeller Foundation targets medium-sized cities. Some general indicators include: perceived and/or observed vulnerability to climate change, willingness of the city/local government to participate in the program. Cities are chosen through the regional partnership.

In the beginning, it took about half a year, just to understand local conditions. Cities were assessed in terms of their capacity, identified focus areas, and local partners. The program works with ministries at the city level responsible for addressing climate change as a strategy to develop local action plans.

**Q:** What is the relationship between networks and the LGA? Is there cooperation?

The Municipality League in Thailand is one LGA and acts as a focal point for the local governments and other regional networks. It facilitates meetings among the different municipalities. The League also makes financial resources available through the collection of annual fees of its members, part of which goes to the RCCs.

However, since last year, it has been experiencing problems as a (new) law prohibits the League, classified as an NGO, from receiving/collecting annual fees from municipalities.

A Working Group on Urban and Environment, which includes climate change issues, has been established.

**Q:** The networking efforts shared are commendable. It is interesting to note that a growing trend for some countries is to combine municipalities to integrate local governments, why is this so?

In the case of Thailand, mayors are generally against integration, owing to the implications it has on local governance systems and budgets. The concerns have been addressed through custom – sharing and integrating partially but not completely merging. This allows local governments to work together on issues that cannot be solved by one city alone or that which affects adjacent cities in a similar manner.

Thailand used to have a lot of districts and sub-districts. However, since decentralization, sub-districts have been changed to municipalities.

## **V. MANAGING THE SOCIAL, POLITICAL, ENVIRONMENTAL, AND FINANCIAL RISKS OF URBAN INFRASTRUCTURE FORT LAUDERDALE, FLORIDA**

### Background

Fort Lauderdale in Florida is considered the “Venice of America.” However, unlike the famous city, which is built on water and has been experiencing sea level rise, Fort Lauderdale is comprised of 7 miles of beach and 300 miles of canal coastline that are integrated in canals. It is most vulnerable to sea level rise and effects of climate change.

It is a city of many neighbourhoods and therefore, of different stakeholders. Communication with and among these various groups entailed using numerous informal networks. Through these said networks, diversity and collaboration have been achieved and celebrated.

### Climate change and Southeast Florida

Primary climate change impacts in Southeast Florida include flooding, extreme weather events, saltwater intrusion and water supply, beach erosion, impact to coral reefs, and the Everglades, a major source of water for people in the region. Owing to increased global warming, flooding has been occurring more often in extreme weather events.

Secondary climate change impacts include: loss in the city’s primary economic engines for its taxes and services – tourism and its large marine and yachting industries.

### City in Action

The city undertook policymaking activities for resilience and regional coordination. It drafted a Sustainability Plan, Capital Improvement Plan, and its Vision for 2035. In working towards implementation of these plans and attainment of its 2035 vision, the local government established relationships and collaborated with its partners at the regional, county, and city levels.

Activities undertaken include:

- Participation in regional efforts;
- Preparation of the Sustainability Action Plan (SAP);
- Establishment of the Sustainability Advisory Board (SAB)<sup>1</sup> and Office of Sustainability<sup>2</sup>;

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<sup>1</sup> The SAB consists of 11 members appointed by and advise the City Commission on environmental sustainability. As a Board, it provides recommendations on incentives for members of the community to practice environmental conservation and sustainable building practices, actions, and policies and develops outcome measures for sustainability programs and initiatives.

<sup>2</sup> The Office of Sustainability is housed in the Public Works Department and was created primarily to bring together existing staff (from different departments) with a common purpose. The Office has citywide influence and the activities it undertakes include: climate change adaptation planning, climate mitigation, natural systems, waste and recycling, and stormwater policy management.

- Conduct of the Neighbour Survey;
- Implementation of Tidal Wave Neighbourhood Projects in Riviera Isles, Hendrick Isle, and Victoria Park;
- Conduct of Stormwater planning; and
- Conceptualization of the “Fast Forward Fort Lauderdale”, the city’s vision for 2035.

#### A. COMMENTS AND CLARIFICATIONS

**Q:** In Indonesia, there are policies that promote and mandate inter-jurisdictional collaboration; however, there is much room for improvement in terms of implementation. What are the key factors to make collaboration successful?

A disaster, as this can serve as palpable evidence to convince people that it is time for action.

**Q:** The Office of Sustainability is comprised of people originally from various departments to collectively deal with climate change impacts. Which specific departments did they come from? Are they public officials? Who pays for their salaries and the overhead and operational expenses of the unit?

These are existing employees of the city – engineers, planners, other individuals, staff from waste and recycling, and the like. They were “taken” from their respective departments with their existing functions, duties, and responsibilities and literally put in one office. As such, their salaries are already funded.

Put together in one office, collectively, they have been “given” the power and authority to undertake the necessary action; however, implementation was not without its problems. They, as an office, had to make sure that the elected and appointed leadership understood and approve of the plan.

All activities are benchmarked against current progress; the plan is a “living document” in the sense that changes/adjustments are made accordingly; nothing is in its “final form” at any point in time.

**Q:** How are the areas identified (criteria)?

For Fort Lauderdale, it was not hard to identify as the city has a major road system (i.e. federal highway) and the east is subject to coastal flooding and the rest of the city is prone to rainwater issues.

The city has been able to observe where the high tide has been occurring over the years and visually determine where adaptation needed to be.

**Q:** There is high tide in the Mekong in Vietnam, what can be recommended, based on what has been done in Fort Lauderdale? The local government is challenged in determining the types of infrastructures that must be developed to address this. The city is currently seeking approval from the national government as these have implications on the city’s financial investments and local governments do not have autonomy.

Solutions and the costs associated with it are still unknown. The area that has been most affected has already been built out, most of which are the expensive housing, so significant investments have already been made. Thus, the people want to make sure that their investments are protected; the city is confident that the residents will be amenable to paying more taxes if it meant better services and protection for them and their assets.

However, unlike Vietnam, Fort Lauderdale has the freedom to do what they need to do without the approval of the county or the state. For example, the US has a national flood insurance program, which encourages building one (1) ft above the base floor elevation. In Florida, this may not be enough, especially for new buildings/construction (minimum would be 2 ft). In this case, the city needs and has been able to supersede federal standards.

## DAY 2 • EXPLORE AND INSPIRE

### I. OPENING REMARKS

Scott Muller welcomed the participants back and briefly described the day's sessions. The overarching theme for the day, "Explore and Inspire," will highlight innovative approaches and solutions to urban climate adaptation. Participants were encouraged to identify creative and innovative solutions that are applicable and can be replicated in their respective cities.

#### A. DAY 1 HIGHLIGHTS

The ASEAN Deputy Secretary General for Socio-Cultural Community, Alicia Bala's speech situated the efforts of the participants in a regional framework for cooperation and collaboration towards effective and sustainable climate adaptation. The Ambassador's message, on the other hand, underscored personal stories that are both inspiring and relevant to the issues (Asian) cities currently grapple with.

Given these rather broad underpinnings, the participants were encouraged to maximize the amount of transferrable information they can get from keynote speakers and from each other during the concurrent sessions. The previous day's panel discussions revolved around comprehensive approaches to planning and provided excellent perspectives on the importance of collaboration at all levels.

Further, it was explained that Feldman's presentation on the regional climate compact in Fort Lauderdale is an emerging initiative in the US. More and more, it is becoming or is used as a primary model on how to approach climate adaptation on a regional scale. As it is able to cut across regional divides, the model has been especially useful in the US, as it bridges divides between Democrats and Republicans.

Mr. Crowley, who provided the summary, encouraged the participants to engage with Mr. Feldman throughout the duration of the workshop.

As an introduction to the panel discussion, he described ecosystem services as a functionality of ecosystems that exist outside of urban realms. Within urban areas, focus (of ecosystem services) include: clean air that can be provided or made available within cities; flood control; and temperature control (i.e., heat island effect), all of which underscore how urban ecosystems have become or are becoming central to adaptation.

## **II. PANEL 3: ADAPTIVE URBAN ECOSYSTEM SERVICES**

**Moderator: Robert Mather, International Union of Conservation of Nature**

### Context

In a nutshell, ecosystem services refer to all things derived from nature. In urban areas, this includes: clean air, water, and green spaces within the urban setting and what they provide (e.g., physical, recreation and exercise, emotional, biodiversity, among others).

Adaptive urban environmental services, then, must be approached from two (2) different perspectives:

1. From the end-users' side, the question, "How will urban environmental services help city dwellers to adapt to climate change as well as other developmental changes going on?" should be asked; and
2. From the technocrats', decision-makers' and implementers' side, "What do we need to do to manage and maintain these services so provision is sustained?"

### **A. ADAPTIVE URBAN ECOSYSTEM SERVICES: GREENING STRATEGY KUANTAN CITY, MALAYSIA**

#### Overview

The city of Kuantan has a land area of 2,453 sq km and is located in the east coast of Malaysia. It has a population of 500,000 and is considered to be one of the fastest growing cities in the country. GDP growth is at 6 percent, which is higher than the national level.

#### City's Initiatives to Address Climate Change

Previous initiatives of the city have revolved primarily on climate change mitigation, not adaptation.

A Greening Policy was established in the Pahang State Structure Plan 2002-2020 and included in the Kuantan City Local Plan 2004-2015; the latter details provision for green areas, preservation and conservation of natural landscape, and enhancement of urban landscape. The city has been fortunate to have received funding from the state government to draft and implement said policy.

The said policy covers open space and recreation as well as farming and aquaculture. Currently, 84.5 percent of the city's land area is considered a green area.

The city requires that all developments are accompanied by an environmental impact assessment report, especially for "environmentally sensitive areas." These and other similar provisions are put in place to reduce carbon emissions, protect water catchment and river casings, among others. Moreover, developers are mandated to allocate 10 percent of all their physical developments for open spaces. This has been and is being strictly enforced.

Currently, a landscape masterplan, which will guide greening efforts and tree planting and provide overall greening framework for the city, is being developed.

The city puts much emphasis on green preservation. Trees cannot be felled unnecessarily and without permission. Regulations are enforced through public seculars and the like. Private sector involvement is encouraged and facilitated.

Around 10,000 new trees are planted every year. This has resulted in forest coverage of 3 billion trees, equivalent to 5 trees per square meter. This extensive forest cover has contributed to the city's air quality; it enjoys 332 days of clean air in a year.

Kuantan City, together with the city of Palembang in Indonesia, won the ASEAN Sustainable Cities Award last year.

Though it has made significant headway in environmental management, the city is not without its challenges.

Challenges mentioned, include but are not limited to:

- Limited capacity – on scientific data, lack of knowledge on climate science, thus making it hard to determine the appropriate policies, the manner by which these policies can be institutionalized, or secure and/or appropriate the corresponding funding/budget for it);
- Lack of integration among related agencies – presence of uncoordinated agencies and departments. The municipality is at the forefront of understanding the issue while others remain behind; however, their involvement is crucial for the local government to effectively and sustainably address climate change impacts;
- Public awareness – considerably increased since the flooding in 2012. The federal government has been providing funds for flood mitigation programs and/or initiatives, LE21 projects, CSR funds, and the like; and
- Presence of other threats, such as coastal, river, and beach erosion.

## **B. ECOLOGICAL RESTORATION OF THE KOK NOI RIVER FOR URBAN FLOOD MANAGEMENT CHIANG RAI CITY, THAILAND**

### Overview

Chiang Rai is a province located in the northernmost part of Thailand at the border of Laos and Myanmar, next to the Mekong River. Its municipality, of the same name, is the biggest city in the province. The main river that cuts across the city is the Mae Kok River while Kok Noi River is the older river channel similarly situated in the municipality. Kok Noi River is 2 km long, 25 m wide and approximately 4-5 meters deep. It used to be a free-flowing body of water but owing to the construction of resorts and hotels in the area, it has since dried up.

### Urban Flood Management

An ecological restoration approach is used and needed to minimize the use of energy and new construction materials, protect biodiversity, and ensure sustainability. A feasibility study is currently being conducted.

Key activities include:

- Conceptualization of river restoration design alternatives;
- Review/assessment of technical viability of restoration approaches;
- Identification and determination of concepts to demonstrate a more ecological sustainable option.

Owing to budget limitations, the city was only able to undertake a pilot project, covering only 450 m of the river. The pilot project includes, among others, the improvement of waste water treatment at the source as well as the water quality of the river, increase the number of catchment areas, and creation of mechanisms to store large amounts of water.

The project operates under a framework characterized by innovation, collaboration, scalability and reliability, such that though the pilot project only covers a quarter of river land, the rest will be prepared and the municipality will be able to continue and implement it smoothly as soon as budget is made available; ability to address current and future climate change-related risks; and the benefits it brings to the local community.

Five (5) communities are located in or near the area. Their needs were taken into account in the design of the pilot project. Public hearings were done to ensure community participation as well as secure ownership of the project. Other stakeholders include: Royal Irrigation Department, Harbour Department, and Chulalongkorn University, among others.

Challenges identified include:

- Coordination – things take longer than expected, due to the need to coordinate with different agencies. For example, the Harbour Department has jurisdiction over all the rivers in the country; thus, obtaining approval for plans tends to take longer.
- Setbacks/delays in implementation during the rainy season
- Budget

### **C. URBAN GREENERY IN AN EFFORT TO INCREASE NATIONAL FOREST COVER RATIO PAKXANE, LAO PDR**

#### Background

In the 70s, the city of Pakxane had more than 70 percent forest cover. During that time, the forest was a significant part of people's lives. However, 10-15 years later, approximately 100 sq km of forest cover disappeared. By 2012, it is estimated that forest coverage in the city is down to 40 percent or lower. This is attributed to factors such as logging and shift in cultivation (80% of the population are farmers).

To improve this situation, the national target is to bring back forest coverage to 70 percent by 2020. It aims to do so by protecting *at least* 19 national conservation areas.

In the urban areas of Pakxane, focus will be on the protection of existing natural forests and preservations of existing natural forests. Lao, though a landlocked country with no coasts and beaches, has a lot of wetlands; in the urban areas, these have been "invaded" by people and physical



developments and infrastructure. Pakxane, on the other hand, has been relatively successful in preserving wetlands in its area of jurisdiction.

To complement this gain, the local government aims to establish green river banks; to plant trees, grass, and flowers along main roads; and to encourage each household to have at least one (1) shady tree for every lot and/or public premise.

Challenges include:

- Dealing with the mindset and/or perception that a green policy is more expensive, i.e., land clearance for cash crops outweighs forest protection (a poverty issue); and
- Rampant illegal logging, despite promotion of tree-planting activities at the national level.

#### **D. COMMENTS AND CLARIFICATIONS**

**Q:** Has the cost-effectiveness impacts of these different initiatives been evaluated and/or documented?

In the case of Thailand, collaboration between affected communities and local governments has resulted in the stakeholders' ownership of the project; this has been evident in the pilot area, as the people take the initiative to take care of/maintain the area. This has piqued the interest of the hotel to construct and restore the area/stretch of the river that is near it. They have been planting herbs and vegetables in the area, which it plans to harvest and serve in its restaurant to reduce costs and raise public awareness. It also is currently undertaking other CSR activities.

In Kuantan, however, quantifying impacts is difficult. However, the city boasts of having one of the best air quality levels in the country – a result of the investments the city has put in terms of reducing air pollution. Air pollution parameters measured include: O<sub>3</sub>, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and CO.

The funds that the local government uses to protect the environment enable it to provide clean water and other ecosystem services to its populace. This, in turn, allows the private sector to undertake economic activities in the city as well as facilitate PPPs to take place/be established.

**Q:** What are the key factors to the success of Kuantan's remarkable forest cover?

It is important that activities (that affect the environment) are regulated. All laws and regulations to make the city greener are mandatory for everyone, especially for private developers. Sanctions are imposed for non-compliance. In fact, felling/cutting of trees, even pruning, cannot be done freely; a permit must be secured.

**Q:** Are there any success stories in relocating families living along the riverbank and restoring the quality of the river? In urban areas in Indonesia, riverbanks are occupied by informal settlers and this has been a foremost concern for the government, even before the issue of cleaning the river can be addressed.

The city/province of Chiang Rai has had very limited experience in resettling people. When the river ran dry, the municipality simply allowed the people to live along the river. In the past, families settling along the river made it dirty so regulations were put in place. The people were encouraged to clean and plant vegetables, flowers, and the like to improve (household) health as well as sanitation for the rest of the community/municipality.

**Q:** For Lao, what are the challenges ahead and what policies are in place to address these?

At the moment, nothing has been done though some policies are in place. Currently, the government is trying to get the same amount of forest coverage it did in the 70s by 2020. It is harder to impose regulations or undertake initiatives to protect the land in urban villages, where land is generally more expensive, as there are other more urgent issues (i.e., poverty) that needs to be addressed for conservation efforts to be sustained.

Similarly, there are a lot of issues, such as public sector inefficiencies and corruption, associated with logging. It is difficult to undertake any lasting program of change without having to take these into account.

**Q:** For Thailand, are there laws in place that regulate/limit private ownership of land in river easements?

There are no national policies on construction along the riverbank; it depends on the area and/or project. Except for this case/pilot project, where activities were based on an engineering design and are allowed, there is no knowledge of other cases/instances where regulations are in place and are enforced.

**Q:** For Lao PDR and Malaysia, funding for forest protection can be a challenge. Have the co-benefits of including upstream and downstream activities of ecosystems been considered in planning and/or activities undertaken? In Vietnam for example, tariffs are imposed for forest environmental services; in Malaysia, who undertakes forest protection? Also, what is the government's plan to those who will stand to lose their income from logging/cash crops?

Logging companies are required to pay logging premiums. It is this money that is used for reforestation activities of the government.

In Lao PDR, CBA is needed to identify beneficiaries as well as the corresponding amount. Quantifying development projects has always been a challenge. For large projects, companies/key stakeholders are asked to make a "contribution." However, this is harder to impose on other groups, as it is hard to convince them of the (long-term) benefits they stand to gain when they pay a certain amount. Moreover, issues of which agency should determine and the process by which this amount is arrived at remain unresolved for the government.

**Q:** In Kuantan, what are the indicators of an “environmentally-sensitive area” and how are these identified?

All activities that are sensitive to the environment – i.e., if it affects wildlife, water catchment areas, the ecosystem, as a whole, and the like.

### **III. CONCURRENT SESSIONS, ROUND 3**

#### **GROUP 4. IDENTIFYING SLUM NEIGHBOURHOODS WITH THE GREATEST FLOODING RISK**

##### Background

Jakarta represents key challenges in urban planning and environmental challenges. It currently houses 10 million people (daytime population can be as much as 12 million). In the Greater Jakarta area (includes 4 areas adjacent to Jakarta: Bogor, Depok, Bekasi, and Tangerang), the population is estimated at 25 million. These areas have been classified as (100%) urban.

This area is also considered to be the most productive (area) per square kilometre in the country (in terms of GDP per capita). Jakarta, in particular, has the concentration of manufacturing activities, services, and other economic activities. However, it also has the highest number of poor people in the country. It is estimated that about 20% of its population are poor; of this percentage, 20% are considered to be the most vulnerable, specifically to:

1. Sea level rise;
2. Water crisis. There is sea intrusion in 50% of the city; the source of fresh water is from the south, where there is heavy development in the catchment area; and
3. Flood canals and other infrastructure.

In its masterplan, the city of Jakarta is planning to build in the coastal areas in the north, where most of the vulnerable areas and communities are. It plans to undertake a massive reclamation project and build 17 islands, measuring about 300 hectares each, all of which are dedicated to high-end residential areas and protected by a giant seawall; a “catered area” rather than an inclusive development. A sea wall will be built to protect these 17 new islands; construction will be funded by these reclaimed areas.

There are around 1.2 million people living in the north – 50% of which are land-oriented (i.e., working in the village, agriculture, or in the city) and 50% are sea-oriented. The key question is, how are we to look after these people, especially for the latter (sea-oriented people) when the plan is implemented?

##### The project

The project is undertaken in the district, where most of the vulnerable people in the area are located. It is 3m below sea level and flooding occurs over 2 days. The local people, through their local wisdom, have adapted to this kind of environment. Their lifestyle and daily activities have taken into account these flooding occurrences and they have no desire to move/find a different location/residence.

The Association of Indonesian Planners worked with them on how to start a better, well-planned neighbourhood, banking on their local wisdom. This enabled them to build and establish quick buy-in

from them; plans made by the planners were presented to the people. However, as it was too technical, the people did not understand nor appreciated the plans.

Thus, they employed a bottom-up approach – took into account the activities of the people and how they want their environment to be and then, introduce some standards to improve their quality of life. This resulted in a zoning and regulations plan for the area that was both acceptable to the people and workable through the city administration.

#### **A. COMMENTS AND CLARIFICATIONS**

**Q:** How is the local government engaging these vulnerable people? Are their needs taken into consideration in influencing the masterplan of Jakarta?

Jakarta is currently working on the details of the master plan – type of soil, design of the islands, etc. The local government needs to conduct consultations with major developers. One developer in one island was insistent on a particular plan that was not consistent with the standards. After much discussion, it was found that the developer has already sold the land/development (with pictures) and they need to deliver on the image they sold.

The plan comes from the previous governor's regime and the incumbent realizes the environmental risks of the plan. Even with the combined with the need to supply water and desalination of water from the north coast, it appears that the plan will push through, with some modifications as it does require comprehensive environmental assessment.

All plans come from the Governor's office.

**Q:** Living in coastal zones is inherently dangerous. Does the government give the affected families options whether they move or stay?

The 50% "land-people" is easy; resettlement programs are being undertaken. Cause for greater concern is the "sea-people" who want to stay in these coastal areas.

**Q:** Is there a shift in the types of livelihood for the sea-people?

They used to be fishermen; but now, most of them are employed as "sea labour" – working for ships, as porters, etc. Employment, though still sea-based, has evolved.

**Q:** Who owns the land they are on?

Sixty (60) percent of land in Jakarta is privately-owned. The challenge for the city government is to revise current zoning and regulations so they can build on these types of environment. It is the city's hope that they may be able to replicate this exercise in other cities in Indonesia, or even Asia.

**Q:** Jakarta is sinking 10 cm per year + sea level rise. What will these new zoning regulations mean for the vulnerable people?

The plan is for the regulations to apply to all (i.e., the needs of each and every stakeholder are taken into consideration).

**Q:** What are the examples of the measures the community has and is undertaking to adapt to these changes?

Simple, informal solutions such as: neighbourhood roads are built on stilts and coming up with the right materials for these informal, middle roads. While temporary, it serves its purpose. The people work together in constructing these roads, as the city government cannot fund them. These (roads) do not comply with standards and are hard to put and locate in the map but it fosters cooperation among members of the community as it serves its needs.

Also, some students carry two pairs of shoes (one for wading in the water) to school. The way the houses are built is unique, with additional floor centimetres added from time to time to elevate the structures.

**Q:** The adaptive measures cited are informal, which is in contrast with formal zoning regulations. How do we reconcile the two? Also, how will the sea wall impact the poor communities?

Zoning regulations will highlight broader enclaves, come up with more measurable geographic enclaves and relate these to other city programs, such as cross-subsidies, etc.

**Q:** In the Philippines, developers are required by law to allocate 20% of their development for socialized housing. There are also building codes that serve as guide on how structures should be built. If these are in place, Jakarta should not have a problem in undertaking the project.

In South Jakarta, there is still available land to be built; but it is easier to reclaim than build on existing ones. But new zoning regulations need to be passed. Also, Jakarta's building codes currently do not cover/include houses on stilts.

**Q:** North Jakarta has a large labour force – manufacturing, other industries, etc., are there private entities that can be brought in/involved in the plan? How can investments be promoted and in line with these plans, etc?

The idea is to protect the coast from water and rising sea level, but because the government cannot fund construction of the whole sea wall, it has encouraged developers to invest and develop the planned islands to finance it (seawall construction).

#### **IV. ECOSYSTEM SERVICES: THE LINK BETWEEN URBAN AND RURAL RESILIENT SYSTEMS**

**Robert Mather, International Union of Conservation of Nature**

##### Overview

Urbanization has been the cause and is the main driver of most Asian economies today. It may be defined as the index of the productive area of the world's biosphere to meet the needs of a group, city, or country. To meet current demand for services worldwide, the productive area needed is estimated to be 1.8 hectares per capita.

While this particular figure may not be “demanding” and is in fact, rather reasonable, some areas (i.e., cities) are under more stress than others. Cities often take up less than 3 percent of the world's surface but houses more than half of a country's population and uses 75 percent of its resources. In short, urban communities are using more than their fair share of the world's resources. Per capita requirement is therefore much higher in cities than in other areas of a country and/or region.

##### Shift in urban trends

Thus, while urbanization drives growth and development in a particular country, it is not without its ecological implications. Current development trends may be characterized as shifting from an agropolis, wherein the people had a more direct relationship with the land and do so in a small-scale and more sustainable manner, human and economic activities have evolved to be a more fossil-intensive/dependent, “Petropolis”.

Despite these challenges, cities are in a good position to lead the way in one or all of the following measures:

- Negawatts – unit of negative demand achieved through energy efficiency and other similar measures;
- Newater – water created from water recycling Singapore and minimize non-revenue water (i.e., leaks); and
- Pro-sumption – production plus consumption or locally producing that which is consumed in the area (e.g., urban agriculture)

##### Common themes among climate resilience pilot projects

- Vulnerability – common starting point
- Climate pressures need to be assessed and addressed along with other development pressures
- Importance of sectoral linkages
- Need to analyze potential impacts of climate change and development pressures on ecosystem services

##### IUCN Work: Ecosystems and Win-win solutions for urban and rural resilience

###### 1. Water crisis and response in Chinese cities

IUCN currently works in two (2) watersheds in China: Miyun in Beijing and Hubei and the Jiaquan Watershed in Guangdong.

Main activities undertaken include: watershed restoration, wherein participatory land use planning, dialogues, and negotiations were facilitated; conservation agriculture; use of bio-gas from poultry and livestock wastes; optimization of natural and constructed wetlands for waste-water treatment; identification of best practices and policy recommendations; carrying out of pan-China “Megacities and their Watersheds” assessment in 30-50 megacities; and establishment of a mega-city partnership for drinking water source protection; communications, advocacy; and experience-sharing.

Policy and technical approaches used, include:

- Value - counting ecosystems as a component of water infrastructure; makes the case for future water development
- Pay - establishing payments for watershed services; PES-type schemes
- Landscape restoration handbook – features best practices

## 2. Building Resilience to Climate Change in Coastal Southeast Asia

The project aims to increase adaptive capacity of local people and ecosystems on which they depend so as to cope with the anticipated impacts of climate change through sound governance and planning.

### Principles for effective local adaptation

1. Long-term local solutions for people and nature (no regrets)
2. Reduce non-climate stresses, address adaptation deficit
3. Involve communities, address governance and justice issues
4. Build on existing good practices, support local innovation
5. Integrate natural solutions with wider adaptation strategies
6. Integrate into local development planning processes, not stand-alone
7. Communicate, educate, share, and exchange with one another

### **A. COMMENTS AND CLARIFICATIONS**

**Q:** Does the IUCN have had other experiences working with the private sector and harnessing in the resources they can make available? What are the challenges and the factors to success?

IUCN has done and is doing a lot of work with the private sector, though not specific to this discussion. Recently, it has been working with the Marriot Hotel and the engagement is currently in its start-up phase.

Twelve years ago, IUCN has also worked with the hotel when they were building a hotel in Phuket, Thailand near a turtle conservation site. What the hotel did is charge their guests a little extra (USD 1), which goes into the conservation as well as support local activities where the turtles are located.

IUCN also has a global relationship with Holcim. They have worked with the company in a quarry site in Vietnam in efforts to offset the impacts of the company’s mining activity. Holcim provides funding to establish a new protected area in the same province that will ensure better and more long-term conservation of the limestone landscapes and the like.

**Q:** Regarding long-term solutions (“no regrets”), there are communities that work on resilience that focus more on disaster. The discussion on resilience must include all threats.

The issue of scale is a challenge. Some of the communities and families that IUCN works with are quite small, living hand-to-mouth. It is difficult for them to invest in long-term solutions that are very uncertain.

**Q:** At what point can one give up on resisting climate change and just resettling; transforming rather than maintaining?

There is no easy answer as it will vary from place to place, context to context. The level of attachment for place/location may be higher for some (communities) than others.

**Q:** What is the basis of the tariffs imposed for environmental services? Please advise.

Some agreement must be made as to how the service is valued. IUCN, when it worked with Vietnam, dealt with two very different groups – a community with no money and a profitable company. A price that was applicable to both parties was negotiated and arrived at.

Similarly, payment for managing the watershed in Lao PDR was determined with no scientific basis or sound computation; a value (1 million) that was acceptable to all parties concerned.

## **V. CLOSING KEYNOTE: TOWNSVILLE SMART CITY SOLAR CITY** **Greg Bruce, Townsville City Council, Queensland, Australia**

### Background

The speaker shared that he began working in Townsville back in 1995, when the city was still very conservative and not at the forefront of environmentalist practices. At that time, it had a conservation strategy developed by environment officers and members of the academe. Inputs from other stakeholders were not taken into account; hence, no buy-in.

To facilitate participation and ownership of stakeholders, a systems-based approach, which took into account a host of other factors (previously unconsidered in the old process), was used. People, who design and implement plans, often also, pose the biggest hindrance to sustainability.

Thus, an adaptive management and integration of resilience and sustainability, with people’s participation at the core, was designed and undertaken. This design system for change aims to move people and help people move themselves. It is based on principles of cognitive, organizational, and cultural psychology.

### “Solar City”

The name’s connotation is not limited to solar panels alone; it refers to the community as a whole, with a transformative (i.e., collaborative) framework for action. Emphasis is on frameworks (not plans) to guide but to limit or confine courses of action that are or can be undertaken.



The rays of the sun, which includes: policy, monitoring and evaluation, experiential learning, education and awareness, solar technology, collective social learning, and workshops, among others, represent all activities people do in cities.

The two concepts, solar and city are dissected in the development of a “Solar City.” City refers to “a system of systems” (i.e., energy, water, and waste) while solar (energy) is considered the driving force behind the collaboration and catalytic processes that bring about sustainable change in the community. Thus, the program drives sustainable change across all systems through the involvement of the whole-of-community in ways by which members of the community can collaborate, share knowledge, and generate action. It was emphasized that the concept encourages and espouses by the principle of “open collaboration,” i.e., anybody can collaborate at any point in time.

The Townsville Smart City Solar City Framework takes into account the *physical* (communication through network energy demand management; involvement through residential energy management; and capacity, through disaster response) and *digital* (instruments/tools; intelligent or responsive; and interconnected) aspects of development that are interrelated.

Communicating effectively and involving people in a manner that is meaningful to them were underscored. For Townsville, a collaborative group of stakeholders, comprising of different groups and organizations, were established. The capacity of the communities (to think for themselves) are built and enhanced. The use of data is emphasized.

#### The City Whisperer

It was found that different types of data on energy (in buildings) are available but are seldom utilized. The initiative aims to utilize these data, save energy, and reduce consumption.

“Whispering” refers to the use of data – comparing, utilizing, and feedbacking to optimize building performance and inform and engage occupants. The process entails the participation of data scientists and analytics.

#### **A. COMMENTS AND CLARIFICATIONS**

**Q:** Is it doable in 3<sup>rd</sup> world countries?

Training in the design model for change can be done anywhere.

**Q:** What are the facilitating factors in Townsville that enabled it to accomplish this in four years?

The resources and the different and useful connections made along the way. It allowed the town to obtain the smallest possible commitment from key stakeholders as well as enable stakeholders to collaborate among themselves in amazing ways.

## DAY 3 • STRATEGIZE AND COMMIT

### I. OPENING REMARKS

Emerging themes from yesterday's sessions include:

- Importance of integration at all levels: inter-agency, sub-national, international, especially with regard to climate adaptation plans; and
- Reactionary (rather than proactive) nature of most strategies to address climate change. It must be noted that extreme weather events and changes in weather patterns also generate economic disruptions and other cascading impacts that also need to be taken into consideration.

#### Common measures

National policy frameworks are useful in providing guidelines, by which actions to address climate change impacts can be based on. However, in some cases, this may also be the reverse as cities are often the first actors in addressing climate change and guidelines may not always be applicable to local conditions.

An example is Lima, Peru, a desert city, with water coming from a glacier. In the 90s, the city underwent rapid urbanization and an influx of people came to settle and take advantage of and contribute to the economic development taking place. Anticipating the need to create jobs for the new settlers, the government allowed the importation of cars from Asia so people can be employed as taxi drivers. However, this stopgap measure created more problems than it solved; the diesel from the second-hand vehicles produced particulate matter and facilitated the formation of a black cloud that speeded up the melting of the glaciers and affected the water system and supply of the city.

The interdependency of infrastructure systems – destruction of one results in significant decline in output for another industry. It is underscored that structures are means to social ends – it is the services, not the structures that are important to users and decision-makers.

It was noted that climate change creates three-tiered impacts: 1) businesses, 2) business activities, and 3) regional and national impacts, which affect service disruption. Also, the fact that most cities have access to calamity funds (5 percent), which is a point for consideration for cities to propose and undertake initiatives to channel these resources for more preventive measures.

#### Ecosystem services

Ecosystem services, defined as a multidisciplinary interagency infrastructure, are required at all stages of planning and implementation for climate change adaptation. For example, other experts (e.g., finance) should be brought in to the planning and implementation of various projects, such as building water systems, for example. It is important that it is the *services* of the ecosystem – rather than or apart from the ecosystem themselves – are also conserved.

## II. WORKING WITH PEER CITIES TO ADVANCE CLIMATE RESILIENCE FROM THE GROUND UP Saengraoj Srisawaskraisorn, USAID/RDMA

### Urbanization and Climate Change

A distinct characteristic of urbanization in Asian cities is the unprecedented and continuing construction of new buildings and infrastructure. Along with these physical developments, there is an influx of people in urban areas, whose needs must be provided. These rapid changes have increased the need for fossil fuels, food consumption, and waste, all of which contribute to climate change.

While these processes create jobs for people and boosts the economy, in general, it is not without its challenges. Urban growth is rapidly expanding to the river basins, deltas, and the like, threatening water supply, water systems, and biodiversity. It is estimated that 80-90 percent of populations in Asia are and will be affected by disasters.

Risks are higher for medium-sized cities, as it is in these areas that urbanization is fastest and is most concentrated. In recent years, changes in climate patterns have resulted in new challenges for cities and the lack of adequate infrastructure to cope with inadvertent and unanticipated effects have made it difficult and at times, overwhelming to address and adapt to them.

Despite these setbacks, cities remain to be at the forefront and at the centre of decision-making and where change and development are concentrated.

Climate science is complex and difficult for policy-makers to comprehend, much less, the public. Also, available data and projections are made at the national and regional levels have limited relevance at the city level. These information need to be refined to the provincial and/or city levels to be significant and useful; however, current capacities in the region to do this remains low.

There is a dearth of reliable data in Asia – there are always issues as to how data has been collected, its accuracy, and other similar issues. Science-based decisions should be done with local stakeholders to make strategies more effective and reliable. Changes at the global level such as climate shifts with city specific impacts are challenging the old, top-centric decision-making and planning model in Asia.

Likened to the construction of a house, a robust climate resilience plan is and must be built from the ground up – more than one person is needed, with corresponding/specific expertise (e.g., masons, carpenters, etc) and a structure cannot be built beginning from the roof. Coming up with an effective climate resilience plan and addressing climate change should not be treated as a daunting task of one or even a handful of agencies, but the concerted effort of everyone.

Below are a few examples.

1. Approaches and Tools for Climate Resilience: Shared Learning Dialogue, Shared Vision Planning and Scenario Planning, and Twinning Partnerships

M-BRACE Project is a partnership between the Institute of Social and Environmental Transition (ISET), Thailand Environment Institute (TEI), Vietnam's National Institute for Science and Technology Policy and

Strategic Studies (NISTPASS). The project derived its climate resilience strategy through the interaction of stakeholders and processes of trial and error and validation. It is guided by a climate resilience framework comprised of systems, institutions, and agents.

The importance of shared learning is underscored, as it is by looking at their personal and/or collective experiences from past to present are the people able to see and highlight the growth of the city in the last 30 years. This process of reflection allows them to focus on the future and what they can do about it.

Key activities include: facilitation of shared learning dialogues, establishment of city working group, assessment of city vulnerability assessment, conduct of city activities, design of city resilience strategy, continue knowledge and networking, and documentation and dissemination of lessons learned.

Factors that make M-BRACE different

- Led by local government
- Multiple stakeholders are engaged
- Utilized studies by national level experts
- Facilitated networking activities between cities and other partners
- Collaborative development of the workplan

Key Lessons from MBRACE and ACCCRN

- From concept to practice – otherwise, actions will only be piecemeal solutions
- Balanced approaches – technical approach coupled with people’s participation
- Climate data – adaptation alongside learning
- Translating climate information
- Responsiveness
- Actions
- Champions
- Flexibility and resilience – cities’ priorities are shifting; process should be flexible to adjust to changes in leadership

#### Shared Vision Planning and Scenario Planning: US Army Corps of Engineers

Shared vision planning and scenario planning are tools that support decision-making processes. The former links policy-makers to the technical aspects of science and enables them to understand what this means for their work. It is a process that brings stakeholders together and provides a venue where they can talk about shared goals, desires, and the opportunity to work together. The process underscores the involving stakeholders in the technical analysis.

Scenario planning, on the other hand, is a useful and complementary tool to address unknown risks, i.e., climate change. It is a structured way of thinking about the future but recognizes that quantifying risks is not always possible. The tool has been used in different fields – business, military, and environmental conservation and supplements risk analysis.

It was clarified that the process of building scenarios is different from forecasting; scenario planning is building one possible future from a set of plausible future situations. It tests the effectiveness of

decisions made and allows stakeholders and decision-makers to examine if these are possible under probable future conditions.

## 2. Building Climate Resilient Water Operators through Twinning Partnership: Manila Water Operators and Palm Beach County Water Utility Department (USAID Waterlinks Project)

### Overview

Maynilad and Manila Water are two concessionaires that provide water services to residents in the southern and northern parts of Metro Manila, respectively. Service provision is guided and overseen by the MWSS. However, the impacts of climate change in the country have likewise affected their operations; specifically, decrease in water supply, water quality, and waste water services.

The project is a partnership facilitated by USAID Waterlinks, a regional network of water operators, and will run for 15 months. Activities are implemented, together with its US partners, the Palm Beach County Water Utilities Department and the National Center for Atmospheric Research (NCAR).

The process of twinning partnerships entails the following steps:

- Introduction – includes identification of partners and issues
- Establishment
- Implementation
- Replication

Twinning partnerships facilitates real change “on the ground” in one or both cities; enables access to innovations, practices, technologies, and capacity building; and mentoring between partners. The project, considered to be demand-driven, facilitated resource-sharing and replication, and focused (i.e., on two cities), accounted for its success.

### Summary/Key points

- Urbanization and climate change are interrelated
- Medium-sized cities are more vulnerable; requires (more) assistance
- Planning that involves multi-stakeholders lowers the chance of failure
- A planning approach from the ground-up ensures successful implementation
- The shared vision planning and scenario planning approaches and tools enable multi-stakeholders reach a conclusion amenable to all parties
- Peer learning enhances the city’s capacity for climate resilience
- The networks in and activities of cities help replicate these in (cities) in the country and region

Though the tasks and challenges ahead appear daunting, the participants were encouraged to continue sharing ideas and practices through knowledge platforms at the national and international levels; ASEAN is one such venue and Rockefeller Foundation, another, among many others. The importance of open dialogue with different stakeholders and continuous horizontal and vertical coordination among groups is emphasized as these lower the chances of failure.

Moreover, it was explained that effectively dealing with climate change calls for coming up with more innovative, “outside-the-box” solutions, actively engaging the private sector as they can bring in more funds and expertise, and leveraging resources from various sources to allow access to climate funds.

#### A. COMMENTS AND CLARIFICATIONS

**C:** Taking on a systems approach requires that the city be situated in and as part of a (larger) system; however, focusing on the city alone will not be enough as economic resilience is key. This means increased dependency among cities as well as the presence and resilience of trading partners. Thus, engagement with private sector companies is important; especially since climate change affects their supply chains – availability of raw materials, fuels, and other commodities to do business as well as the resilience of markets (i.e., consumers to purchase their demand).

In short, how each city is directly and indirectly affected by climate change must be determined. The disaster in Fukushima, Japan for example, though local in nature, crippled supply chains all over the world. Another case is Phnom Penh, which is not threatened by coastal issues (i.e., Cambodia being a landlocked country) but may likewise be affected through shipping routes and the like.

Mr. Muller cited a more specific and recent example: the 2011 floods in Bangkok. One study showed that the price of USB microchips, which were produced in Thailand, doubled during the period.

**Q:** Are there suggestions to address the lack of reliable data available in Asia?

Scenario planning is a probable solution as even in the absence of reliable climate data, it allows stakeholders to collaborate and plan for the future. The process relies on the best information available at the moment; plans are drafted from the ground-up, distributing risks to different stakeholders, enabling them to understand these (risks), and preparing them for chances of failure.

**Q:** Are there any suggestions on facilitating effective technology transfer? In the US, it is a challenge to reconcile the process of knowledge generation, actual knowledge generated, and the actual use of this knowledge.

WAEP, an open source computer program and utilizes Microsoft Excel, makes it easy to access and does not violate any proprietary issues. It collects data from different sources, puts these in a model, and generates different possible scenarios.

**Q:** The Asian model explicitly covers government issues; how can governance be factored in the planning process?

The M-BRACE model is considered to be “Version 2.0” of Asia. It has been developed based on Asian experiences and has linked climate change with urbanization patterns in the region. Scenario planning is a tool, while Shared Vision Planning is a process. Similar to M-BRACE, the latter gathers inputs from

stakeholders and takes that into consideration; the former, on the other hand, is a tool that facilitates discussions so the people and/or groups involved have a better understanding of the process.

**Q:** In Ho Chi Minh City, the local government’s budget allocation for climate change mitigation and adaptation activities are supplemented by funds from the national/central government. However, owing to the urgency and scope of the issue to be addressed, international financial support is needed. Are there any suggestions as to how climate change adaptation plans can be effectively implemented, given these drawbacks and why is the support of international donors and multilateral organizations focused only on medium-sized cities?

Medium-sized cities, as aforementioned, are most affected by climate change impacts. The lack of capacity and resources of these cities make them good candidates for support and funding. Although, this does not discount the fact that megacities deserve (the same kind of) attention, especially as these are where a significant part of a country’s national GDP are generated.

While most cities only allocate about five (5) percent of their total budgets for climate adaptation, there are other channels that can be explored; among these: GEF, the World Bank, and ADB.

Scott Muller shared that the online version of the resource guide included in the participants’ kits includes additional pages on links and tools that they may also find useful.

### **III. TEAM HUDDLE: STRATEGIZING AND COMMITTING TO ACTION**

Workshops serve as the foundation for the participants to obtain new materials and knowledge – it facilitates peer learning through the keynote and concurrent presentations as well as the rich discussions in and out of the sessions. The training may be likened to the process of “building from the ground-up”; the team huddles are the beginning of their “house design.” For the last team huddle, it is encouraged that teams focus on specific actions they can take back to their respective cities that can make a difference. It was explained that strategic plans should identify specific courses of action that the teams will do differently; these should also reflect how these will be undertaken and additional assistance required are identified.

Further, strategic plans need to be:

- **S** – specific. For example, in improving communication plans, one can ask questions such as, “Among whom should you be communicating with and about what?” and make the corresponding changes/adjustments.
- **M** – measurable. Determine indicators to know that the plans have been implemented and have been successful.
- **A** – achievable. Identify substantial types of action that will make a difference, not one wherein a lot of assumptions need to be made and are out of one’s control.
- **R** – relevant. How do these plans relate back to your climate change adaptation goals and objectives?
- **T** – time-bound.

#### **IV. CLOSING PLENARY: PULLING IT ALL TOGETHER**

Teams were given time to discuss insights they have acquired from the sessions and the new knowledge they can use to advance their work. Team leaders prepared short briefs on the specific action they will take and the need they will immediately address after the workshop.

##### **A. PHNOM PENH, CAMBODIA**

###### 1. Specific Actions

- Create a Climate Change Adaptation Steering Committee and define its role
- Prepare city plan; involve stakeholders and key decision-makers in having a regular meeting
- Draft inception report before organizing a dialogue and workshop
- Implementation and monitoring

###### 2. Immediate steps

- Commit to enacting a policy that will create a Climate Change Adaptation Steering Committee
- Continue collaboration with connections made in the workshop

###### 3. Additional tools and support

- Mechanisms to enhance collaboration

##### **B. LEGAZPI CITY, PHILIPPINES**

###### 1. Specific Actions

- Maintain existing climate risk map and structures for disaster risk reduction and climate change adaptation
- Ensure that institutional arrangements and standard operating procedures are in place
- Conduct education and training activities for climate change adaptation actions and procedures, drills, and exercises
- Prioritize: flood hazards, rehabilitation of river systems and relocation of settlers in these river systems, threatened by extreme events of flood, and construction of disaster resilient facilities

###### 2. Immediate steps

- Focus on flood rehabilitation strategies
- Conduct of community consultations and dialogue
- Revisit hazard assessment, based on existing plans
- Development of scenarios, as agreed upon and in consultation with affected communities
- Scenario-based and proposal planning
- Appropriation and sourcing of funds
- Organize project management team



- Legislation
  - Implementation
3. Additional tools and support
- More opportunities for exposure and peer-to-peer learning
  - Sharing and coaching of best practices

### C. KUANTAN, MALAYSIA

Actions/Strategies/Plans	2013													
	Aug		Sep				Oct				Nov			
<i>Week</i>	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Establish a Climate Change Adaptation Committee to promote collaboration within & among agencies, stakeholders, & the general public														
Carry out the Vulnerability Assessment & compilation of data from agencies														
Promote public awareness to encourage participation and engagement in the climate change planning process														

### D. HO CHI MINH CITY, VIETNAM

1. Specific Actions
- Reduction in solid waste management
  - Separate municipal solid waste to use for biogas and generate electricity
  - Reduce and recycle waste
2. Immediate steps
- Develop incineration plan
  - Develop land resources
  - Reduce domestic water waste
  - Use treated waste water for street cooling
3. Additional tools and support
- How to use the WAEP Model to assess flood control in HCMC

- Networking, knowledge-sharing, and leveraging this knowledge to fund climate change adaptation activities

## **E. PALEMBANG, INDONESIA**

### 1. Specific Actions

- Review memberships of Climate Change Working Group
  - Consider elevating the leadership of the city working group and expand the membership (e.g., involving representative from provincial/national levels)
  - Identify policies/regulations at the national, provincial, and national levels relevant to climate change adaptation
- Shared learning dialogues involving all relevant stakeholders
- Finalize vulnerability assessment study
  - Conduct public consultations to present results of the study and generate inputs and comments
  - Identify priority actions and determine resource allocation for 2014

### 2. Additional tools and support

- Technical assistance
- Practical guidance
- Capacity building for working group members

## **F. CHIANG RAI, THAILAND**

### 1. Immediate steps

- Conduct meeting to brainstorm on how to move the N-CCRLC forward, share responsibilities among the staff, and develop meeting agenda for the ACCRN working group
- Conduct ACCRN working group meeting so members can give their inputs on the N-CCRLC action plans
- Conduct the 5<sup>th</sup> regional and international learning networks conference on Urban Biodiversity towards Climate Change Adaptation on 18-20 December 2013

### 2. Additional tools and support

- Ideas from experts or other cities to make N-CCRLC more effective, attractive, and beneficial for its members
- New tools for data collection (e.g., tools to identify the economic, social, and environmental benefits of urban adaptation planning)
- Support of an expert who understands the local context and communicates effectively

## **G. PAKXANE, LAO PDR**

### 1. Specific Actions

- Clarify responsibilities among agencies involved in climate change adaptation
- Explore how resources for activities can be mobilized
- Continue current initiatives (e.g., preservation of forests, wetlands, rivers)
- Revise some existing initiatives accordingly; take into account that the city is isolated and thus, need to network with regional and international organizations and agencies

### 2. Immediate steps

- Prepare proposal and submit this to the governor for review and approval
- Organize meeting within the department and determine capacity vis-a-vis what is needed to be done
- Discuss and/or brainstorm with wider community/relevant stakeholders

### 3. Additional tools and support

- Capacity building, especially at the provincial levels
- Provide opportunities for some high level decision-makers in the province to be exposed to climate change initiatives in more advanced countries

## **H. JAKARTA, INDONESIA**

### 1. Specific actions

- Conduct locally-embedded adaptation planning of kampongs, as these are the most vulnerable communities
- Design special technique for flood plain zone within kampongs
- Establish housing and settlement guidelines for adapting kampongs

### 2. Immediate steps

- Profiling of Kampong Kebon Bawang
- Conduct vulnerability assessment
- Adaptation activities, recommendations, and proposal

## **V. CLOSING REMARKS**

ICMA's Joe Lombardo congratulated everyone on their respective action plans. He stated that the presentations were a testament to the participation and commitments made during the workshop and the efficacy of peer-to-peer exchanges at the technical and policy levels. He thanked Jakarta, as the host city, for its warm welcome and briefly explained the background of the CLA.

### How we got here?

USAID broached the possibility of having peer-to-peer exchanges in Asia; thus, the agency engaged with ASEAN and the Working Group. A proposal was made, discussed, and refined, which led to the process of city selection. A training needs assessment was conducted to ensure the relevance of the workshop agenda that was being developed.

ICMA engaged another of its partners, ICLEI to help coordinate and organize the activity.

### Where we are

The 2 ½-day workshop has led to rich discussions and has in turn, produced action plans that will be implemented in the coming months, upon their return to their respective cities.

### Where we are headed

A follow-up survey will be sent in the next 3-6 months to check up on their progress with their respective action plans. The objective is to determine factors that have facilitated and hindered implementation.

\*\*\*

# APPENDIX 4: Resource Guide

CLIMATE LEADERSHIP ACADEMY

CityLinks Pilot Partnership Between US and ASEAN Member States

# Urban Climate Adaptation

FROM RISK BARRIERS TO RESULTS

Managing the Social, Political, Environmental,  
& Financial Risks of Urban Infrastructure

A Resource Guide for Local Leaders



Produced by



CLIMATE LEADERSHIP ACADEMY  
CityLinks Pilot Partnership Between US and ASEAN Member States

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FROM RISK BARRIERS TO RESULTS  
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# Acknowledgements

This Resource Guide was developed for the Climate Leadership Academy on Urban Climate Adaptation held August 13-15, 2013, Jakarta, Indonesia. The Guide was made possible with generous funding from the ICMA CityLinks™ program. This Climate Leadership Academy is presented as part of the CityLinks Pilot Partnership between US and ASEAN Member States. In researching and producing the Resource Guide, ISC consulted with the eight participating city teams, as well as Resource Team members, and a wide range of leading experts and practitioners. CityLinks wishes to thank the many individuals and organizations that contributed their knowledge and expertise, including IGES, The Institute for Global Environmental Strategies; ASEC – The ASEAN Secretariat; and the AWGESC: ASEAN Working Group on Environmentally Sustainable Cities.

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## ABOUT ICMA

ICMA, the International City/County Management Association, develops and advances professional local government management to create sustainable communities that improve lives worldwide. ICMA provides member support; publications; data and information; peer and results-oriented assistance; and training and professional development to nearly 9,000 city, town, and county experts and other individuals and organizations throughout the world. The management decisions made by ICMA's members affect millions of individuals living in thousands of communities, from small villages and towns to large metropolitan areas. Please visit [www.icma.org/CityLinks](http://www.icma.org/CityLinks).

## ABOUT THE INSTITUTE FOR SUSTAINABLE COMMUNITIES

Since its founding in 1991 by former Vermont Governor Madeleine Kunin, ISC has led 91 transformative, community-driven projects in 25 countries. ISC specializes in developing and delivering training and technical assistance programs that improve the effectiveness of communities, their leaders, and the institutions that support them. In 2012, ISC launched the Sustainable Communities Leadership Academy website ([www.sustainablecommunitiesleadershipacademy.org](http://www.sustainablecommunitiesleadershipacademy.org)) to make the valuable, high-caliber information from our first-class peer-learning and training workshops available to practitioners in any community. [www.iscvt.org](http://www.iscvt.org)

## WE WELCOME YOUR FEEDBACK!

This Resource Guide is a work-in-progress. It will be maintained as a web-based resource and updated to provide valuable resources to public, private and nonprofit sector leaders working to promote resilience-building activities across North America. If you have comments on the guide, or ideas for how to improve it, please send them to Anna Casey at the Institute for Sustainable Communities at [acasey@iscvt.org](mailto:acasey@iscvt.org).

This Resource Guide was printed on 100% recycled paper.





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# Introduction and Overview

## THE CHALLENGE

### URBANIZATION, INFRASTRUCTURE AND ECONOMIC GROWTH

In 1950, only 17% of the Asian population lived in urban areas. However, by 2030, it is expected that 55% of the population will live in urban environments.<sup>1</sup> This amounts to an increase of the total urban population in Asia from 232 million people to 2.7 billion – a massive change. Within the member states of the Association of South East Asian Nations (ASEAN), it is expected that by 2020, two-thirds of the entire ASEAN urban population will reside in only five Mega-Urban-Regions (MUR)<sup>2</sup>: the Bangkok-centered MUR (30 million); the Kuala Lumpur-Klang MUR (6 million); the Singapore Triangle (10 million); the Java MUR (100 million); and the Manila MUR (30 million). Nevertheless, despite this concentration of populations in MURs, *it is the second and higher tier cities of ASEAN that are urbanizing the fastest.*

Asia Urbanization Trends<sup>3</sup>

% of Population Living in Urban Areas			
	1950	2005	2030
Cambodia	10	20	37
Indonesia	12	48	68
Lao PDR	7	22	38
Malaysia	20	65	78
Philippines	27	63	76
Thailand	17	33	47
Vietnam	12	27	43

This rapid urbanization of ASEAN is part of a global trend. By the year 2030 world urban population will increase to nearly 5 billion persons (1.35 billion more than present), increasing the urban area on Earth by 150% in less than 20 years. And contrary to the trend of the 20th century, the majority of the economic growth will occur in developing countries and mainly in second-tier and higher cities. From now to 2030, the world will need to build the equivalent of a city of one million people in developing countries every five days.

The demand for infrastructure to support this urban growth is massive. Sixty percent of the area that will be urban by 2030 has yet to be built.<sup>4</sup> Although Southeast Asia has enjoyed decades of robust economic growth, its infrastructure coverage

trails below the Asian average and is still a fraction of that of advanced economies.<sup>5</sup> As summarized by the ADB, “ASEAN’s infrastructure needs are estimated at \$60 billion a year from 2010-2020, and this is in addition to national projects with significant cross-border impacts such as airports, seaports, and roads to borders.”<sup>6</sup>

Notably, the urbanization trend in ASEAN has been accompanied by an unparalleled decline in poverty. During the early 1970s, more than half the population of Asia and the Pacific was poor, average life expectancy was 48 years, and only 40 per cent of the adult population was literate. Today, the percentage of poor people has decreased to about 25 percent of the population, life expectancy has increased to 65 years, and about 70 percent of the adults are literate. The proportion of poor in Indonesia declined from 60 percent in 1970 to 27 percent in the late 1990s. In Malaysia from 18 to 8 percent; and in Thailand from 26 to 14 percent.

Studies in Indonesia, Malaysia, Thailand and the Philippines have shown that most of the decline in poverty rates has been attributed to economic growth rather than to improved distribution.<sup>7</sup> Cities are the drivers of this economic growth, and they are producing a rapidly increasing share of the gross domestic product (GDP) of their respective nations. Within ASEAN, the average share of urban economies in national GDP is around 80%. In Malaysia and Thailand, cities contribute more than 90% of GDP, and close to 100% in Singapore and Hong Kong. But even in Asian countries with low urbanization rates, as in Sri Lanka and Bangladesh, more than 65% of GDP is now produced in urban areas. Urbanization is now



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Photo credit: Sharada Prasad, <http://www.flickr.com/photos/11124467@N02/9247868120>

positively correlated with national GDP growth. Cities and city regions have replaced the nation state as the principal drivers of economic development in many Asian countries.

Logically, many governments believe that if cities are the engines of growth, then countries should take full advantage of urbanization and not hold back the opportunities it can provide for economic growth and poverty reduction.

### CLIMATE CHANGE

Despite the unquestionable urbanization trends, the conventional models of urban development that have driven economic and human progress are changing. They are being challenged by new risks and uncertainties. Specifically, the effects of climate change, such as rising temperatures, increased precipitation and sea-level rise, are altering both the risk and solution landscapes of cities.<sup>8</sup> Climate change is shifting the fundamental rules of city planning and administration. The density of people, economic activities in the coastal areas, rich biodiversity, and natural resource based economies make ASEAN cities especially vulnerable to climate change.<sup>9</sup>

The observed climate change trends in Southeast Asia that are impacting urbanization include:

- Increase in temperature,
- Decrease in rainfall,
- Sea level rise,
- Increased frequency, duration and intensity of extreme weather events such as droughts, storms, floods, typhoons, heat waves and heavy precipitation events.

Direct – or first order – impacts from these climate changes such as flooding, urban heat islands and salt water intrusion are often felt as intense, acute, and unpredictable weather events. These events have profound implications for conventional infrastructure, which is typically designed under-capacity for these new extremes and is therefore prone to failure.

In addition, the indirect and cascading impacts of climate change in the region are important to consider. Although discussions regarding infrastructure are generally focused on physical structures, it is important to recognize that these structures are means to social ends. In other words, it is services – not structures – that are important to users and decision makers. The extreme weather events in the ASEAN region have caused not only extensive damage to human life and infrastructure losses, but have also generated significant economic disruptions. When critical infrastructure and thus critical services are disrupted by severe flooding, cascading impacts occur affecting part or all of the area, social and economic activity and the health and quality of life of the city residents. Other cascading climate change impacts beyond infrastructure include impacts on biodiversity that have exacerbated water shortages, affected agricultural productivity and threatened food security in the region. Climate change has also increased forest and peatland fires, transboundary smoke haze, land/forest degradation and soil erosion, damaged coastal and marine resources, and increased the risk of outbreaks of infectious diseases.<sup>10</sup>

Future climate change impacts and vulnerabilities in ASEAN countries include:

- a continued increase in surface air temperature,
- sea level rise leading to flooding and saltwater intrusion,
- increase in water demand for urbanization and agricultural irrigation and losses in rain-fed agriculture,
- increases in endemic morbidity and mortality due to diarrheal disease primarily associated with floods and droughts,
- negative impact on the fisheries sector,
- negative impact on the tourism sector and,
- increase in the intensity and spread of forest fires due to rises in temperature and declines in precipitation in combination with increasing intensity of land uses.<sup>11</sup>

As a result, under the increasing direct and cascading impacts from climate change, the continued urbanization in ASEAN countries – and associated trends of poverty reduction – may become profoundly more difficult to maintain.

## RESOURCE CONSTRAINTS

Another challenge to the trend of continued urbanization and poverty reduction are the limits to resource availability and the sustainable use of ecosystem services. Cross disciplinary research demonstrates that economic growth is already 50% in “overshoot.”<sup>12</sup> This means that human systems are presently using 50% more than the annual productivity and assimilating capacity of the planet’s ecosystems. The unsustainable consumption of ecosystem services to subsidize the growth of cities has global implications. One result in South East Asia is an ominous energy-water-food nexus confronting city, regional and national decision makers. Water security, food security and energy security are now inextricably linked; a demand increase in one area has negative impacts in one or both of the other areas. The need for integrated management and improved cross-sectoral governance is driving new interactions and collaborations, including payment for ecosystem service schemes, subnational-national integration of development strategies, transboundary dialogues, and the power of equitable public-private partnerships.

## THE ASEAN SUSTAINABLE CITY COMMITMENT

Spanning from the least to the most developed, the ability of cities to “make poverty history” is being threatened by climate change, resource limits and rapid population growth. With the recognition that the cities of South East Asia are among the most vulnerable in the world to climate change,

“ASEAN shall promote sustainable development so as to ensure the protection of the region’s environment, the sustainability of its natural resources, and the preservation of its cultural heritage and the high quality of life of its people.”

- ASEAN Charter

ASEAN has demonstrated global leadership by not only including sustainable development in the ASEAN Charter, but also by putting forward several official declarations in support of climate change strategies since 2007. With direct relevance to urban adaptation to climate change, the East Asia Summit (AES) Environment Ministers adopted Environmentally Sustainable Cities as a priority area for environmental collaboration at its first meeting in 2008.

As a result of the challenges and ASEAN’s commitment to transformation, city practitioners across Southeast Asia are designing and building more resilient, ecologically integrated urban infrastructure, engaging their populations in inclusive decision making, and collaborating across jurisdictions. These activities are generating innovations and investment opportunities that are shaping the future of growth throughout the region.

## WHAT WE HEARD FROM YOU

To better understand the state of climate adaptation practice in ASEAN cities, and the challenges that practitioners are facing, the Institute for Sustainable Communities interviewed each team that is participating in this Climate Leadership Academy (CLA). These interviews revealed five “big ideas” facing the field, and formed the foundation of the ASEAN Climate Leadership Academy on Urban Adaptation.

## BUILDING BROAD-BASED SUPPORT

Urban climate impacts are wide-ranging, affecting all sectors, populations, and levels of government. To respond effectively, cities must take systemic approaches that include all sectors, while building broad-based support for adaptation efforts. While this task is not easy, if done well it will build a necessary foundation for successful adaptation strategies.

Many cities that we interviewed cited the value of establishing cross-sector working groups for adaptation planning. Palembang, Indonesia created a Climate Change Working

Group consisting of the Environment Ministry and Public Works departments, academic institutions, and community groups. This group is creating a Climate Strategy that strives to be inclusive and widely endorsed.

Ho Chi Minh City, Vietnam established a Climate Change Bureau, which coordinates a Climate Change Network consisting of a Steering Board, and several working groups in government departments. The Network successfully created a draft Adaptation Action Plan that includes commitments from all government departments. Ho Chi Minh has also participated in several international adaptation networks, including the C40 Cities Climate Leadership Group, the Connecting Delta Cities Network, and the Green Growth Network. These networks have greatly increased their community of practice and allowed for a rich exchange of best practices and lessons learned across borders.

In June 2012, Jakarta, Indonesia launched their Planning for Integrated Coastal Adaptation Strategy (PICAS). A major initiative of the program is focused on community-based adaptation planning: researchers from the University of Indonesia consulted communities living in Jakarta's urban Kampung (neighborhoods of 10,000 or fewer people) to better understand traditional strategies for living with flooding, such as stilt construction. These strategies are now being incorporated into the city's zoning regulations for floodplains.

### RESTORING URBAN ECOSYSTEM SERVICES

ASEAN countries enjoy rich ecosystems and strong biodiversity. On a national level, countries have committed to ecosystem preservation, protecting forests, rivers and lakes, and the quality of life they afford. This important work is now being applied on the urban-scale with significant efforts to identify, restore and sustainably use the provisioning, regulating, supporting and cultural services – i.e. clean air and water, flood control, food security, fuel, soil formation, nutrient cycling, reduced heat islands, recreation, etc. – that healthy ecosystems provide to urban systems.

Since 2008, Chiang Rai, Thailand has worked with the Asian Cities Climate Change Resilience Network (ACCCRN) to adapt to new flooding and landslide threats from increased precipitation. They began work to restore the Kok River, a main waterway through the city that suffers from unsanitary conditions and that is prone to flooding. Restoring the river is expected to simultaneously control flooding, improve water quality, reduce disease vectors, and potentially serve urban agriculture projects.

Kuantan, Malaysia committed to maintaining 80 percent land use dedicated to green space: they have a plan for preserving key urban ecosystems, including mangroves, wetlands, and forests, while any future infrastructure development must include at least 10 percent green space. In addition, the city has been working with local communities to plant 10,000 trees annually, which help clean the air, provide shade, and support healthy nutrient cycling.

Legazpi, Philippines has actively planted new mangrove forests along the coast to help mitigate the effects of sea-level rise. They're also implementing an Urban Drainage Master Plan to reduce flooding risk. The plan includes the deepening and widening of drainage canals restoration of river dikes, and the elevation of roads.

### RE-THINKING URBANIZATION

All cities that we interviewed saw themselves at crossroads. Conventional development pathways, while effective at reducing poverty, are not adequately addressing new risks from population growth, resource constraints, pollution, public health, and other urban challenges. And the effects of climate change exacerbate these risks substantially. Increased precipitation, temperature, drought, sea-level rise, and extreme weather affect cities on every level and have the potential to push urban systems to the brink. Yet with any change, there is opportunity. Cities better understand their climate vulnerabilities and are investing in alternative, adaptive infrastructure, that integrates urban systems with natural and social systems.

Chiang Rai, Thailand undertook a systemic analysis of land use and climate vulnerability in the city. They began making fundamental changes to the design of the city, including removing buildings that blocked watercourses to the Kok River, and increasing "natural buffer zones" around the city. They made fundamental changes to their land use plan that define more adaptive approaches to development. Most importantly, they revamped their systems to enforce this plan, and worked closely with stakeholders to achieve buy-in. They participate actively in the Urban & Environmental Learning Network in Thailand to share lessons learned with five other cities Thailand.

Legazpi, Philippines, together with other cities in the Province of Albay, has been working with the Center for Initiatives and Research on Climate Adaptation (CIRCA) to integrate adaptation into its spatial plan. They are using sophisticated software program called SimCLIM, which examines the effects of climate variability over time and space. The software was



used to produce new climate hazard maps that have been integrated into urban planning.

Kuantan, Malaysia developed a coastal line master plan with guidelines on how to develop in a way that reduces erosion. The plan includes protections for mangroves, wetlands, and beaches along its coast.

### ALIGNING FINANCIAL INVESTMENTS

The global financial crisis took its toll on most ASEAN cities, resulting in more scarce government resources to fund adaptation efforts. Yet with rapid urbanization across all of the ASEAN cities, there is no shortage of investment potential. The challenge is to find innovative ways to align existing financial resources for adaptation efforts that reduce investment risks and open new, adaptive development potential.

Most of the funding for Kuantan, Malaysia's adaptation efforts are derived from local government agencies. They found success in leveraging resources from existing environmental projects where there is significant overlap in mission and goals. They found support from the Kuantan Local Agenda 21 projects, various government agencies' Corporate Social Responsibility projects, and from regional economic development initiatives.

Chiang Rai, Thailand's adaptation budget is derived primarily from central government (65 percent) and from local taxes (35 percent). They have also worked across sectors, including NGOs and academic institutions to help with fundraising. Cooperation with other local governments has enabled them pool resources to work across jurisdictions on common adaptation issues.

Legazpi, Philippines leveraged private financing as well as government and international funds for their adaptation activities. To maintain a sustained level of investment, they linked their climate adaptation plan with city legislation, a move that reduced the risk that investments may be de-prioritized by the city. In addition, following a national mandate, five percent of the city's estimated revenues are allocated to a Local Calamity Fund that is used for adaptation activities. Beyond financial resources, Legazpi has received in-kind technical services and the provision of equipment and facilities to support their efforts.

### ELEVATING SOCIAL EQUITY

As the populations of cities increase, so does the need to engage citizens in participatory decision making. Climate impacts tend to affect poor populations first, which typically have less leverage in government policy-making. Yet, providing opportunities for poor and vulnerable populations to understand climate risks and identify local solutions also enhances potential pathways from poverty and a strengthened democratic process.

Jakarta, Indonesia is in the process of overlaying a database of slum neighborhoods with areas most at risk for flooding. That information is used to prioritize which neighborhoods to engage in adaptation efforts. They work with community members to create participatory adaptation measures, tapping into local knowledge to determine the right adaptive infrastructure approaches.

Paksane, Lao PDR works with the village leaders to coordinate disaster response efforts after flooding. They arrange official liaisons between government offices and citizens: local impacts

are communicated up to government offices, which help inform appropriate government responses.

In Legazpi, Philippines, the climate-affected poor, women, children, and persons with disabilities are explicitly identified in the adaptation plan. Potential climate hazards for each vulnerable group were quantified, with adaptation measures for prevention and mitigation, preparedness, response, and rehabilitation and recovery. The plan also identified four primary areas of social equity: 1) access to due process; 2) equal protection; 3) the right to quality and consistency in goods and services; and 4) equal policy outcomes. Examples of equitable adaptation services include housing for at-risk populations; availability of safe schools; temporary evacuation facilities; and support for adaptive farming practices; and a zero-casualty disaster response policy.

## ABOUT THIS RESOURCE GUIDE

This Resource Guide represents a synthesis of information selected for the practitioners participating in our Climate Leadership Academy on Urban Climate Adaptation and Infrastructure: From Risk Barriers to Results. The Resource Guide is intended to help practitioners in cities and metropolitan areas resolve local challenges related to managing the social, political, environmental and financial risks of urban infrastructure to improve climate adaptation and urban resilience, by showcasing promising practices and by providing efficient access to some of the very best information and resources available.

The Resource Guide is not an exhaustive compilation of available information – a near-impossible task given the growing volume of international studies, reports, websites, books and blogs on the topic of climate resilience. Still, this document reflects an effort to identify, compile, vet and synthesize useful information on innovative policies, programs and practices being deployed throughout the world.

### THIS RESOURCE GUIDE INCLUDES:

Case Studies that discuss how various local government practitioners in the US have made progress on climate adaptation planning and surmounting associated social, political, financial and environmental challenges.

Resource lists that direct practitioners toward the topic-specific sources of information – studies, reports, articles, and websites – that we believe are most likely to help them improve, expand and accelerate their adaptation and resilience efforts.

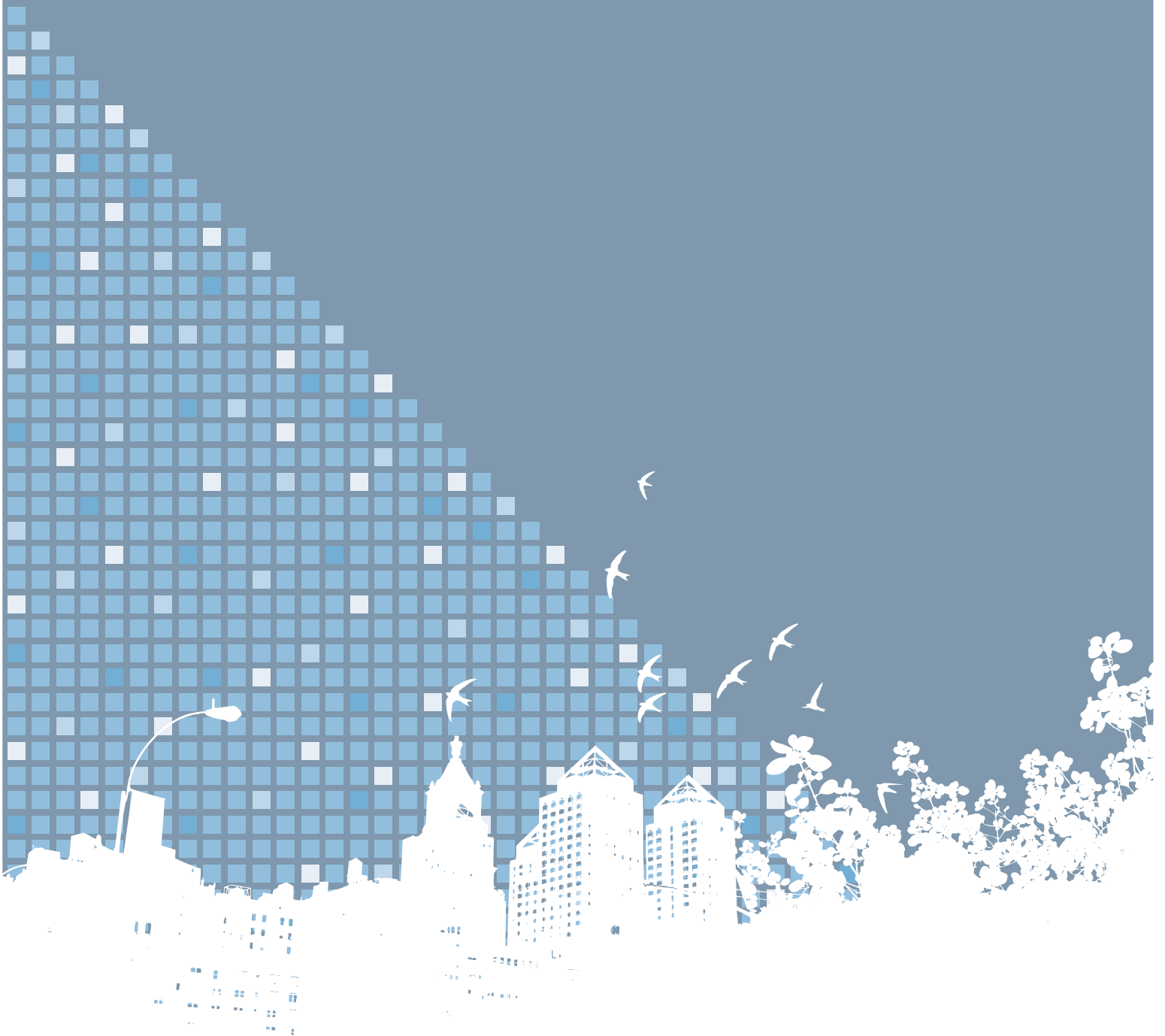
*Written by Scott Muller and Michael Crowley, Institute for Sustainable Communities*

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# Case Studies





## Case Studies

The case studies showcase the following promising practices:

### 11 WEATHERING THE STORMS

Philadelphia moves beyond conventional stormwater management methods in an innovative shift toward green infrastructure.

### 18 CHICAGO, ILLINOIS

Chicago incorporates adaptation measures into its Climate Action Plan by building effective community partnerships.

### 24 SAVING COASTAL LOUISIANA

Louisiana explores social, political and environmental issues to save its coastal lands.

### 32 FROM FORESTS TO FAUCETS PARTNERSHIP

Denver and the US Forest Service partner in this effort to monetize “ecosystem services.”

### 34 CREATE MORE SUSTAINABLE AND RESILIENT COMMUNITIES

### 38 PLAN FOR CLIMATE ADAPTATION

### 40 ADOPT GREEN BUILDING POLICIES

### 41 PRESERVE AND CREATE GREEN SPACE

### 42 ENGAGE THE COMMUNITY IN THE CLIMATE CHANGE PLANNING PROCESS

### 44 APPROACH CLIMATE CHANGE PLANNING ON A REGIONAL LEVEL

### 46 ADDRESS TRANSPORTATION THROUGH TRANSIT-ORIENTED DEVELOPMENT & COMPLETE STREETS

## CASE STUDY

# Weathering the Storms

THE POLITICAL AND SOCIAL TRANSFORMATIONS DRIVING PHILADELPHIA'S LARGE-SCALE GREEN INFRASTRUCTURE PROGRAM



Green City, Clean Waters' rendering of green infrastructure in Philadelphia

Philadelphia, Pennsylvania – founded in 1682 – was developed at the meeting point of two major rivers, the Delaware and Schuylkill. Throughout its history, urbanization along these rivers has degraded water quality and increased impervious surfaces, which left the city increasingly more vulnerable to flooding. Climate change has made the problem worse. Annual precipitation in the state rose 14 percent in the 20th century, and is expected to rise an additional seven percent by 2050. Already faced with some of the highest economic flood losses in the United States, Philadelphia is bracing for more severe storm-related damages that could reach as high as \$375 million per 10-year storm event.<sup>1</sup>

Acknowledging these growing flooding risks, Philadelphia fundamentally shifted its way of addressing storm water management. In collaboration with the US Environmental Protection Agency (EPA) and the Pennsylvania Department of

Environmental Protection, city leaders embarked on one of the most ambitious urban transformation projects in the United States. By the year 2050, the city will retrofit over 40km (nearly 15.6 square miles) – almost 11% of its surface area – with green infrastructure technologies, including permeable pavement, vegetated swales, and green roofs. These measures will significantly reduce flooding risks by restoring the landscape's natural ability to absorb stormwater where it falls and reduce dependence on conventional, pipe-based stormwater infrastructure.

This case study examines how urbanization, water pollution, and the impacts of climate change led Philadelphia to re-think and change their approach to stormwater management. It chronicles how city leaders achieved this innovative shift to green infrastructure by directly engaging the public and working with regulators to move beyond conventional stormwater management methods.

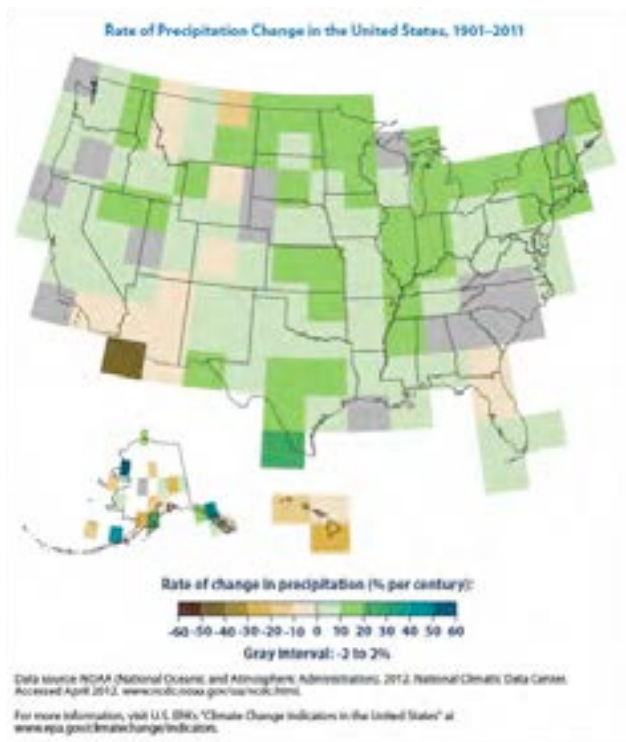
## PROCESS

### CONVERTING STREAMS TO SEWERS

Prior to development, Philadelphia had an extensive network of streams that spanned over 450 km (280 linear miles). Early colonial settlers used this water network for power generation, navigation and, due to its gravity-fed drainage, the direct disposal of untreated human sewage and industrial wastes. As the city urbanized and grew in population, sewage overwhelmed the creeks and led to disease outbreaks. To reduce exposure and enable further development, open streams and channels were replaced with buried pipes and

culverts. This system still exists today. Roughly 73 percent of the city's original streams have been replaced with over 4,828 km (3,000 miles) of sewers.<sup>2</sup>

While Philadelphia's sewage system reduced exposure to disease, it also presented new challenges for stormwater management. As the city replaced land with impervious concrete and pavement, more and more stormwater – and along with it, oil and grease from cars, road salts, and other urban pollutants – was diverted to the sewer system. During heavy precipitation events, stormwater can overwhelm the capacity of the system.



Like many US cities, most of Philadelphia’s sewer systems are “combined systems” carrying human sewage and stormwater through a single pipe to water treatment plants before being discharged to waterways. Philadelphia’s network of 164 combined sewer overflows (CSO) are designed to discharge sewage and stormwater to local waterways during heavy storm events: a feature that prevents neighborhood streets and treatment facilities from flooding. Yet CSOs can result in devastating effects on local water quality. CSO discharge events in Philadelphia occur up to 85 times per year, and result in high levels of fecal coliform bacteria, elevated water temperatures, and dissolved oxygen levels below minimum standards. This has a severe negative impact on the health of aquatic ecosystems. About 60 percent of Philadelphia’s sewer system consists of combined sewer systems, representing a 166 square km (64 square mile) drainage area.<sup>3</sup>

Increasing urban development across the US is expected to exacerbate the problem. Between 1982 and 2007, impervious surfaces in the US grew by 56%. According to the Natural Resources Defense Council, if that trend continues the US will have 27,518 hectare (68 million acres) of developed land by 2025. This is expected to result in skyrocketing water treatment costs, currently estimated at \$298 billion over the next 20 years.<sup>3</sup> This scenario is widely considered to be unsustainable in the long term.

As the impacts of climate change are felt more widely, stormwater issues are expected to get even worse. According

to a recent study from the Environment America Research & Policy Center, extreme rain downpours – rainstorms and snowfalls that are among the largest experienced at a particular location – are now happening 30 percent more often in the US than in 1948. And, the largest annual storms nationwide are now producing 10 percent more precipitation than they did 65 years ago.<sup>4</sup>

### RECONNECTING TO THE WATERSHED

The EPA is responsible for regulating stormwater through the enforcement of the Clean Water Act (CWA) of 1972. To regulate stormwater in cities, the EPA requires the development of a stormwater management plan to meet quantifiable water quality targets.

In the mid 2000s, the EPA required Philadelphia to update its stormwater management plan and identify quantifiable measures to reduce the frequency and severity of the city’s CSO discharge events. City officials found that to comply using a conventional approach (i.e., expanding the storage capacity of sewage pipes and treatment plants) would require untenable investments well beyond the city’s budget. Instead, Philadelphia proposed a radical new approach to its stormwater problem. Rather than expand its pipe system, the city would reduce the total volume of stormwater generated by reconnecting to its watershed and integrating “green infrastructure” (GI) throughout the city.

Instead of funneling stormwater into pipes, green infrastructure reduces the total volume of stormwater that reaches pipes by allowing it to filter directly into groundwater or by retaining it in deep soils in places like roof gardens. GI results in other benefits, including enhanced water quality, replenished ground water, improved air quality, reduced urban heat islands, new wildlife habitats, recreation, and increased property values.

### RAW SEWAGE AND CLIMATE CHANGE

Across the U.S., CSOs are present in more than 750 communities that are home to 40 million people. As of 2002, CSO discharge events occurred over 43,000 times per year, and dumped over 3.2 billion cubic meters (2.6 million acre-feet) of untreated sewage overflow into water bodies each year. In 2010, 36 percent of all swimming beach advisory and closing days attributed to a known source were the result of CSO events. Yet, to prevent CSO events using conventional means would cost an estimated \$63.6 billion dollars. The scale of this problem has led the EPA to declare urban runoff as “one of the most significant reasons that water quality standards are not being met nationwide.”<sup>3</sup>

## Philadelphia uses the following green infrastructure methods<sup>5</sup>

### STORMWATER TREE TRENCH

A stormwater tree trench is a system of trees connected by an underground infiltration structure. Stormwater is funneled to a special storm drain that leads to an engineered substructure lining that allows water to infiltrate to groundwater and irrigate trees.



### PERVIOUS PAVEMENT

Pervious pavement is a specially designed system that allows water to infiltrate through the pavement to groundwater.



### STORMWATER BUMP-OUT

A stormwater bump-out is an extension of an existing sidewalk designed to allow groundwater infiltration. It features an inlet that directs runoff from the street into the structure. The bump-out has the added benefit of controlling traffic speeds.



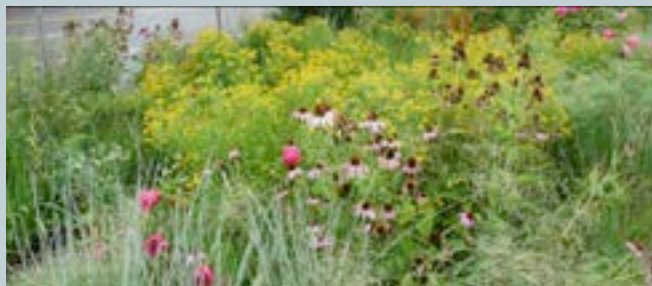
### GREEN ROOF

A green roof is a roofing system with soil and plants that retain, then slowly release stormwater. Green roofs also provide habitat for beneficial insects and reduce surface temperatures in the summer, which reduces a building's cooling load.



### RAIN GARDEN

Rain gardens are vegetated surfaces, graded just below the surrounding ground level, to collect stormwater runoff. They are sometimes designed to pool water during a storm event, and then slowly allow groundwater infiltration.



## SEEDING THE GREEN INFRASTRUCTURE CONCEPT

The idea for Philadelphia's green infrastructure proposal was conceived back in 1999 when the city combined three previously separate programs: Combined Sewer Overflow, Stormwater Management, and Source Water Protection to form the Office of Watershed Management. According to Glen Abrams, former Manager of Strategic Policy and Coordination at the Philadelphia Water Department (PWD), the approach recognized the value in a holistic approach to water resources in the city. "We began thinking about how these individual programs actually interrelated... and really thinking beyond our municipal borders," said Abrams. "It was about planning at the watershed level and making connections between land use, urban design, and water resources management." The newly-formed Office of Watershed Management set a goal to control stormwater using natural methods, and began sponsoring simple, neighborhood-based GI demonstration projects. Using a diversity of techniques, from vegetated swales to rain gardens and creek restoration, the demonstration projects were intended to test the efficacy of green infrastructure at the neighborhood scale. The projects were also designed to build new partnerships with community organizations and help realize additional benefits to the public, such as neighborhood beautification and health. "In the early days of doing demonstration projects we just wanted to illustrate how green stormwater infrastructure could be designed in Philadelphia, in terms of programs and partnerships that we might advance if we were to move forward on a large-scale program," recalled Abrams.

With good data from the demonstration projects to support its case, the city felt confident that it could eliminate CSO discharge events through a significantly scaled-up green infrastructure program. Working closely with the EPA, the city proposed the largest green infrastructure program in the history of the US – dubbed the Green City, Clean Waters Program (GCCW) – to comply with the CWA. The program involves converting one third of the city's impervious surfaces in its CSO drainage area – or 40.4 square km (15.6 square miles) – to pervious, green infrastructure surfaces within the next 25 years.

The scale and timeline of the GCCW program was unique among other stormwater programs in the US, and required a new approach to implementation and management. To stay accountable over the long term, the program incorporated five-year increment targets that set minimum thresholds of "greened acres" in the city. "At every reporting period we need to take a step back and evaluate how effective we have been, whether we think we'll meet the next target, and if there are any things that we should change in our approach," said Abrams. This process, which Abrams called "adaptive management" allowed the city to manage progress in real

time and make course corrections as they went. "We are very much in a continuous learning mode," he said.

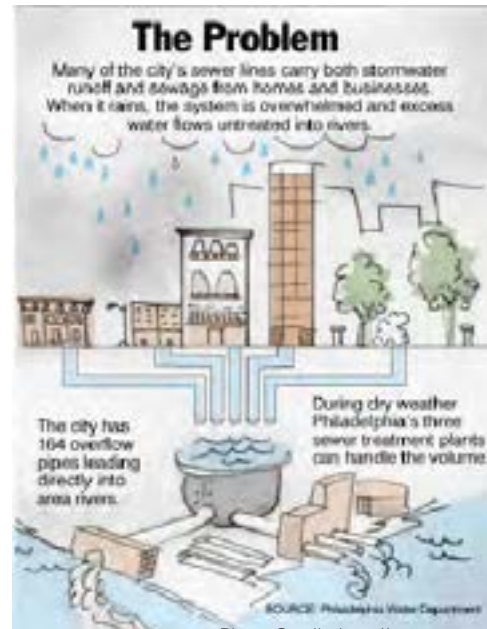


Photo Credit: [http://actrees.org/news/media-center/actrees-news/breaking\\_ground\\_with\\_a\\_16\\_billion\\_plan\\_to\\_tam/](http://actrees.org/news/media-center/actrees-news/breaking_ground_with_a_16_billion_plan_to_tam/)

## FINDING THE TRIPLE BOTTOM LINE

To build its case for the GCCW program the city compared compliance costs associated with conventional and GI approaches. Yet, recognizing the holistic benefits of green infrastructure versus conventional methods, the city expanded its analysis to include potential environmental, social, and economic – or “triple bottom line” – benefits of GI.<sup>6</sup> Recreation, water quality and habitat, neighborhood quality of life, job creation, public health, air quality, and greenhouse gas emission reductions were all taken into account. Overall, it was shown GI would cost less overall than conventional methods, and its benefits would outweigh initial costs in 45 years. No comparable return on investment was found with a conventional approach.

“While a conventional infrastructure approach would yield the volume reductions and reduce the frequency of overflows, what we tried to do was to illustrate the costs associated with that. And not just the cost of having to build more tunnels, which, incidentally we couldn't afford. We quickly realized that because of the financial situation in Philadelphia... our limit of affordability did preclude us from following a conventional approach,” said Abrams.

For Abrams, the triple bottom line findings made it clear that GI was the preferred choice for Philadelphia. “It was a choice of a highly decentralized system and investing money directly in neighborhoods ... versus a centralized system

## GREEN STREETS: STORMWATER TREE TRENCH

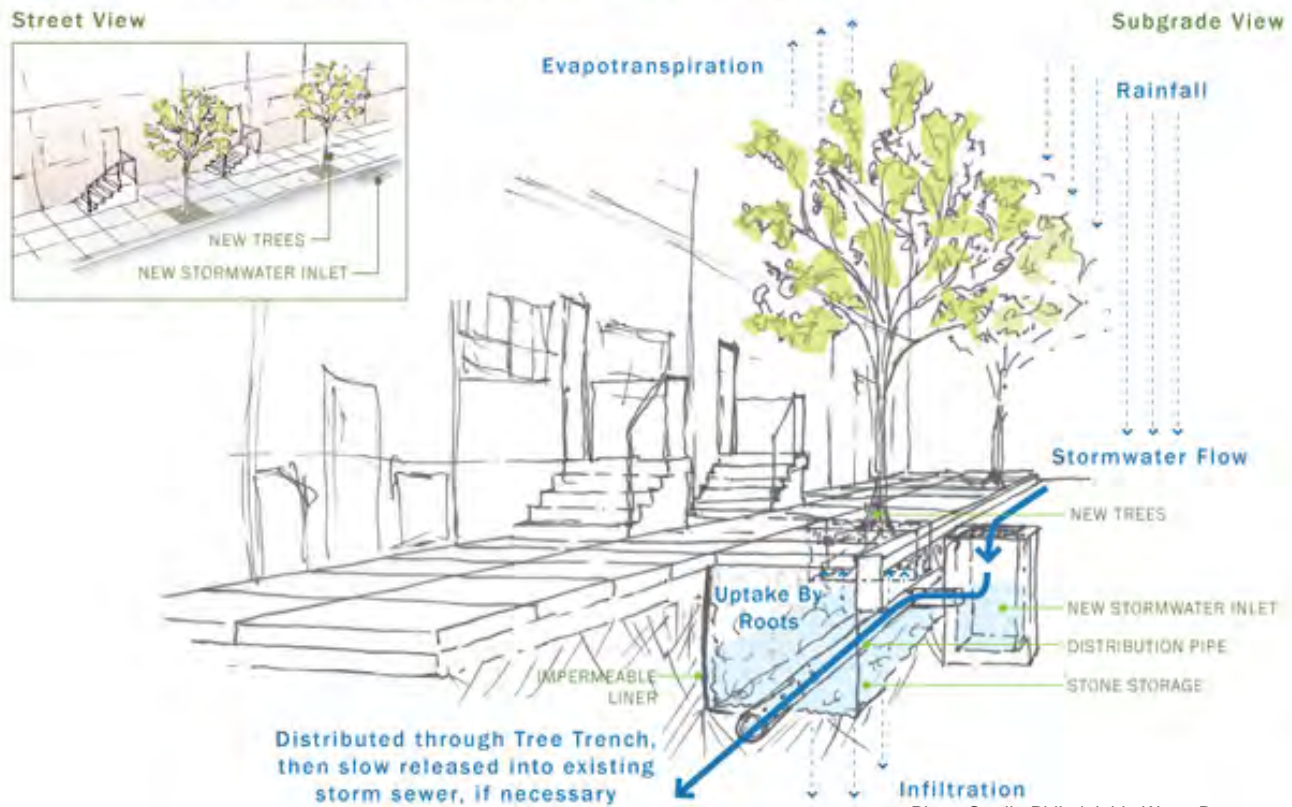


Photo Credit: Philadelphia Water Department, [http://phillywatersheds.org/what\\_were\\_doing/green\\_infrastructure/tools](http://phillywatersheds.org/what_were_doing/green_infrastructure/tools)

that's a very deep tunnel program, so once it's constructed it's not visible... It was clear that this was a greater return on our investment," he said.

### INNOVATING FUNDING

To meet its goals, the GCCW program requires \$1.2 billion in strategic investments over a 25 year period: \$1.67 billion will go to green infrastructure; \$345 million to upgrading treatment plant capacity; and \$420 million will be used for "flexible spending," to be determined as the program evolves.

While the cost is below what a traditional infrastructure plan would require, it still remains above the range recommended by the EPA (1.5% to 2% of median household income). Traditional bonds would not cover the full costs, so the city had to find creative, new and unconventional funding sources.

The city asked the developers to provide the most significant funding. In 2006, the city updated its stormwater regulations to require that every development and redevelopment project with a footprint greater than 1,394 square meters (15,000 square feet) must make arrangements to manage most stormwater runoff through GI. The city estimated that with a project development rate of 1 percent annually, more than \$1 billion in present value that would have otherwise been

spent on post-construction retrofits will be leveraged in the next 25 years. That funding would have otherwise been spent on post-construction retrofits to handle the stormwater loads created by impervious surfaces from these developments.

Evidence suggests that this policy change will have little to no effect on the budgets of developers. In 2007, the EPA published a study that reviewed 17 developments that included GI, and found that all but one had lower upfront construction costs. In fact, costs were reduced anywhere between 15-80 percent.<sup>7</sup> A similar study by the American Society of Landscape Architects found that "not only does green infrastructure cost less, but these practices can further reduce costs of treating large amounts of polluted runoff."<sup>8</sup>

Another significant source of funding will come from changes in the way that stormwater is billed to customers. Historically, the city billed for sewage treatment based on the amount of domestic water used by its customers. This system was recognized to be inherently unfair because it did not reflect the true cost of service: some customers used comparatively little domestic water but owned large areas of impervious surfaces that had large impacts on sewer systems. In the early 2000s, to help grapple with this issue, the city assembled a rate-payers committee. The committee recommended a

stormwater billing structure based on the acres of impervious land that customers owned: more impervious surfaces meant more stormwater treatment, and higher bills.

The new billing system – called the “Parcel-Based Billing Initiative”— will be in effect by 2015 (implementation had to wait for new technology such as Global Positioning Software to make the system possible). The city recognized that some customers will be impacted more than others, so they created a free design assistance and site evaluation to identify potential green infrastructure opportunities. In addition, the city provides free cost-benefit analysis to help property owners weigh the cost of retrofit versus the savings in their bill.

Other costs to the program will be covered by traditional bonds as well as public and private grants.

### COMMUNITY OUTREACH

The city recognized that it needed to reach beyond the development and commercial landowner communities if it was going to meet its stormwater goals. City officials began new partnerships with local community organizations such as the Pennsylvania Horticulture Society and the Tookany/Tacony-Frankford Watershed Partnership (TTF Partnership) to find the right ways to engage the community. Together, the city and nonprofit groups hosted community workshops on how to install affordable, residential green infrastructure projects, such as rain barrels and green roofs. The city offered tax credits to any resident who installed a green roof, and



Photo Credit: Tookany/Tacony-Frankford Watershed Partnership, Inc.  
Rain garden in Vernon Park, PA

free rain barrels to anyone who attended a workshop.

They also secured a \$30 million loan from the Pennsylvania Infrastructure Reinvestment Authority to further develop community-scale GI demonstration projects across the city. The projects retrofitted entire blocks in each neighborhood to showcase a variety of green infrastructure practices, and they brought the community together to raise awareness about their shared watershed.

The TTF Partnership led an early demonstration project that included the installation of a rain garden in Vernon Park. They worked with “Friends of Vernon Park,” the local neighborhood group, to gain community support and host community design meetings for the garden. Julie Slavet, Director of the TTF Partnership, recalled that the neighborhood shared a deep understanding of the importance of the project. “These people got it, and they could go out and talk to other people about it,” she said. This grassroots, word-of-mouth support, she emphasized, was a critical component to foster city-wide support for the program.

“Stormwater strategies are things that really improve conditions in low-income neighborhoods.”

– Alix Howard, Director of Education and Outreach for the TTF Partnership

## LESSONS LEARNED

**Start in the Community.** Alix Howard, Director of Education and Outreach for the TTF Partnership, emphasizes the importance of “talking to the community right off the bat.” “Stormwater strategies are things that really improve conditions in low-income neighborhoods,” she said. “When people realize it’s less about the water department and local utilities and more about them, and it will increase quality of life, then they’ll be on board, there’ll be more buy-in and support in the neighborhood.”

**Think Differently and Start Small.** According to Abrams, the success of the GCCW program was largely due to the early leadership of the founding Director of the Office of Watershed Management, Howard Neukrug and his staff. “It was important to have people willing to think outside the box. [Neukrug] assembled a young, energetic, bright team that was willing to think about something that was very different,” he said. This original group of leaders built on-the-ground experience and expertise in alternative stormwater management through pilot projects, and fostered healthy relationships with the community.





Photo credit: Chesapeake Bay Program, <http://www.flickr.com/photos/29388462@N06/8023409870/>

Their efforts helped convince the city, the state, and the EPA, to depart from conventional stormwater approaches, and scale-up green infrastructure alternatives.

**Systems Change takes Patience.** Abrams observed that “a lot of people are very uncomfortable about changing the way that they do projects or re-evaluating how their jobs should operate.” This goes with the territory for any new city-wide change. For cities to change, people need to change. For Abrams, the key is not to force new change too quickly, but to have patience as new ways of thinking catch on. The Office of Watershed Management started with just a few change makers who leveraged successful pilot projects in the community. Over time, they used evidence from these pilots to gain broad support and excitement inside the government and the community for green infrastructure.

**Address Risks Holistically.** Philadelphia faced three new cascading risks when it came to stormwater: 1) increased precipitation from climate change, 2) urbanization that impaired the region's natural hydrology, and 3) increased stormwater pollution that impacted the health of streams and the community. City officials realized that conventional approaches to stormwater management were not only unaffordable, but were actually contributing to the problem. By thinking holistically, officials made clear linkages between these risk factors, and found elegant solutions that simultaneously addressed each problem and enhanced quality of life in the city. By improving natural water filtration, the city increased its resilience to precipitation events, improved the health and quality of life of residents, and created an equitable funding structure linked to directly water quality goals.

Written by Mike Crowley, Institute for Sustainable Communities

## FOR MORE INFORMATION

Philadelphia Water Department's Green City, Clean Water website: [http://www.phillywatersheds.org/what\\_were\\_doing/documents\\_and\\_data/cso\\_long\\_term\\_control\\_plan](http://www.phillywatersheds.org/what_were_doing/documents_and_data/cso_long_term_control_plan)

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## CASE STUDY

# Chicago, Illinois

INTEGRATING ADAPTATION INTO CHICAGO'S FIRST CLIMATE ACTION PLAN



Photo credit: <http://www.flickr.com/photos/wicker-furniture/8811887033>

Chicago City Hall green roof

In 2006, then Chicago Mayor Richard Daley was one of the first to sign the U.S. Mayor's Climate Protection Agreement. The Agreement, now signed by over 1,000 mayors from all 50 states, commits cities to meet or beat the Kyoto Protocol targets, and to urge state governments and the federal government to do the same. To help meet that promise, Mayor Daley directed his senior environmental advisors to develop a Climate Action Plan (CAP) to outline key local climate initiatives. The CAP was published two years later and featured five strategies: 1) Energy Efficient Buildings; 2) Clean & Renewable Energy Sources; 3) Improved Transit Options; 4) Reduced Waste & Industrial Pollution; and 5) Adaptation.

The CAP was the result of an unprecedented partnership between local universities, community groups, and philanthropic foundations. It was also one of the first municipal local climate action CAPs in the U.S. to incorporate climate adaptation strategies. This case study chronicles the development of the adaptation strategy within the CAP and the impacts that it has already had on the city's view of infrastructure, culture, and social capital.

## EMBARKING ON A CLIMATE ACTION PLANNING PROCESS

Sadhu Johnston, Chicago's then Commissioner in the Department of Environment (DOE) was the city's lead on the development of the CAP. He was given a budget of \$50,000 and no specific mandate on what to include. "I didn't have a full concept of what this would be," said Johnston. "We had a very small budget allocation and realized we couldn't do it alone."

Johnston started by reaching out to the Global Philanthropy Partnership (GPP), a Chicago-based nonprofit run by Adele Simmons, the former president of the John D. and Catherine T.

MacArthur Foundation. Simmons understood the importance of the city's efforts and saw an opportunity to leverage GPP's leadership position in Chicago's nonprofit sector. She quickly helped the city to connect with a broad network of community leaders and potential funders.

"We weren't leading an environmental group that wanted to get something specific out of the process," said Adele Simmons. "Our only interest was to ensure that Chicago produced the best possible plan, so we could act as a neutral facilitator."

DOE and GPP began by examining other climate and sustainability CAPs around the country, and quickly concluded that a "quick and dirty" \$50,000 CAP did not fit their

evolving vision. Acknowledging the critical role that Chicago organizations and communities would play in responding to the challenges created by climate change, the DOE and GPP wanted to make a plan for all of Chicago, not just the city agencies. With that vision in mind, they started reaching out to community partners and funders whose missions aligned with their own. “It evolved somewhat organically as we got outside resources and partnerships,” said Johnston.



GPP helped the city identify local nonprofit organizations that could expand city resources while building a broad sense of ownership in the final product. The Chicago Civic Alliance, a nonprofit consulting firm, for example, helped the city secure pro-bono consulting services, valued at more than \$1 million. Once the CAP was complete, the Chicago Community Trust, the metro area’s community foundation, helped convene a special funders group, where the city regularly presents its funding needs for implementation, and foundation partnership can coordinate their giving.

With help from Simmons, Johnston convened the Chicago Climate Task Force, a group of 19 leaders from business, civic, environmental, foundation and nonprofit organizations throughout the city. Adele Simmons served as chair.

During its eight formal meetings between December 2006 and February 2008, the Task Force provided input on the CAP’s emissions reductions goals, helped shape the approach to studying climate impacts, connected the city to new resources and partners and helped forge a list of possible mitigation and adaptation actions for further research and refinement.

“What struck me during the whole process is that we were really all collaborating together,” recounted Simmons. “You didn’t have the sense that there were silos or competing organizations. You had the sense that this was a group of people from different sectors of the city all working together to produce a very strong CAP that was grounded in science.”

In addition to the extensive work with the Climate Task Force, GPP and DOE also organized larger forums—four “Climate Summits” and one “Big Ideas” Forum – where invited community and business leaders could hear briefings of the scientific work and provide their own ideas for climate action. DOE also formed sector groups to provide ideas and feedback on implementation challenges in certain areas of climate action such as existing buildings, waste, water and information infrastructure, and green urban design. These sector groups were comprised of a mix of city staff and stakeholders. Input from these meetings was drawn upon heavily in the final CAP.

### INCORPORATING ADAPTATION

From the start, Johnston wanted to include climate adaptation in the CAP alongside mitigation measures. Chicago had already seen an increased frequency and severity of weather disturbances, including a heat wave in 1995 when more than 750 people were killed over a period of five days. Johnston saw the need to be better prepared for these climate extremes, and thought the CAP could help make a stronger link between climate impacts to the need for mitigation.

“We said wait a second, before we look at what we should do to mitigate our emissions, we first need to understand what is going to happen in our city on the ground in terms of climate impacts,” explained Johnson. “Then we can look at our baseline emissions, and with those two pieces in place, we’ll be ready to develop our strategies – both for reducing our carbon footprint, and for getting our city prepared. From there it evolved further to a focus on those strategies that would have a dual benefit.”

Those foundational ideas – that the CAP should spring from a close look at local impacts, and recommend both mitigation and adaptation strategies – shaped everything about Chicago’s process. It created a vision that inspired outside funders and partners. It also prompted the city to engage scientists and economists from universities, nonprofits like the Center for Neighborhood Technology, and a small cadre of consultants to develop a data-driven picture of what climate change would mean for Chicago.

To better understand how climate change was impacting Chicago, Johnston reached out to Dr. Don Wuebbles, a climate researcher at the University of Illinois. The two had met previously when Wuebbles presented findings from a climate impacts assessment for the Great Lakes region to the city. Wuebbles had a history of producing science that impacted policy: he developed the concept of Ozone Depletion Potentials, used in the Montreal Protocol and the U.S. Clean Air Act, and contributed to the concept of Global

Warming Potentials used in the Kyoto Protocol and most carbon trading programs. Recognizing Wuebbles' unique expertise, Johnston asked Wuebbles to conduct a climate impact assessment for the Chicago. Wuebbles jumped at the opportunity. "Other cities are often reluctant to bring in

scientists, or they simply don't know how to find us," he said. "Chicago's willingness to work closely with scientists on the CAP really strengthened it."

Wuebbles and his team began their assessment by "downscaling" global climate models to the Chicago region using advanced statistical techniques. The result was a custom climate model specific to Chicago that was used to predict changes in climate over the next century and help policy-makers be better prepared.<sup>1</sup>

Wuebbles and co-author Katharine Hayhoe from Texas Tech University published their findings in a report, "Climate Change and Chicago: Projections and Potential Impacts." The report listed two impact scenarios for this century: low emissions (up to 550 parts per million (ppm) of atmospheric carbon dioxide (CO<sub>2</sub>)), and high emissions (up to 1,000 ppm). It detailed changes to temperature, precipitation, and ecosystems, and predicted subsequent impacts on public health, the economy, and infrastructure. (See box at right).

The city then hired consultants to specify how predicted climate impacts would affect city operations – from snow plowing to operating buildings to maintaining parks – and to calculate the economic costs of preparing versus holding to the status quo. This extensive work produced a detailed set of reports painting a comprehensive picture of what change would mean locally. The various experts were then invited to present their results at internal meetings, as well as during meetings of the Climate Task Force.

"This kind of analysis doesn't have to be perfect," explained Aaron Durnbaugh, Deputy Commissioner of the Department of Environment, and the city's current lead on climate adaptation efforts. "For example, there were gaps in our analysis of the costs of adapting to climate change. But it gave a rough estimate of the total cost – up to \$700 billion – and those numbers got people's attention."

According to Johnston, looking at climate impacts and adaptation challenges ultimately compelled city staff and community leaders to take the mitigation side more seriously. "For the naysayers, the description of a future with climate change helped them make sense of changes they were already seeing. That helped them realize that the wisest course of action was to adapt our operations and infrastructure, and it helped them understand the importance of reducing our carbon emissions in the first place."

## CHICAGO & CLIMATE CHANGE

### Temperature

- Average temperatures will increase 3 - 8°F.
- Summers could feel more like Mobile, AL in the high emissions scenario (average heat index of 41°C (105°F)), or Atlanta, GA in the low emissions scenario (average heat index of 34°C (94°F)).
- Heat waves similar to the 1995 event could occur twice per by decade by 2050. By the end of the century they could occur every other year in the low emissions scenario or several times per summer in the high emissions scenario.

### Precipitation

- Winter and spring precipitation could increase by 10 percent by mid-century, and 20-30 percent by the end of the century.
- Heavy precipitation would increase the chances of flood events.

### Ecosystems

- Growing conditions could resemble those in Southern Illinois in the low emissions scenario, or the Tennessee River Valley in the high emissions scenario.
- 45 bird species could lose at least half of their habitat in the low emissions scenario, with 50 species in the high emissions scenario.

### Public Health Impacts

- Heat-related deaths could rise to 10 times the average annual rate, reaching as many as 1,000 per heat event.
- Cases of vector-borne diseases, such as West Nile Virus and Lyme Disease, could increase.
- Air quality degradation due to ozone and smog could increase cases of respiratory and circulatory illness.

### Infrastructure and Economic Impacts

- Electricity demand for cooling is likely to increase, while demand for heating will likely decrease.
- Heatwaves could increase the likelihood of electrical shortages, leading to brown and blackouts.
- Road repair and maintenance will increase due to more frequent freeze/thaw cycles.
- Fire, police, and emergency calls will likely increase due to weather-related events.

## ENGAGING CITY DEPARTMENTS

The huge investment in engaging leaders outside of city government was a key strategy that helped forge broad-based public support for the CAP. In retrospect, Johnston wishes that he and other leaders of the process had invested as much in engaging the upper echelons of agency management within government. He offers an example of a missed opportunity: As part of the work to quantify the costs of adapting city infrastructure and operations to changing climate patterns, the city's consultants requested meetings with all the key departments. Mid-level staffers were usually sent to those meetings. Often, they found it difficult to provide informed feedback about what their department would likely do to respond to climate impacts, and the questions that those meetings raised did not percolate up to senior management.

School Board staff, for example, were briefed on the number of days of extreme heat that might occur during late spring and early fall months. Since they lacked the understanding and authority to anticipate the policy changes that would be triggered by such extreme heat and its risks for school-aged children, they suggested that the School Board was unlikely to add air conditioning to its schools. This resulted in what Johnston understands to be a major underestimation of the costs of adapting to extreme heat in Chicago's city facilities.

Johnston believes more dialogue with the School Board itself, and senior managers across the city, would have resulted in better analysis of what climate impacts would mean for city operations. "We did so much work with our external partners, and we had very high-level people from the unions and businesses and other organizations," he said. "With our commissioners, we mostly updated them once in a while. In retrospect, it would have been helpful to have a high-level internal steering committee, or at least embed some of our Commissioners in the Task Force, to get them more deeply engaged in shaping the work."

## GETTING TO A FINAL CAP

When Johnston thought the CAP was ready, he took it to the city's press office and to senior departmental leaders to get a sign-off on the document's key recommendations. But instead of getting approval, Johnston encountered resistance. DOE worked through multiple re-writes, but nothing seemed to be working. "I was banging my head against the wall," recounted Johnston. "There were subtle things happening that I just didn't pick up on."

It took a full six months for Johnston to get all the approvals he needed. He attributes his success to two things. First, his position within city government had changed. He was

now the Chicago's Chief Environmental Officer, reporting directly to Mayor Daley. Occupying a high-level position in the Mayor's office gave Johnston an ability to move the document through a complex city bureaucracy.

**“Many of us folks who are passionate about the environment have a tendency to want to jump on a soapbox. But we had to start talking about what going green represents for the City. We had to talk about jobs... and the money we would save from implementing the strategies.”**

*– Sadhu Johnston, Former Commissioner,  
Chicago Department of Environment*

Johnston also realized that the resistance he was encountering was less about the CAP's content, and more about its overall framing and tone. At the foundation of the document was a vivid picture of how Chicago could be affected by shifting climate patterns. Summers would be much hotter, approximating the current weather patterns in Mobile, Alabama. There would be more intense storms, droughts, and larger snow events. What Johnston finally realized was that the stark description of risks facing the city was "scaring" city managers, and the only way to build positive support for the CAP within the city was to change the tone.

"Many of us folks that are passionate about the environment have a tendency to want to jump on a soapbox and scream and shout about everything we need to be worried about," explained Johnson. "But we had to tone down that 'city is going to hell in a hand basket' approach, and start talking about what going green represents for the city. We had to talk about the jobs pieces of it, and the money we would save from implementing the strategies, and the ways in which acting would protect our residents and improve their quality of life."

## LEADING BY EXAMPLE

Chicago's Climate Action CAP is only four years old, but major initiatives recommended in the CAP are already completed or well underway, including a large scale building retrofit program, an update to the city's energy code, a new strategy for increasing the use of renewable energy sources and a nationally known green jobs training program. Daley's mantra that the city must "lead by example" helped create this forward momentum.

"Whether it is building more energy efficient facilities, or greening a fleet, or putting green roofs on buildings, Daley always said that if the city doesn't do it, no one else will," said Durnbaugh. "He insisted that we needed to clean up



Photo credit: Joe Wolf, <http://www.flickr.com/photos/11438926@N00/5759024404>

In 2001, a 1,886 square meters (20,300 square-foot) green roof was installed atop Chicago's City Hall as part of the Urban Heat Island Initiative. When compared to an adjacent normal roof, City Hall's green roof was nearly 100 degrees cooler, and contributed to \$5,000 in annual energy cost reduction.

our own house before asking others to clean up theirs.” Leading by example creates moral authority that the city can draw on when it asks its leading nonprofit organizations, businesses and civic organizations to get directly involved in implementation. It also can help to drive the transformation of markets.

Durnbaugh offers Chicago's work to promote green infrastructure as an example. The CAP recommended the expansion of green roofs and other green infrastructure throughout the city. “We knew we couldn't go out and change our policies immediately,” explained Durnbaugh. “We had to build the market up, and grow the number of vendors. So we found some money and announced that we were going to build our first green roof.”

Once the city had demonstrated that green roofs could work – both to ameliorate the urban heat island affect, and to reduce the energy needed to run cooling systems and pump water – it began offering incentives for private developers to do the same (for example, increases in the allowable “floor area” in a new development in exchange for the installation of green infrastructure).

When the city convened a Green Ribbon Committee of national and local leaders (many of whom had served on the Climate Task Force) to help monitor and guide the implementation of the new climate CAP, it signaled accountability for its commitments. Simmons points out that the group has no formal authority, but because it includes many powerful and respected community leaders, it can push effectively for acceleration of effort in areas of the CAP that are languishing.

“Someone working for the Mayor would have a hard time going to him and saying things are not going well,” she said. “But having this group is good for the Mayor. Some of the people who are valued most by political leaders are those who are willing to offer constructive criticism.”

## LESSONS LEARNED

*Nonprofit partnerships can be a fulcrum for effective climate planning.* It may be startling to hear that Sadhu Johnston launched Chicago's process with only \$50,000 and “not much of a grand plan.” He and others in DOE saw the wisdom of inviting a philanthropic organization with deep roots in Chicago to help shape and support the process. That openness to nonprofit partnership – and the vision that emerged from it – ultimately enabled the city to leverage millions of dollars in funding from inspired foundations, as well as expert assistance from well-respected universities and firms. While the landscape of organizations varies from city to city, Chicago's experience demonstrates what strategic partnerships with community-based organizations and business leaders can accomplish.

*Start by asking: ‘How will climate change affect our city?’* The City of Chicago's decision to ground its plan in an exploration of local climate impacts catalyzed a new way of thinking. For city managers who were skeptical about the need to invest in climate planning, it made an unassailable case for the costs and risks of inaction. For community leaders, it motivated deep involvement in the process of figuring out what Chicago residents should be asked to do. Durnbaugh urges cities to remember that looking at climate impacts is no

different than looking at any other external factor that drives city planning, whether it's fire risks or storms or population trends. Sustainability leaders can begin changing their cities' resilience to climate change just by inviting key city managers and stakeholders to ask: how will climate change affect us here?

*Credible science makes climate change real for city government and residents.* Chicago completed a set of scientific and engineering studies that were ambitious and comprehensive by any standard. That pursuit of excellence was possible because generous Chicago-based foundations aspired to create a model metro-scale climate plan. The plan's architects emphasize, however, that high quality and credible climate plans can be forged with much less investigation, by drawing on good existing data, and if necessary and possible, funding some modest investigations to fill gaps in understanding. Scientific information about impacts, especially when it is gathered or developed in close consultation with its ultimate consumers, can provide a powerful impetus to action.

*Invest in internal outreach.* The city convened a Task Force of business, civic and nonprofit organizations, and made integrating the group into all the steps of its climate planning one of its highest priorities. Since the plan was about what both the city government and its residents should do to address and prepare for climate change, it was essential to build the community's understanding, and invite their input, from the beginning. However, efforts to build the understanding of city department heads and senior staff were launched much later in the process, causing a missed opportunity to engage them in specifying what the city should do and what it would cost. While challenging, it's important to find ways of balancing internal and external outreach, so that neither is neglected. It's also important to build buy-in at multiple levels of government – local, city, county and state.

*Give people reasons for optimism.* Looking at how climate change might affect day to day life in a city can tax the hopefulness of even the most optimistic sustainability practitioner. Johnston learned the hard way, after trying for months to get a sign-off on Chicago's plan, that too much focus on the risks resulting from shifting climate patterns can erode the political motivation to commit to bold new actions. A plan can present risks honestly, and still describe the many benefits that will accrue to city residents and government agencies from being on the leading edge of climate mitigation and adaptation, including green economic development, and job growth.

*Choose near and long term goals, and take early steps to model commitment.* Chicago signaled its commitment to its plan when it adopted two goals for reducing greenhouse gas emissions – one for 2020, and one for 2050. Having a goal twelve years out from the release of the plan helped spur the city bureaucracy and the community at large to begin implementing the plan's many recommendations right away, without forcing accountability for quantifiable progress too soon. Continuing a long tradition of Mayor Daley's administration, the city has galvanized significant progress – especially in the retrofitting of old inefficient buildings and the increasing use of green roofs, street trees and other green infrastructure – by doing its own model projects.

*Thanks to Sadhu Johnston, Aaron Durnbaugh, Olivia Cohn, Don Wuebbles, and Adele Simmons.*

*Case study written by Sarah McKearnan, Consultant to the Institute for Sustainable Communities, and updated by Michael Crowley, Senior Program Officer, Institute for Sustainable Communities.*

## FOR MORE INFORMATION

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# Saving Coastal Louisiana

COMMUNITY-DRIVEN EFFORTS TO INTEGRATE COASTAL RESTORATION AND ECONOMIC RECOVERY



Photo Credit: Jim Mullhaupt  
Sunset over the Mississippi River Delta

The Mississippi River is the largest river in the United States, stretching 4,072 km (2,530 miles) from northern Minnesota to the Gulf of Mexico. Its basin covers all or parts of 31 U.S. states and 2 Canadian provinces: an area over 3.1 million square km (1.2 million square miles) in size. For the last 5,000 years, sediments collected from this basin have been deposited in the Mississippi Delta, resulting in a highly nutrient-rich coastal wetland environment that defines the social, political, and economic life of coastal Louisiana.

Today, the Mississippi River Delta is the seventh largest deltaic region in the world. It contains over 40 percent of all coastal wetlands in the U.S. (about 1.2 million hectares or 3 million acres), produces 16 percent of the U.S. commercial fish harvest, and hosts over five million migratory birds annually. At the same time, the region also accounts for over one third of all oil and gas production in the U.S. and over 40 percent of total U.S. petroleum refining capacity.<sup>1</sup> The ports along the Gulf Coast account for about 20 percent of all waterborne commerce.

Over the last 80 years, due to a combination of land subsidence and sea-level rise, coastal Louisiana has lost 25 percent of its land mass: the equivalent of over 485,000 hectares or 1.2 million acres, roughly the size of the state of Delaware. Between 1985 and 2010, land loss reached its height, with over 4,249 hectares (10,500 acres) lost per year, or the equivalent to one U.S. football field per hour. At this rate, it's projected that in the next 50 years the region could lose an additional 182,000 hectares (450,000 acres).

This case study discusses some of the main human and environmental factors leading to land loss in coastal Louisiana, and provides a "behind the scenes" look at the state's efforts to reverse the trend through the development of a coastal master plan. It also examines some of the community-based initiatives to adapt to this changing coastline, including the efforts of one nonprofit to help communities develop and implement new, adaptation-based planning guidelines.

## CHANGING THE LANDSCAPE OF THE MISSISSIPPI RIVER DELTA

New Orleans, Louisiana is the urban center of the Delta. Built on a natural ridge of high land on the Mississippi river, the port city was founded to serve water-borne commerce between the Mississippi river and the Gulf of Mexico.

Surrounded on all sides by water – Lake Pontchartrain to the north and wetlands to the east, west, and south – New Orleans has always been susceptible to natural hazards, including

mosquito-borne illnesses, flooding, and hurricanes. Since its founding, city officials have sought to mitigate these hazards by altering the landscape surrounding the city.

For example, wetland mosquitoes carrying yellow fever caused several epidemics between 1817 and 1905 that resulted in the deaths of over 40,000 people. To eradicate the disease, city officials drained the wetlands surrounding the city, and destroyed much of the mosquito habitat. This action also created new, dry lands on the outskirts of the city, which were used to expand urban development. As the





population grew, so did new demands to drain and develop more lands. Eventually, development occurred as far north as the lowland wetlands near Lake Pontchartrain, 16 km (10 miles) north of the city.

At the same time, levees were built to prevent the natural, periodic flooding of the Mississippi River. The largest levees were constructed in response to the Great Mississippi Flood of 1927, a disaster that broke the existing levee system in over 145 places, and inundated over 70,000 square km (27,000 square miles) over four states.<sup>2</sup> To prevent future flooding events of this scale, the U.S. Congress passed the Flood Control Act of 1928, which authorized the Army Corps of Engineers to construct a significantly stronger levee system. As a result, today there are over 3,200 km (2,000 miles) of levees and 24 dams along the Delta – a system that fundamentally constrains the natural flow of the Mississippi River.

Perhaps the most dramatic change to the Mississippi occurred with the construction of the “Old Control Structure” floodgate system in the 1920s. This system diverted 30 percent of the Mississippi River into the Atchafalaya River, and along with it, significant volumes of sediment from the Delta. In fact, while the Mississippi Delta is losing land, the Atchafalaya Delta’s land has been growing.

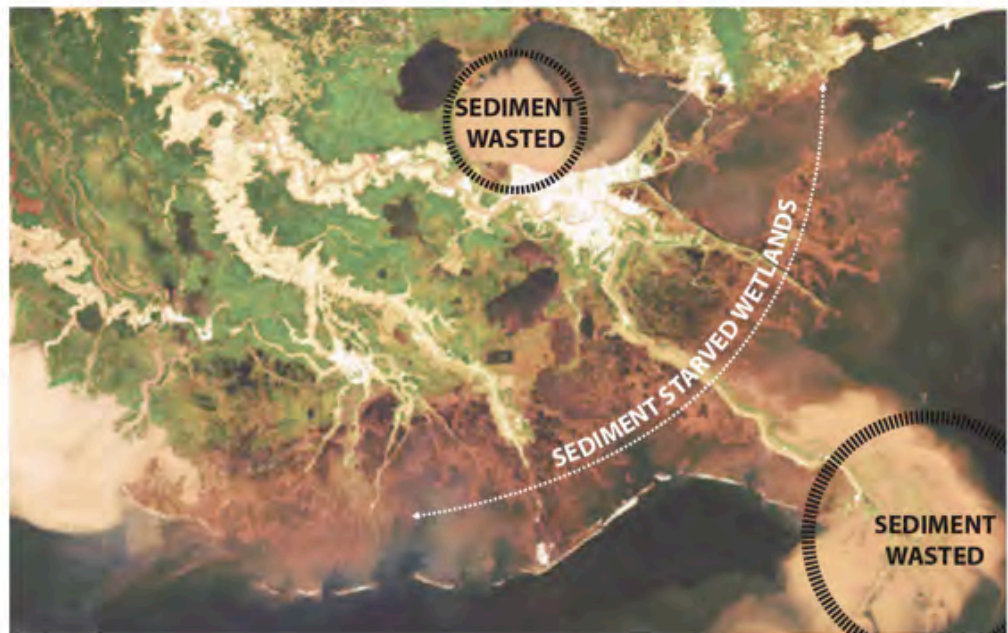
Resource extraction has also created pressures to alter the region’s ecosystems. In the 1930s, cypress trees in coastal swamps were heavily logged, resulting in saltwater intrusion and eventual loss of freshwater forest swamps.<sup>3</sup>

In the search for oil and gas, and the need for better navigation through the wetlands, the region’s petroleum and port industries dredged over 12,875 km (8,000 miles) of canals through the wetlands.<sup>4</sup> This practice depleted large areas of saltwater marshes and inundated freshwater marshes with salt water. The Mississippi River Gulf Outlet (MRGO) canal is the best known example of dredging. Built in the 1960s, it destroyed over 9,300 hectares (23,000 acres) of wetland. It has since grown to 2.5 times its original size and costs \$7.6 million each year to maintain.

#### NEW RISK LANDSCAPES

Over thousands of years, new coastal lands in Louisiana were created by sediment deposits gathered from the Mississippi River basin. As these sediments accumulated, they would sink slowly under their own weight: a process called subsidence. New land was sustained only when sediments accumulated at a rate faster than subsidence occurred.

► **Figure 7**  
The high water event of 2011 brought massive amounts of sediment to coastal Louisiana. Unfortunately, much of this sediment was not delivered to the sediment starved wetlands but instead was shunted into open water, including the deep gulf. The 2012 Coastal Master Plan will allow us to capture sediment and rebuild the wetlands of south Louisiana.



When the Mississippi met ocean tides in the Gulf of Mexico, it forced the spread of sediment over a wide alluvial plain. Occasionally this process would cause the river to overflow its banks, and every thousand years or so would change the direction of the river. Over the last five thousand years, the Mississippi has altered its course at least six times.

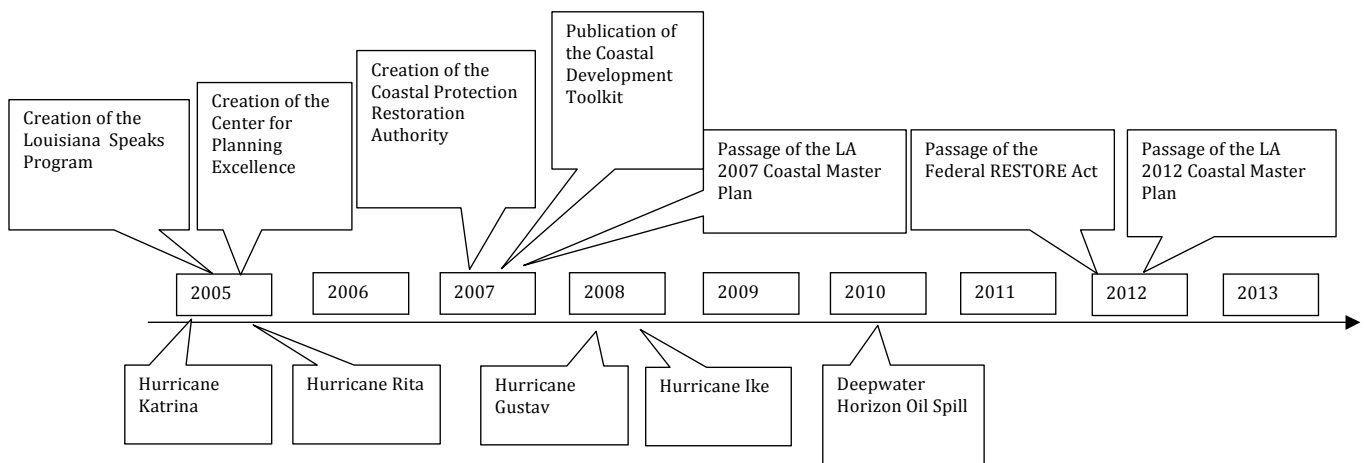
The construction of dikes and the draining of wetlands significantly altered this dynamic. Now, the Mississippi is channeled directly to open waters in the Gulf, forcing much of its sediments out to sea. This process starved the coastal wetlands of new sediments, and resulted in loss of land.

Today, coastal Louisiana is at greater risk from storm surges because of the loss of wetlands and barrier islands. The situation is worsened by climate change. Globally, seas are expected to anywhere between 38.1 cm to 1.2 meters (1.25 to four feet). Even under a moderate rise projection of 61 cm (2 feet), sediment loads would not be sufficient to prevent major future land loss.<sup>5</sup>

for Planning Excellence, worked for the Federal Emergency Management Agency (FEMA) during the recovery after Katrina and Rita. She saw first-hand the devastation caused by the hurricanes and witnessed a marked change in people's understanding of the importance of natural buffers. "Katrina and Rita really exposed the vulnerability and woke people up," she said. "We are people that have lived with hurricanes and tropical storms, but it revealed just how detrimental the coastline had become in terms of not having solid land to mitigate the intensity or the effects of a hurricane."

## LEVERAGING THE LOUISIANA COASTAL MASTER PLAN

One of the earliest large-scale efforts to reverse land loss was the Federal 1990 Wetlands Planning, Protection, and Restoration Act (CWPPRA). This Act has provided about \$50 million per year from the National Government to coastal Louisiana for coastal restoration projects. To date, CWPPRA funding has resulted in 151 completed projects that have benefited 44,515 hectares (110,000 acres).



These risks were realized in August 2005, when Hurricane Katrina made landfall about 97 km (60 miles) south of New Orleans. A category 3 hurricane, it had sustained winds of 201 km (125 miles) per hour, claimed the lives of over 1,800 people, and caused over US \$100 billion in damage across the Gulf Coast. The storm caused the sea walls surrounding New Orleans to break, which inundated over 80 percent of the city. Less than a month later, Hurricane Rita hit landfall near Texas, killing over 100 people and causing an additional \$12 billion in damage. Hurricanes Gustav and Ike followed in 2008, claiming the lives of over 300 people and causing over \$43 billion in damage.

Camille Manning-Broome, a Louisiana native, and Director of Planning for the Louisiana-based nonprofit group, Center

While CWPPRA was a step in the right direction, the state recognized that it was not enough to stop the majority of land loss along the coast due to subsidence and sea-level rise. So, to supplement CWPPRA, in 1998 the state produced a coastal restoration master plan called Coast 2050.<sup>6</sup> This plan outlined key strategies and measures meant to restore fully the state's wetlands and barrier islands. Developed over a period of 18 months, the plan's authors made a comprehensive effort to include the voices, ideas and values of communities along the coast – over 65 public meetings were held in different communities along the coast to gather input. The result was a call for bold new measures, including reinstatement of water flow from the Mississippi to freshwater marshes, and restoration measures to control saltwater intrusion. In total, the projects in the plan were estimated at US \$14 billion: a



Photo credit: [http://upload.wikimedia.org/wikipedia/commons/3/3d/KatrinaNewOrleansFlooded\\_edit2.jpg](http://upload.wikimedia.org/wikipedia/commons/3/3d/KatrinaNewOrleansFlooded_edit2.jpg)

Flooding from Hurricane Katrina, New Orleans, LA

price deemed too high by the U.S. Congress. Without Federal support, the state could not secure the necessary funds for implementation.

In response to hurricanes Katrina (2005), Rita (2005), Gustav (2008), and Ike (2008), the state renewed its focus on coastal protection and created the Coastal Protection and Restoration Authority (CRRRA). CRRRA combined levee protection with coastal preservation for the first time. Its first action was to create mechanisms to establish a new 2007 Coastal Master Plan. The initiative called for subsequent master plan iterations every five years from that date, along with annual work plans in between. Concurrently, the state passed the Gulf of Mexico Energy Security Act of 2006 (GOMESA), which dedicated a portion of the revenue from oil and gas leases to coastal restoration efforts.

Doug Meffert, Executive Director of the National Audubon Society for Louisiana, claims these policy decisions marked a turning point in Louisiana's coastal restoration efforts. "The sad fact of the matter for coastal Louisiana is that it was Hurricane Katrina that was the big disaster that got these two things in motion," he said.

The 2007 Coastal Master Plan picked up where the Coastal 2050 plan left off, and added special emphasis on the importance of coastal ecosystems as storm buffers. Yet

the plan stopped short of prioritizing specific restoration projects and investments. Without an implementation plan, regional parish governments who wished to fund large-scale restoration projects needed to apply annually to CRRRA. The process lacked a clear protocol, and no overall need-based criteria was established to help parishes understand whether their project would be supported.

Manning-Broome was a consultant for the development of the 2007 Coastal Master Plan. She noted that while it was a step in the right direction, its outcome seemed to be shaped more by politics than science. "We would create very sound methodologies and evaluations and come up with modeling to figure out where protection and restoration efforts needed to occur, but then it would all be put in the back door and politics would determine the final outcome," she said.

In 2012, the state began work on next iteration of the master plan. To avoid the political pitfalls of the 2007 plan, CRRRA established a Framework Development Team (FDT) to promote the interests of different state agencies as well as academic, private, and nonprofit institutions. Doug Meffert was on the FDT and found it be effective in its mission. "When you have a diverse group of people on a development team, even if they don't agree on every point, you end up with a cohesive plan where all of those groups have some buy-in," he said. The participatory and inclusive multi-sectoral approach of the FDT enabled the CRRRA to more successfully utilize scientific modeling to identify, prioritize, and endorse specific restoration projects. The result was 109 "high-performing projects" – at a price tag of \$50 billion – that together were expected to stop the majority of coastal land loss over a 50-year period. For the first time, Louisiana had a list of coastal projects officially endorsed by the state, with broad public participation and driven by sound scientific study. The outcome "jumped leaps and bounds in terms of what was able to be done in the first plan," according to Manning-Broome.

With the adoption of the plan, the state also took the important step of evaluating which areas of the coastline would be too costly to save. Coastal modeling was used to evaluate whether restoration efforts would result in a minimum of 100 years of flood protection. About three percent of households were found to be below the 100 year threshold, and thus outside the scope of the master plan. According to Meffert, drawing this line was driven by the realities of what the state could afford to protect. "For years Congress was telling our delegation that Louisiana had to paint a realistic picture of what could be realistically saved and what couldn't," he said. Previous plans failed to do that, and at the same time failed to include information about subsidence and sea-level rise. "It just wasn't there," said Meffert. "But it is now."

## BEHIND THE SCENES

In April 2010, during the development of the 2012 Coastal Master Plan, Louisiana experienced the worst marine oil spill in the nation's history. An explosion on the Deepwater Horizon Oil ocean drilling platform killed 11 workers and sent an estimated 4.9 million barrels of crude oil into the Gulf of Mexico. The event crippled the economy of the region, destroyed commercial fishing operations, provoked a drilling moratorium, and resulted in significant damage to the region's tourism industry. All told, the spill resulted in the loss of roughly 22,000 jobs and at least \$8.7 billion in fishery losses.<sup>7</sup>

Several fines and lawsuits targeted at responsible parties have been ongoing since the disaster. The most significant fines are expected from the Federal Clean Water Act (CWA), key legislation meant to protect the country's waterways. Fine estimates under the CWA range from \$5 to \$25 billion, the largest ever seen in the United States. Often CWA fines are collected and held by the federal government without any guarantees that the money will be directed at the most impacted communities. The fine from the Deepwater Horizon oil spill is expected to be different. In July 2012, President Barack Obama signed a unique piece of legislation called the RESTORE Act, which mandates that 80 percent of the CWA fines would be allocated to Gulf Coast communities most affected by the spill.

The RESTORE Act requires that for states to receive CWA fines they must have in place a master plan that identifies projects that will help restore ecosystems damaged by the spill. The 2012 Coastal Master Plan was signed just weeks before the RESTORE Act was passed into law, and effectively secured the projects that would be implemented when the state received the money.

According to Meffert, a great deal of work was done behind the scenes to align the master plan with the RESTORE Act. The Louisiana Audubon teamed up with other NGOs in the region, including the Environmental Defense Fund, the National Wildlife Federation, the Lake Pontchartrain Foundation and others, on a three-pronged strategy to: 1) help develop a scientifically-sound coastal master plan; 2) convince the state to commit its RESTORE dollars toward the master plan, and; 3) ensure that the RESTORE Act allowed states to use existing master plans to prioritize funding. "We had to work it at all three angles to ensure that the dollars went to the most affected communities and affected habitats," said Meffert.

A key component of this strategy was to demonstrate to Congress that if they passed the RESTORE Act, the fines would go toward restoration, not unrelated projects – such as casinos.



BP / Deepwater Horizon Oil Spill



Photo credit: Kris Krug, <http://www.flickr.com/photos/kk/4712529482/>

Southern Louisiana marshlands

Meffert and his consortium of NGOs conducted two surveys – one national, and one state-wide – to provide evidence that the public endorsed the master plan and the RESTORE Act. At the national level they conducted polling to gauge support for the RESTORE Act. Overwhelmingly, the results showed widespread backing, regardless of respondents' political views or whether or not they lived in coastal communities. This data was shared with members of Congress, and according to Meffert, was instrumental in making the case for RESTORE.

The state-wide poll was designed to complement the national poll. Administered to coastal and non-coastal communities, it asked three questions: 1) Do you think coastal wetlands are an important part of the state?; 2) Do you think coastal wetland loss is a high priority for the state?; and 3) Would you support legislation that would allow dollars from RESTORE to be dedicated toward coastal restoration? The results of the poll showed widespread concern for coastal wetlands and support for directing RESTORE to coastal restoration. Not surprisingly, 99 percent of coastal zone residents responded favorably to all three poll questions. What surprised Meffert was that 90 percent of non-coastal zone residents also responded favorably. "When the state was considering passage of the master plan it wasn't unusual to hear concerns from the state legislature that 'the coast is getting everything and the north is not,'" said Meffert. But the results of the polls demonstrated that public opinion did not share that concern. This was critical to what ended up being the unanimous passage of the plan. "To have unanimous passage of anything is quite phenomenal. That was definitely the result of NGO behind the scenes work."

## WORKING WITH COMMUNITIES ON THE GROUND

With the passage of the RESTORE Act and the 2012 Coastal Master Plan, Louisiana is well positioned to reverse the damage done to its coastline. Yet to be successful, many at the state and federal level realized that these larger efforts needed to be paired with activities at the local level.

This need was largely realized in 2005, when Katrina recovery efforts began. FEMA and other relief organizations found that many communities lacked formal documentation describing basic infrastructure such as storm water and power systems. This slowed recovery efforts significantly, requiring in many cases the creation of new documentation and maps made from scratch. Manning-Broome, who was part of the initial recovery effort, attributes the lack of documentation to cultural norms along the coast that value local knowledge over formal planning. "They are quite knowledgeable in terms of being able to harvest crops and use the land wisely at different seasonal times," she said. "They were able to watch where flooding occurred and to build in certain ways. It had never been a formal process and it wasn't part of the way the government structure worked."

In 2005, the state developed an ambitious program, dubbed "Louisiana Speaks," to help 20 southern Louisiana communities establish long-term zoning and comprehensive plans.

Prior to this effort, the state had never engaged in any consolidated regional planning process, and many communities were learning about local planning for the first time. To help build that capacity in the state, the Center for Planning Excellence (CPEX) was created.

The Louisiana Speaks initiative found that one of the main impediments to local economic recovery was the lack of clear land use regulations. Developers required a clearer, longer-term picture of development goals in the region to plan their investments. In response, CPEX created a land use toolkit with model codes that could be adopted by parishes. “The issue was that we have these communities with little to no zoning and they weren’t going to be able to hire consultants to draft zoning codes and subdivision regulations from scratch,” said Manning-Broome. “And so we put together some blanket codes that they can tailor to fit their comprehensive plans.”

As CPEX was putting together the toolkit, they hosted a series of focus groups and conducted interviews with officials from impacted communities. They found that the needs of coastal communities were far more complex than non-coastal communities impacted by the hurricane. “They were dealing with a lot of natural systems and stormwater, drainage, and risk issues,” recalled Manning-Broome. “We did not have anyone on our team – in our code-writing team – who could deliver those tools, and we didn’t have the money to do that either.” In 2007, CPEX received funding from the state to develop a new document called Best Practices Manual for Development in Coastal Louisiana and a companion book of model codes designed specifically for coastal communities. They assembled a large advisory committee consisting of representatives from environmental nonprofits, state and local government, community groups, and fishermen, and hosted focus groups with communities across the coast. To test ideas in the manual, they worked directly with two coastal parishes to experiment with different planning approaches.

The Best Practices Manual took an innovative approach to planning along the coast. It identified six unique land formations, or “geotypes” located in the coast. The geotypes are defined by three key factors: 1) the natural environment of the area, including factors such as water management practices; 2) the cultural identity in each area, including characteristics such as recreation and activities; and 3) both traditional and contemporary development patterns that exist in the area, including housing and economic industries. Development and zoning strategies are suggested for each geotype – each designed to better connect and make more resilient, human and environmental systems.

The geotypes were developed in consultation with coastal communities. “When we started looking at water bodies, we realized that there was a strong connection to the economic industry and way of life of communities, depending on what type of water they had access to, whether it be fresh, brackish, saline, and so forth,” said Manning-Broome. “We started trying out different groupings and vetting them with the committee and different community members.”

While the Best Practices Manual was developed in close consultation with communities, Manning-Broome admits that there is still work to be done to develop a stronger culture around planning. A key driver to adopting better planning practices is a better understanding of risk. “I think that if people had a better understanding of what they were dealing with they would be more prone to making some difficult decisions,” she said. “That’s a communications issue between municipalities, parishes, and the state.” Much progress has been made, however. “I believe that the planning components of implementing land management controls will come in time,” she said.

## LESSONS LEARNED

*Understand how historical land use patterns affect new economic, social, and environmental and climate risks.*

Land loss in Louisiana is the result of two hundred years of landscape alteration. The drivers of land use range from public health (eliminating yellow fever carrying mosquitoes by draining wetlands), flood protection (through the creation of levees), and economic development (land reclamation for development, and the creation of water channels for oil and gas exploration and navigation). These changes resulted in significant land loss, which hurt the fishing and tourism industries and exposed the region to increased risk to extreme weather (with the loss of natural storm buffers) and sea-level rise (which together with subsidence has increased the rate of land loss). Leaders in the region directly addressed these land use patterns and offered alternatives that better integrated human and environmental systems.

*Investigate natural disasters to determine systemic risks.*

The hurricanes that impacted Louisiana made evident new systemic risks to climate change. Land loss weakened natural storm protections, and lack of planning in coastal communities made recovery and resilience efforts more difficult. Planners studied the impacts of natural disasters to better understand these risks and lay the groundwork for strategies to minimize them.

*Ground political priorities with scientific research and multi-stakeholder participation.*

The Louisiana Coastal Protection and Restoration Authority adjusted its coastal master planning process to include more diversity of stakeholders. This enabled the planning committee to better utilize scientific research to identify and prioritize coastal restoration projects that will have the most benefit to coastal restoration.

*Be strategic about political positioning.*

Nonprofit organizations were strategic about leveraging the RESTORE Act and the coastal master plan. They used public opinion polling to make the case for coastal protection, and balanced the needs of multiple stakeholders.

*Directly address areas that cannot be protected.*

Coastal land loss in Louisiana is occurring at an alarming rate. Protecting coastal communities requires enormous resources from the state and federal governments. The 2012 Coastal Master Plan was straightforward about which coastal communities could not be supported in land preservation efforts. It backed its position with sound scientific data and detailed cost analyses.

*Understand and build the adaptation capacity of communities on the ground.*

The State of Louisiana recognized that state and federal efforts aren't enough to deal with coastal land loss. It needed to engage local communities in local solutions, and build the capacity for adaptation, resilience, and change. The Louisiana Speaks program empowered local communities to assess their own hazards and risks, and impediments to growth, and develop local solutions through practical zoning and land use regulations.

*Written by Mike Crowley, Institute for Sustainable Communities*

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Photo credit: Deepwater Horizon Response, Petty Officer 3rd Class Patrick Kelley, <http://www.flickr.com/photos/49889869@N07/4632485652/>

Health, Safety and Environment workers place oil containment boom on low areas of the beach that are affected by tides to prevent oil from getting into the nearby marsh when sea levels are at their highest.

## SNAPSHOT

# FROM FORESTS TO FAUCETS

## A PARTNERSHIP BETWEEN DENVER WATER AND THE US FOREST SERVICE

The partnership known as "From Forests to Faucets" between Denver Water and US Forest Service (USFS) is an example of emerging efforts in the US to valorize ecosystem services – in this case, protecting the value provided by forested lands within mountainous catchment basins for the provision of sufficient and quality water for the City and County of Denver. Through this innovative partnership, Denver Water is providing matching funds for the USFS to improve forest health, reduce wildfire

risks, and prevent costly wildfire impacts to the water collection system. This partnership illustrates the linkages between natural systems and the services they provide to metro areas – and offers insight into creative solutions for managing the forest-fire-water supply nexus that will increase in importance in the context of a changing climate regime for the American West.

On June 8, 2002 the largest forest fire in Colorado's history began with an act of arson some 153 km (95 miles) to the southwest of Denver. For the next 20 days, the Hayman Fire burned nearly 56,000 hectares (138,000 acres) causing over \$40 million in firefighting costs and destroying 132 homes. Six fatalities were attributed to the fire. The USFS Hayman Case Study requested by Congressman Udall provided the definitive account of the extraordinary conditions that led to the severity of the fire. Drought conditions that began building in 1998 resulted in the lowest fuel moisture conditions within Front Range forests observed in over 30 years. On the day of the ignition, a low pressure system in the Pacific Northwest drove 324 kph (15 mph) winds out of the southwest with gusts exceeding 48 kph (30 mph). Despite an aggressive early attack by firefighters, the fire front grew dramatically due to the exceedingly dry conditions, the wind, and a dense forest stocked with even-age ponderosa pine and Douglas fir. After surveying the fire in progress from a helicopter, Colorado Governor Bill Owens said, "it looks like all of Colorado is burning today."

“It looks like all of Colorado is burning today.”

- Bill Owens,  
Governor of Colorado

Forests throughout the West are experiencing an increase in bark beetle infestations (mountain pine beetles have affected 1.2 million hectares (3 million acres) of forested land in Colorado alone) and widespread mortality of aspen, both of which have been linked to climate change. As Denver Water notes, "the heart of the [mountain pine beetle] epidemic in Colorado and Wyoming contains the headwaters for rivers that supply water to 13 Western states." Compounding forest management in a warming climate is the legacy of nearly a century of aggressive federal and state fire suppression policy that interrupted historic fire regimes. The result for many forests is greater density of even-age stands, facilitating more frequent mass fire events. The USFS determined that

the site of the Hayman Fire had an average fire interval of 50 years in the nearly six centuries from 1300 to 1880, but no significant fire from 1880 to 2002.

The Hayman Fire and the nearly 4,900 hectare (12,000 acre) Buffalo Creek Fire of 1996 occurred within the watershed that comprises a large portion of the water catchment area for Denver Water, the municipal supplier for more than 1.3 million people in the greater Denver area. Periods of heavy rain flushed more than 764,000 cubic meters (1 million cubic yards) of sediment into nearby Strontia Springs Reservoir despite \$37M in restoration and stabilization projects by the USFS on burned over lands. As a result of these fires,





Denver Water has incurred over \$26M in costs on water quality treatment, sediment and debris removal, reclamation techniques, and infrastructure projects to date.

In August of 2010, Denver Water and the USFS signed a contract creating “From Forests to Faucets” in which Denver Water will provide \$16.5M in funding to match an equal amount provided by the USFS (totaling \$33M). The forest treatment activities are considered a form of “payments for watershed protection” by USFS officials, who have been engaged in similar ecosystem services projects in federally owned forested landscapes in New England. Over the next five years, the Forest Service will administer and oversee a range of restoration activities, including forest thinning and other fuel reduction projects to reduce the risk of catastrophic wildfire on Denver Water’s collection system.

The work will be performed on land owned by the Forest Service in the Upper South Platte River, South Platte River Headwaters, St. Vrain River, Colorado River Headwaters, and Blue River watersheds, which are the primary water supply source areas for Denver Water. According to Denver Water:

“The Denver Water-funded treatments will be focused in specific ‘Zones of Concern’ within these larger watersheds identified through an assessment that analyzed and ranked wildfire hazards, flooding or debris risks, soil erodibility and water uses. This methodology was developed in 2009 in a collaborative effort by Front Range water providers, the United States Forest Service, Colorado State Forest Service, United States Geological Survey, United State Bureau of Land Management, the Colorado Department of Public Health and Environment and the United States Natural Resources Conservation Service. This has become the accepted methodology by all agencies to identify and prioritize ‘at risk’ watersheds for hazard reduction treatments and other watershed protection measures.”

As the largest “payment for watershed protection” effort in the nation, this effort to treat over 15,000 hectares (38,000 acres) of forest over five years is designed to forestall much higher future costs for Denver Water. According to Don Kennedy, Environmental Scientist at Denver Water, and the leading staffer coordinating the partnership efforts, these collection agreements were put together to get work done on the ground to reduce risk. “It’s so much cheaper to do something now as opposed to waiting for something catastrophic to occur.”

But the outcome of these efforts will also increase forest resilience to bark beetle infestations, reduce wildfire risks for communities, and improve habitat for fish and wildlife species. Similar projects are being explored elsewhere around the West, including the Four Forest Restoration Initiative in Arizona as well as early efforts in New Mexico, and other parts of Colorado.

Innovative partnerships that yield unconventional funding strategies are critical for addressing community-scale climate resilience concerns in a time of increasingly scarce public sector funds. Kennedy advises practitioners looking to

replicate this partnership to seek out partners which overlap on areas of concern in the landscape to build robust collection agreements. This project also demonstrates the benefits of “systems thinking” in addressing resilience challenges. The cost, quality and reliability of Metro Denver’s water supply is in large measure determined by the conditions of forests over 161 km (100 miles) away from the city. By considering preventative measures, Denver Water and the Forest Service are reducing the risk that Denver Water’s customers will face expensive future outlays should the perfect conditions for mass fire arise as they did on June 8, 2002.

*Written by Steve Adams, Institute for Sustainable Communities; updated by Nathaly Agosto Filión, Institute for Sustainable Communities.*

**Innovative partnerships that yield unconventional funding strategies are critical for addressing community-scale climate resilience concerns in a time of increasingly scarce public sector funds.**

## FOR MORE INFORMATION

Denver Water’s From Forest to Faucet website:  
<http://www.denverwater.org/SupplyPlanning/WaterSupply/PartnershipUSFS/>

Hayman Fire Case Study, Russell T. Graham, 2003. Rocky Mountain Research Station publication RMRS-GTR-114:  
[http://www.fs.fed.us/rm/pubs/rmrs\\_gtr114.html](http://www.fs.fed.us/rm/pubs/rmrs_gtr114.html)

## Create More Sustainable and Resilient Communities

Cities and counties across the country have found that implementing smart growth strategies can help create communities that are more sustainable and resilient overall. In Sarasota County, Florida; Santa Monica, California; and Kansas City, Missouri, clear goals have been adopted for addressing climate change and reducing GHG emissions.

**Sustainable Community Planning in Sarasota County, Florida** Sarasota County has a long history of addressing its environmental, economic, and social challenges with consideration for how policies to address these issues will affect future generations.<sup>39</sup> Although the county began developing a climate action plan in 2008, it addressed the issue two years earlier in its “Roadmap to Sustainability.” The roadmap, which was presented to the Board of County Commissioners in 2006, is a guiding document that outlines a way of thinking about growth management that has evolved over many years.<sup>40</sup> It notes Sarasota’s decision to adopt the Architecture 2030 Challenge, which is built around the goal of achieving carbon neutrality for county operations by 2030.<sup>41</sup> In recognition of the priority its citizens’ place on protecting the



Photo courtesy of Sarasota County

**Sarasota County began developing a county-wide climate action plan in 2008, following its “Roadmap to Sustainability,” which was adopted by the Board of County Commissioners in 2006.**

area’s natural systems, the county has also developed a 2050 plan to guide its growth through midcentury with a focus on managing sprawl and habitat corridors. The plan proposes the development of “2050 Villages”—compact developments designed to preserve open space and reduce driving—as well as an initiative emphasizing strong transit connections and TOD.

The 2030 commitment to becoming carbon neutral provides some insight into the county’s approach to planning. As staff members began examining what it would take to succeed on that challenge, they quickly realized that land use and community design were every bit as critical to carbon neutrality as energy use in public buildings. In just one example of how that realization translated into a different way of thinking about policy, county staff members looked at the amount of driving that residents were doing and saw that it was largely predetermined by the pattern of development. The task of reducing VMT became not



**Sarasota County’s sustainability plan covers a wide range of measures, including green building, water and energy conservation, and sprawl management. The county also encourages residents to follow green practices has begun recognizing green businesses through its Green Business Partnership Program.**

Photo courtesy of Sarasota County

just an issue of housing demand but also a matter of housing need: where does the county need to locate housing and what form does the housing need to take?

In recent years, Sarasota has begun to study affordable housing, which has traditionally been focused on the housing stock and not the location. Currently, little of the county's affordable housing is located near where people work or run errands. As a result, people have to drive to get to these destinations, and as the county's affordable housing stock has increased, so too have VMT. As with its shift from examining housing demand to considering housing needs, the county came to see the value of shifting away from affordable housing and toward the concept of affordable living, ensuring that affordable housing is located within walking distance of jobs, basic services, and transit.

Sarasota County has engaged in numerous sustainability efforts that are relevant to climate planning, including the promotion of green building standards, water conservation, energy management and outreach, and landscaping with native plants that need less water and fertilizer. The county also promotes green living among its residents as a way to save money, and has developed its Green Business Partnership to certify businesses that follow sustainable practices.<sup>42</sup> Certification brings these businesses a marketing edge with consumers who want to support environmentally friendly practices and products. By implementing the program's energy and water conservation measures and waste reduction practices, they also save money.

### **Sustainable City Planning in Santa Monica, California**

Like Sarasota County, the city of Santa Monica has long anchored its growth management practices in sustainability. The city first inventoried its GHG emissions in 1990 and adopted the Santa Monica Sustainable City Program in 1994. Today the city is pursuing sustainability with diverse initiatives targeting everything from housing and transportation to economic development and community education.<sup>43</sup> Many of these efforts, including green building requirements that apply to all commercial construction, major renovation projects, and multifamily housing projects with more than three units, aim to reduce emissions.<sup>44</sup>

Since the early to mid-1990s, Santa Monica has been working to reduce emissions with the use of renewable energy and alternative fuel vehicles, as well as with strategies to minimize the amount of solid waste going to landfills. In terms of land use, the city emphasizes mixed-use development in its downtown and in areas along transit corridors. It has also tapped into economic development opportunities, teaming up with the chamber of commerce to promote the community as a "green destination" with certified green hotels and a reliance on solar energy, among other green features. And the city is working to engage local businesses in these efforts through its Green Business Certification and Sustainable Works Business Greening programs, which promote and recognize sustainable business practices.<sup>45</sup>



**The city of Santa Monica has taken a multi-faceted approach to reducing its GHG emissions. Measures include using alternative fuel vehicles, emphasizing mixed-use development, and adopting green building requirements. The green building requirements promote the use of renewable energy, such as the photovoltaic cells shown here.**

Photo courtesy of the city of Santa Monica

Santa Monica puts a lot of emphasis on evaluating and reporting its progress in achieving its sustainability goals. In a fifteen-month update of its sustainability efforts that reflected broad public input and culminated with the city council’s adoption of the Santa Monica Sustainable City Plan in February 2003, the city presented a series of updated goals, along with indicators and targets by which it would measure the effectiveness of actions taken to reach these goals. Every year, the city council gets a report on these indicators, which include GHG emissions and VMT, as well as other measures related to climate change, including waste recycled or composted and tree cover. The results are also summarized in a “Sustainable City Report Card,” which is intended to give community members a reference guide to the city’s progress and has proven to be a valuable tool for educating and engaging residents.<sup>46</sup> Using these community data, the city adopted ambitious emission reduction targets in 2006—30 percent below 1990 levels for city operations by 2015, and a 15 percent reduction for the community overall.

Through its two decades of sustainability planning, Santa Monica has learned that there is a strong fiscal case to be made for most of what local governments are trying to accomplish on climate action. “The majority of the things you’re going to do at the municipal level to address climate change are going to save you money,” Dean Kubani, the city’s environmental programs manager, said. He added that any actions taken to improve energy efficiency, in particular, have “a very short pay-back period.”

**As part of its sustainability efforts, Kansas City has installed bioswales, which help with stormwater management.**



Photo courtesy of the city of Kansas City



Photo courtesy of the city of Kansas City

**Kansas City has a number of new green buildings. The Convention Center Ballroom, shown here, is certified as LEED silver.**

### **Sensible Sustainability and Regional Collaboration in Kansas City, Missouri**

Kansas City has emerged as a leader on climate change in the Midwest. The city adopted a comprehensive climate protection plan in 2008 that includes smart growth-related recommendations for urban forestry, neighborhood food production, and complete streets planning, and has taken the lead in promoting the importance of regional collaboration in climate protection planning.

Kansas City moved quickly to develop a climate change plan after its former mayor, Kay Barnes, signed the U.S. Conference of Mayors Climate Protection Agreement in June 2005. The mayor and city council followed up in August 2006 by adopting a resolution directing City Manager Wayne Cauthen and the city’s chief environmental officer, Dennis Murphey, to initiate a climate protection planning process. The mayor appointed a steering committee representing various community stakeholder groups to address the issue.

In November 2006, the city’s Environmental Management Commission issued a progress report outlining an approach and the recommended components of the plan. The four broad recommendations, which include more than thirty specific measures to reduce emissions, ranging from the development of a stream setback buffer ordinance to the expansion of an existing urban forestry program, received unanimous approval from city council. The report described the development of the climate protection plan as “a work in progress” that would continue even as the city moved on the initial recommendations. The commission had the support of Barnes’s successor, Mayor



Photo courtesy of the city of Kansas City

**Over 100 people participated in the creation of Kansas City's climate protection plan over a period of 18 months.**

Mark Funkhouser, who also signed the mayors climate protection agreement, and of the newly elected council members.

In the first phase of its work, the commission focused on actions that the city could take to address climate practices within municipal operations. In the second phase, it worked to identify measures that would result in community-wide GHG reductions. Smart growth measures, including the implementation of “climate-friendly” land use policies, were prominent among the strategies considered.

The Kansas City Climate Protection Plan, adopted by the mayor and city council (with another unanimous vote) in July 2008, commits the city to reducing community-wide GHG emissions by 30 percent below year-2000 levels by 2020 and aspires to an 80 percent reduction by 2050. It identifies smart growth goals, including efforts to reduce dependence on driving by

increasing public transportation and building homes and workplaces in proximity, as “critical” to climate protection. It also proposes ongoing oversight of the plan’s implementation by a steering committee.

In addition, Kansas City’s climate protection plan recognizes the importance of regional collaboration. Although the city anchors a large metro area spanning western Missouri and eastern Kansas, it accounts for only one-quarter of the metro area’s population and an even smaller share of its total emissions. Thus it has focused on developing regional partnerships to address climate change, including staff members from the regional planning agency in the development of the climate protection plan, and making a point of being responsive to inquiries from other jurisdictions about its climate protection planning.

Other jurisdictions in the metro area have, in turn, have recognized the value of adopting a strategy to become “America’s Green Region.” Nineteen mayors across the area signed the mayors climate protection agreement in 2007, and the Greater Kansas City Chamber of Commerce launched its own climate protection partnership initiative, which encourages metro-area employers to commit to assessing and lowering their GHG emissions. As of spring 2009, more than 160 businesses and organizations representing more than 100,000 employees had joined the partnership, and the chamber is seeing economic benefits from having repositioned Kansas City as a green community that is addressing climate change.

Kansas City is also working collaboratively on Energy Efficiency and Conservation Block Grant (EECBG)-funded projects,<sup>47</sup> partnering with the Mid-America Regional Council and the other EECBG formula grant recipients in the metro area to implement a regional energy framework to reduce energy use and GHG emissions. And it is using its \$4.8 million formula grant to implement several measures in its climate protection plan, including updating its new development code to promote energy-efficient transportation.

*We're well under way in addressing climate protection and incorporating the triple bottom line approach to sustainability (i.e., simultaneously achieving economic vitality, social equity, and environmental quality) into city government operations. And the groundwork has been laid for Kansas City to work with the business community and other governments in the metro area.*

**—Dennis Murphey, chief environmental officer, Kansas City, Missouri**

## Plan for Climate Adaptation

While reducing climate impacts (climate mitigation) is important, cities and counties also need to create plans that will help them adapt to future changes, both locally and regionally. Addressing these changes early will help them withstand the changing climate and is central to community sustainability. Keene, New Hampshire, is one of the national leaders in climate adaptation planning.

**Planning for a Changing Climate in Keene, New Hampshire** Keene, a small city in the southwest corner of New Hampshire, is quietly pushing the leading edge of local government action on climate change. Even before local leaders began to focus on the issue in the late 1990s, smart growth was well ingrained in the city's historical development patterns, with most neighborhoods having been built around the downtown core. Since the late 1990s, the city has inventoried its GHG emissions, set targets for reductions, and developed strategies to achieve those targets, adopting a climate protection plan in early 2004. Keene has also advanced to another phase of climate change action: developing an adaptation action plan aimed at preparing the city for the impacts of a changing climate that



Photo courtesy of David Bergeron

**The frequency and severity of storms is expected to increase with climate change. Whitcomb Mill Road in Keene, New Hampshire was damaged by floodwaters following heavy rains in 2005, providing a sobering view of what Keene can come to expect.**

city leaders say the region is already beginning to see. In adopting a climate adaptation plan, Keene joins a small but growing group of local jurisdictions that is dominated by some of the nation's largest, including



Photo courtesy of Keene Fire Department

**The city of Keene has three round-a-bouts. Innovative traffic management is part of Keene's greenhouse gas emissions reduction strategy as well as part of its traffic calming measures.**

New York, Chicago, and King County, Washington, home of Seattle.

Keene began adaptation planning after being invited by ICLEI to pilot its new Climate Resilient Communities (CRC) program in July 2006. ICLEI's adaptation planning outreach was well timed, coming less than a year after Keene had seen major flooding due to heavy rain in October 2005. The city moved quickly to begin the next phase of climate change planning by convening a CRC committee made up of local elected officials, the city manager, the assistant city manager/health director, the police and fire chiefs, the public works director, and representatives of local colleges and the regional planning commission. The committee spent two days in training with climate scientists to get the latest climate data and predicted impacts for the region. Committee members then went on to assess Keene's vulnerabilities and the possible impacts of climate change.

Keene's city council unanimously approved the new plan, titled *Adapting to Climate Change: Planning a Climate Resilient Community*, in November 2007.<sup>68</sup> The plan contains detailed goals and strategies for adapting to the expected impacts of climate change on the city's built, natural, and social environments. It also highlights a clear consensus that the city needs to do more, suggesting incentives and regulatory changes to encourage smart growth and promote infill development within defined growth boundaries, to increase local food production, to improve storm-water management, and to attract and support environmentally sustainable businesses.

Keene started taking steps to implement the adaptation plan in the spring of 2008, incorporating discussions of climate adaptation goals into a community visioning process that was part of updating



Photo courtesy of Keene Fire Department

**Keene's Annual Pumpkin Festival draws over 80,000 visitors to the city's compact center to view one of the largest gatherings of simultaneously lit jack-o-lanterns in the country.**

the city's comprehensive master plan. That update, which engaged nearly 1,200 community members in small-group discussions, provided an ideal opportunity to get community input on how to integrate climate protection and adaptation planning with other policies that will guide the city's future. The vision statement, adopted in November 2008, includes the city's overarching goal of becoming a carbon-neutral, climate-resilient community, as well as climate change goals related to housing, transportation, and energy use. "It's not just climate change, but overall sustainability," said of Mikaela Engert, the city planner who has coordinated Keene's climate planning efforts, of the themes that emerged in the community visioning discussion. "For planners, it's a unifying issue [integrating the plans]. Climate change puts more weight behind the arguments."

## Adopt Green Building Policies

Because green buildings can be less resource and energy intensive than traditional buildings, green building approaches have been adopted in many cities and counties. In Santa Fe, New Mexico, the city's sustainability plan includes recommendations for green building, development, and zoning.

**City Embraces Sustainability: Santa Fe, New Mexico** The city of Santa Fe adopted its Sustainable Santa Fe Plan in October 2008. While it is a broad sustainability plan that extends to issues beyond climate change, it does focus on climate-related action, particularly green building and development. The Sustainable Santa Fe Plan, which tailors broad sustainability principles to the city's unique conditions and resources, as well as to its history, culture, and values, begins with the goal of looking "to the history and culture of Santa Fe," incorporating such values as the commitment to "distribute the benefits and costs of moving towards sustainability in an equitable way."<sup>61</sup> Like other local governments that have sought public input on climate change, Santa Fe engaged residents through the Sustainable Santa Fe Commission, a nine-member group representing different stakeholder interests and guided by a "green team" of city staff members. The city also engaged a parallel youth advisory board to provide input, recognizing that engaging the community's youth was central to ongoing sustainability efforts.

The Sustainable Santa Fe Plan focuses on green building and development steps appropriate to the city's desert setting; such steps include water conservation, energy conservation, and the development and use of renewable sources of energy such as solar and wind power. To address these issues, the city has developed a residential green building code for single-family homes. The code drew some controversy because it adds cost to housing, which is both expensive and a fundamental need, but the city addressed these concerns by looking at the potential for the increased housing cost to be balanced out by long-term cost savings on utilities.

The code, which was adopted and went in to effect on July 1, 2009, focuses on six green building cat-

### ADVANTAGES OF GREEN BUILDING



The green building market has grown rapidly in recent years, increasing from 2 percent of non-residential construction starts in 2005 to a predicted 20-25 percent in 2013. The estimated value of green building market is also increasing, and is predicted to grow from \$36-49 billion in 2009 to an estimated \$96-\$140 billion in 2013.<sup>1</sup> Green building offers a number of advantages:

- Compared to traditional commercial buildings, green buildings consume 26 percent less energy and result in 33 percent less greenhouse gas emissions. They also result in lower maintenance costs and higher occupant satisfaction.
- Improvements to indoor environments resulting from green building can lead to savings from health gains (\$17-48 billion) and improvements to worker performance (\$20-160 billion).
- Building green can result in sale prices up to 10 percent higher per square foot than in conventional buildings.
- Green building is expected to support 7.9 million jobs between 2009 and 2013.<sup>2</sup>

1 U.S. Green Building Council, "Green Building Facts," [www.usgbc.org/DisplayPage.aspx?CMSPageID=1718](http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1718) (accessed March 22, 2010).

2 Ibid.

egories: project implementation and lot development, resource efficiency, water efficiency, energy efficiency, indoor environmental quality, and ongoing sustainable practices. It has eight levels of green building certification, ranging from silver (lowest) to emerald plus (highest), and requirements for the level required vary based on housing size. Houses under 3,000 square feet must meet silver-level standards, while those over 8,000 square feet must meet the requirements for emerald-level certification.<sup>62</sup> The sustainability plan also includes recommendations to amend development and zoning codes to promote investment in green building and development practices, including solar panel installation and the reuse of wastewater from sinks, showers, and laundry machines (greywater).<sup>63</sup>



## Preserve and Create Green Space

Preserving and creating green space serves important environmental purposes and can also increase overall community quality of life. Minneapolis, Minnesota, has made protecting its existing parks and open spaces and creating new green spaces a priority in its sustainability plan.

**Parks as Part of Sustainability Planning in Minneapolis, Minnesota** Minneapolis has been a leader in the Midwest on smart growth and sustainable practices. When the city adopted its 2030 master plan, “The Minneapolis Plan for Sustainable Growth,” in October 2009, it emphasized the importance of planning for a sustainable future and preventing the adverse effects of sprawling development patterns. The plan addresses land use and transportation practices, as well as environmental goals related to GHG emissions, sustainable design and development practices, and the expansion of renewable energy resources. It also emphasizes the protection of existing parks and open spaces within the city, as well as the creation of new green spaces.

The city park system in Minneapolis, which was designed in the late 1800s, serves 400,000 city residents and has grown to include 6,400 acres of parks, greenways, public plazas, community gardens, and recreational facilities. Seven of the city’s parks and three trails are also part of the Regional Parks System, which serves over 3.1 million residents in the metro area. Minneapolis has received national acclaim for its park system, including a four-star rating (the highest awarded) from the Trust for Public Land, and its sustainability plan recognizes the importance of parks and open space not only in promoting community health and well-being, but also in “supporting plant and animal life and . . . improving natural systems degraded by urban land uses.”<sup>64</sup> It also addresses the possibility of developing green infrastructure, including green roofs and rain gardens, in the future.<sup>65</sup>



Photo courtesy of the Metropolitan Design Center, used with permission.

**Minneapolis, which has an extensive and award-winning parks system, has made preserving and creating green spaces within the city a central part of its 2030 master plan.**

The Midtown Greenway, a five-and-a-half-mile-long former railroad corridor in the southern part of the city that has walking and biking trails, connects into a larger greenways network called Metro Greenways. The Metro Greenways Program was started in 1997 following a report by the Greenways and Natural Areas Collaborative to address rapid growth and sprawl in the Minneapolis–St. Paul metropolitan region. The report, *Metro Greenprint: Planning for Nature in the Face of Urban Growth*, recognizes the natural heritage of the Twin Cities region; it notes the importance of that heritage in the regional culture and economy, as well as the roles that greenways play in providing environmental benefits to the region.<sup>66</sup> Metro Greenways, which is administered by the Minnesota Department of Natural Resources, began in the seven-county region encompassed by the Twin Cities metro area and has since expanded to twelve urban and urbanizing counties. It has involved fifty-seven local governments in protecting over 600,000 acres of open space while also creating a regionwide recreational amenity.<sup>67</sup>

## Engage the Community in the Climate Change Planning Process

Community engagement can help build public support for climate plans and can lead to more successful, context-sensitive plans that address the specific needs of individual localities. In Carbondale, Colorado, climate change planning has proven to be a successful community-building strategy, bringing residents together and getting them involved in their community. In Cambridge, Massachusetts, engaging the community has helped bring additional expertise to the table.

**Creating Community (and Green-Collar Jobs) in Carbondale, Colorado** Carbondale, a town in the heart of the Central Rocky Mountains with fewer than 6,000 residents, stands out for the broad participation of its citizens in climate protection planning. In the summer of 2005, shortly after the town had joined the Cities for Climate Protection Campaign, its Environmental Board, a volunteer citizens group, took on the task of creating an energy and climate protection plan. The following November, the town invited its citizens to weigh in on how it should reduce emissions and ended up hosting more than 150 residents for what was billed as the first Energy Extravaganza, where they brainstormed ideas for an energy plan. “It was open to anyone who chose to show up,” said Tom Baker, the town manager. “People were really jazzed about it, and the interest is only gaining momentum.”

The board continued to gather public input after the extravaganza, and it worked with energy experts,

*The lesson that we keep learning is that we've got such a reservoir of talented people. If we invite them to participate in public policy work, we get amazing results. Don't underestimate the depth of public support. People are sometimes concerned that there will be special interests involved with citizen advisory groups. But the talent that's out there is unbelievable. If you just trust in your community you'll be rewarded many times over.*

—Tom Baker, Carbondale town manager



Photo courtesy of Brent Moss

**Carbondale Recreation and Community Center, shown here, opened in January 2009. It is one of two buildings in Colorado to have received LEED Platinum certification.**

elected officials, and the Community Office for Resource Efficiency to develop a plan. Its principle goal was to lay out steps for Carbondale to become more energy independent with a greater reliance on renewable energy and to reduce its GHG emissions while also growing the local economy.<sup>48</sup>

With the town's historic roots in agriculture and mining, local leaders have focused on clean energy as a key component of their climate protection plan, which carries the subheading “Creating a Strong Carbondale Economy with Clean Energy.”<sup>49</sup> They have worked to foster the development of solar power and other renewable energy businesses. Having been built around nearby coal operations in the Crystal River Valley, which began to decline in the 1980s, the town's economy is now being redefined by its growing green-collar job market. Today, Carbondale is known for its local and regional expertise in solar energy, in particular, and for its leadership on green building requirements.

With “clean energy” lying at the heart of their plan, town officials were happy to hear from the USGBC in January 2009 that the new Carbondale Recreation and Community Center had received LEED platinum certification. Only the second building in Colorado to obtain LEED platinum certification, the

facility garnered acclaim for its energy-efficient design, materials, and other features that help minimize its carbon footprint. The facility was opened in March 2008 in a strategic downtown location that is accessible from the town’s central business district and an adjacent walkway leading to a popular bike trail.

**Cambridge, Massachusetts, Brings Local Expertise to the Table** Cambridge is another city that has benefited from strong public participation in developing its climate action plan. Soon after Cambridge joined ICLEI’s Cities for Climate Protection campaign in 1999, the city manager appointed a climate protection advisory task force of nearly two dozen citizens to provide guidance on the development of the climate protection plan. The city found the group, which included university and business representatives, to be extremely helpful. “The people who volunteer here have incredible credentials,” said Susanne Rasmussen, director of environmental and transportation planning in Cambridge. “Their level of expertise is extremely high.”

Cambridge’s residents are supportive of climate protection and sustainability planning. When the climate protection plan was adopted by the city council in December 2002,<sup>50</sup> the city already had a strong transportation demand management program for large employers. In place since 1998, the program focuses on reducing single-occupant vehicle travel. And the city enjoys some advantages over other U.S. cities, such as the fact that nearly half of its residents work



Photo courtesy of the city of Cambridge

**Cambridge’s residents have largely been supportive of measures to address climate change, and the city has worked to recognize businesses, organizations, and individuals who are working to address the issue.**

in the city, and about 25 percent walk to work.

Following the adoption of the climate protection plan, the committee reconstituted to focus on implementation. The city now has a standing advisory committee, which meets monthly. Comprising residents who are interested in climate change and have applied for appointment through the city manager’s office, the committee helps evaluate how the plan’s effects are measured, performs community outreach, and makes recommendations on building efficiency and emerging climate-related issues. Results of its work are published in annual reports.<sup>51</sup>



**Cambridge has found that involving residents in planning for climate change has helped to bring additional expertise to the table. Here, MIT students examine photovoltaic cells.**

Photo courtesy of the city of Cambridge

## Approach Climate Change Planning on a Regional Level

Durham, North Carolina, and Sacramento, California, have recognized the importance of regional collaboration in addressing climate change. Regional collaboration is particularly relevant when considering transportation policies and larger land use and growth management policies.

**Regional Planning in the Research Triangle: The City and County of Durham, North Carolina** The city and the county of Durham, North Carolina, have approached climate change planning as a region, with the city, the county, and the Durham–Chapel Hill–Carrboro Metropolitan Planning Organization (MPO) jointly developing and adopting an emissions inventory and local action plan in the fall of 2007. The collaborative approach, which reflects the way the region already does business, made sense for many reasons. The city of Durham is the only city in Durham County, and the two local governments share a planning department. In addition, the city’s transportation planner and bike/pedestrian planner both hold the same positions at the MPO, and as of April 2008, they share a sustainability manager whose primary responsibility is to implement the plan.

The city got an early start on climate change planning, joining ICLEI’s CCP campaign in 1996 and developing a plan to reduce GHG emissions by 1999. However, the issue did not have a very high profile at the time, so the plan never got any traction and was not adopted. It was not until 2005 that the city decided to recommit to the issue, and in this second round, it decided to partner with the county in developing a joint plan. The MPO sponsored their work in producing the second plan, which involved an advisory committee of elected officials, citizens, and representatives of environmental groups, utilities, area universities, and the business community.<sup>52</sup>

Durham was able to build on a number of strong, existing policies, such as a countywide requirement for any employer with over 100 employees to create a trip reduction plan and conduct annual surveys of employees to track the impact of the plan. The business community has also been another regional force for mitigating climate change, with the local chamber



Photo courtesy of the city of Durham

Durham, North Carolina has taken a regional approach to sustainability. The city, county, and MPO have collaborated to create a joint local action plan, adopted in 2007. The Durham Station Transportation Center, shown here, opened in 2009, is across the street from the train station and is designed for pedestrian, bicycle, and bus (local, regional, and inter-state) travel.

of commerce working with its counterparts in nearby Chapel Hill–Carrboro to develop a green certification process.

Tobin Freid, the sustainability manager for Durham City and County, shares a valuable lesson that the region learned in this second attempt to take action on climate change. “Don’t let perfection be the enemy of the good,” she said. Freid cautioned against getting too focused on perfecting the emissions inventory, noting that it is not a static number. “You can’t spend all of your time trying to nail down that number at the expense of addressing it.”

**Aspiring to Become America’s Green Region: Sacramento, California** Sacramento’s regional approach to planning has been evolving as a result of the city’s close collaboration with other local governments in the development of a long-term growth plan, “The Sacramento Region Blueprint: Transportation/Land Use Study.”<sup>53</sup> The Blueprint Project was led by the Sacramento Area Council of Governments (SACOG), with more than two years of workshops,

*It will allow us to achieve the goals of accommodating population and job growth in key areas, without sprawling, in a way that revitalizes older areas that need a shot in the arm. That kind of land use story plays well into our climate action efforts and our efforts to work with pieces of state legislation that are coming down.*

—Tom Pace, long-range planning director for Sacramento

regional conferences, Web-based dialogue, and surveys that involved more than 5,000 residents, elected officials, and business leaders. The project used modeling tools and interactive software to enable participants to see the effects of different land use decisions on transportation, air quality, and the regional economy. In December 2004, after gathering extensive public input and hosting its first ever Elected Officials Summit with participation by all of the cities and counties in the Sacramento region, the SACOG approved the final product, the “Preferred Blueprint Alternative.”

The city of Sacramento developed its own plan for growth independent of the Blueprint Project, and it started working on a climate action plan in spring 2009. It had adopted a sustainability master plan in December 2007, taking the same path as Sarasota County and other local governments in building their vision for long-term growth around the concept of sustainability.<sup>54</sup> And in March 2009, the city council adopted the Sacramento 2030 General Plan, which



Photo courtesy of the city of Sacramento

**Sacramento’s 2030 General Plan incorporates many smart growth related goals and policies. Among these, two-thirds of planned growth through 2030 will be infill development near planned or existing light-rail stations.**

contains detailed policies and goals to guide the city’s growth.<sup>55</sup>

While these planning processes did not directly involve the county and neighboring municipalities, Sacramento’s sustainability vision and general plan were informed by the city’s experience with the Blueprint Project. “We were big supporters of the regional blue print,” said Tom Pace, the city’s long-range planning manager, noting that Sacramento launched its general plan effort at the same time. “Our intention was to base our growth plan on the blue print model.”

Sacramento’s general plan, which incorporates many smart growth goals and policies that are critical to reducing GHGs, has helped the city lay the groundwork for climate action as well. The overall goal of the plan is to direct growth to areas where the city can take advantage of existing transportation facilities and to protect open space and farmland. Two-thirds of the city’s growth through 2030 is to be accommodated with infill development in downtown Sacramento and four other existing communities that are located near planned or existing light-rail stations. These neighborhoods, which today are older, second-tier suburbs that could benefit greatly from reinvestment, are reenvisioned as very walkable, mixed-use, high-density areas.



Photo courtesy of the city of Durham

**The Durham region has made itself bicycle friendly. Here, bicyclists ride through the city’s downtown area.**

## Address Transportation through Transit-Oriented Development and Complete Streets

Smart growth can have a profound impact on how people travel. Arlington County, Virginia, has found that focusing on building a multimodal transportation system and orienting new residential and commercial development around it helps reduce VMT and GHG emissions, and makes the county a more sustainable place.

**A National Model of TOD in Arlington County, Virginia** Arlington County, which is located across the Potomac River from Washington, D.C., has earned recognition as a smart growth leader that can teach important lessons to local governments looking to create climate-friendly land use and transportation policies. The county has received national acclaim, winning the U.S. Environmental Protection Agency’s first Overall Excellence in Smart Growth Award in 2002<sup>56</sup> and recognition from the American Planning Association’s Great Streets Program,<sup>57</sup> and regularly drawing visits from planners and local elected officials from across the country and overseas.

Arlington’s investment in smart transportation policy began in the mid-1970s, when county leaders actively began pursuing the goal of making the county the first suburban link in Washington, D.C.’s new Metro subway system. County leaders were strategic in ensuring that transit would become a strong community asset, pushing to have the subway line built underground along the Rosslyn-Ballston Corridor—the most intensely used commercial corridor in Arlington—rather than along the median of Interstate 66.

*Having the guts to stick with your plan and sometimes say no is one of the critical lessons you learn. The decisions that we make are the decisions we’re going to have to live with for the next generation. Making the right decisions about design becomes more important. And the most important part of design is what happens at the street level.*

—Ron Carlee, former Arlington County Manager and ICMA Director of Strategic Domestic Initiatives



Photo courtesy of Ron Carlee

**In the 1970s, when Arlington County leaders began looking into bringing Metro stations, development in Arlington was low-density and car-oriented. Today, it has some of the highest metro ridership in the Washington region.**

The county took advantage of this accessibility, redrawing plans to create mixed-use developments around each planned Metro station, which would ensure around-the-clock activity and strong transit ridership.

To increase transit ridership, Arlington had to gain its residents’ support for high-density development around the Metro stations. This support is evident in one of Arlington’s smart growth success stories: the redevelopment of Shirlington. A traditional suburban neighborhood to the south that is not Metro accessible and was anchored by an aging strip mall, Shirlington presented the type of redevelopment challenges common in many communities. County leaders knew that community input would be vital to gaining public support for the greater residential density needed to support new retail, restaurants, and other neighborhood activity. They worked closely with Shirlington residents and the Shirlington Village developer in the early part of the decade to develop a successful plan for revitalizing the area.

Their efforts paid off and this former “greyfield” is now the site of Shirlington Village, a mixed-use TOD with 634 new apartments and condominiums, a



## ARLINGTON'S TRANSIT-ORIENTED DEVELOPMENT STORY

- Arlington's two metro corridors (Rosslyn-Ballston and Jefferson Davis) have seen strong growth. In 1970, the corridors had 6.9 million square feet of office space and 10,348 housing units. By 2009, there were 34.2 million square feet of office space and 41,655 housing units.<sup>1</sup>
- Metro ridership steadily increased between 1980 and 2008 along both metro corridors, with weekday boardings increasing from just over 40,000 in 1980 to just under 80,000 in 2008 (slight declines were seen in 2009).<sup>2</sup>
- Slightly less than half of the people living on Arlington's Metro corridors drive to work, while nearly 40 percent rely on public transportation.<sup>3</sup>

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195,000-square-foot office building, and 60,800 square feet of retail space. A new county library and performing arts center have also opened on the site. Arlington built its first fully enclosed bus transfer station near the Village in 2008. The Shirlington Transit Station has greatly increased Shirlington's transit accessibility, connecting residents to bus lines and providing access to Arlington's Metro stations. In addition to the new bus station, Arlington invested about \$4 million to connect a regional trail network in Shirlington, built new sidewalks and intersections, and introduced car-sharing spaces in the area. Shirlington Village is now a vibrant, transit oriented-community, and county officials estimate that the project will add more than 1,000 jobs and about 1,000 new residents to the area.

Shirlington Village illustrates the kind of transformation that is vital to getting people out of their cars—an important way to make a significant reduction in emissions—and provides a model that other communities can follow: "Any place in America could do what we've done in Shirlington," said Ron Carlee, Arlington's former county manager.

Arlington's experience demonstrates that TOD is one of the most promising strategies a local government can employ to reduce GHG emissions. The county reports high levels of transit ridership, with 25.4 percent of residents using public transportation to get to work in 2008, compared to 13.4 percent in the Washington, D.C., metro area and 5 percent nationally.<sup>58</sup>

Photo by Steve Lizzell



Photo courtesy of The JBG Companies

**Over the last three decades, Arlington has invested in smart growth policies, winning national acclaim for its efforts. Arlington's smart growth plans will continue into the future, with more mixed-use, high-density development.**

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# Webinar Summaries



# ASEAN CityLinks Webinars

Rapid urbanization and the urgent need for infrastructure is severely challenged by the increasing direct and cascading impacts of climate change. This complicates risk management, integrated urban planning and effective urban governance. The next generation of infrastructure to make cities more climate resilient and improve climate adaptation capacity cannot happen successfully without a bankable environment that aggressively manages the social, political, financial and environmental risks of infrastructure.

Addressing the rapidly changing urban risk landscape is now one of the key global development issues – and there are several pioneering projects happening in the US and across ASEAN. As part of the ASEAN CityLinks partnership, webinars were organized that presented case studies from two experiences in cities in South East Asia and three from cities in the United States of America.

## WEBINAR 1

### ADDRESSING KEY RISKS AND ENGAGING THE COMMUNITY IN THE DEVELOPMENT OF URBAN INFRASTRUCTURE FOR CLIMATE ADAPTATION – U.S. CASE STUDIES

Recording <http://vimeo.com/69033943>

1. Ft. Lauderdale, Florida, USA. Ms. Susanne M. Torriente, Assistant City Manager at the City of Fort Lauderdale. This presentation focuses on fostering locally driven support and innovation for urban climate adaptation. Several of Fort Lauderdale's citizen engagement activities are presented along with the results of their efforts. Citizens were able to see their ideas come to life in their community, increasing their trust in the government as well as being able to contribute creative ideas to the larger field of climate change. It's a great example of a successful strategy that was driven not only by the citizens but the government's commitment to the philosophy of collaboration.
2. Gulf Coast, Louisiana, USA. Mr. Douglas J. Meffert, Vice President and Executive Director of the National Audubon Society in Louisiana. Mr. Meffert highlighted the importance of psychologically sound methods in evacuation in the wake of natural disasters. Typically, some climate change adaptation strategies revolve around physical and infrastructure repairs, but not as much on the personal welfare of the community members themselves. Rather than limiting their strategies to environmental or governmental entities, universities and NGOs were invited to the Gulf Coast to help improve adaptation strategies and fill in the gaps, developing holistic approaches to better serve affected community members.
3. Philadelphia, Pennsylvania, USA. Mr. Eron Bloomgarden, Partner EKO Asset Management Partners. Mr. Bloomgarden discussed several details on Pay-for-Performance and Public-Private Partnerships to link private capital to support conservation of ecosystem services. He presented trends in capital markets and the opportunities to accelerate urban "natural infrastructure" investments. Mr. Bloomgarden then presented details on the unique mechanisms used to finance the innovative Philadelphia "Green City, Clean Waters" storm water program.

## WEBINAR 2

POWERPOINT PRESENTATIONS AVAILABLE HERE: [HTTP://ICMA.ORG/EN/ICMA/KNOWLEDGE\\_NETWORK/GROUPS/KN/GROUP\\_FILES/1331/CLIMATE\\_PREPAREDNESS\\_ADAPTATION\\_RESILIENCE](http://icma.org/en/icma/knowledge_network/groups/kn/group_files/1331/climate_preparedness_adaptation_resilience)

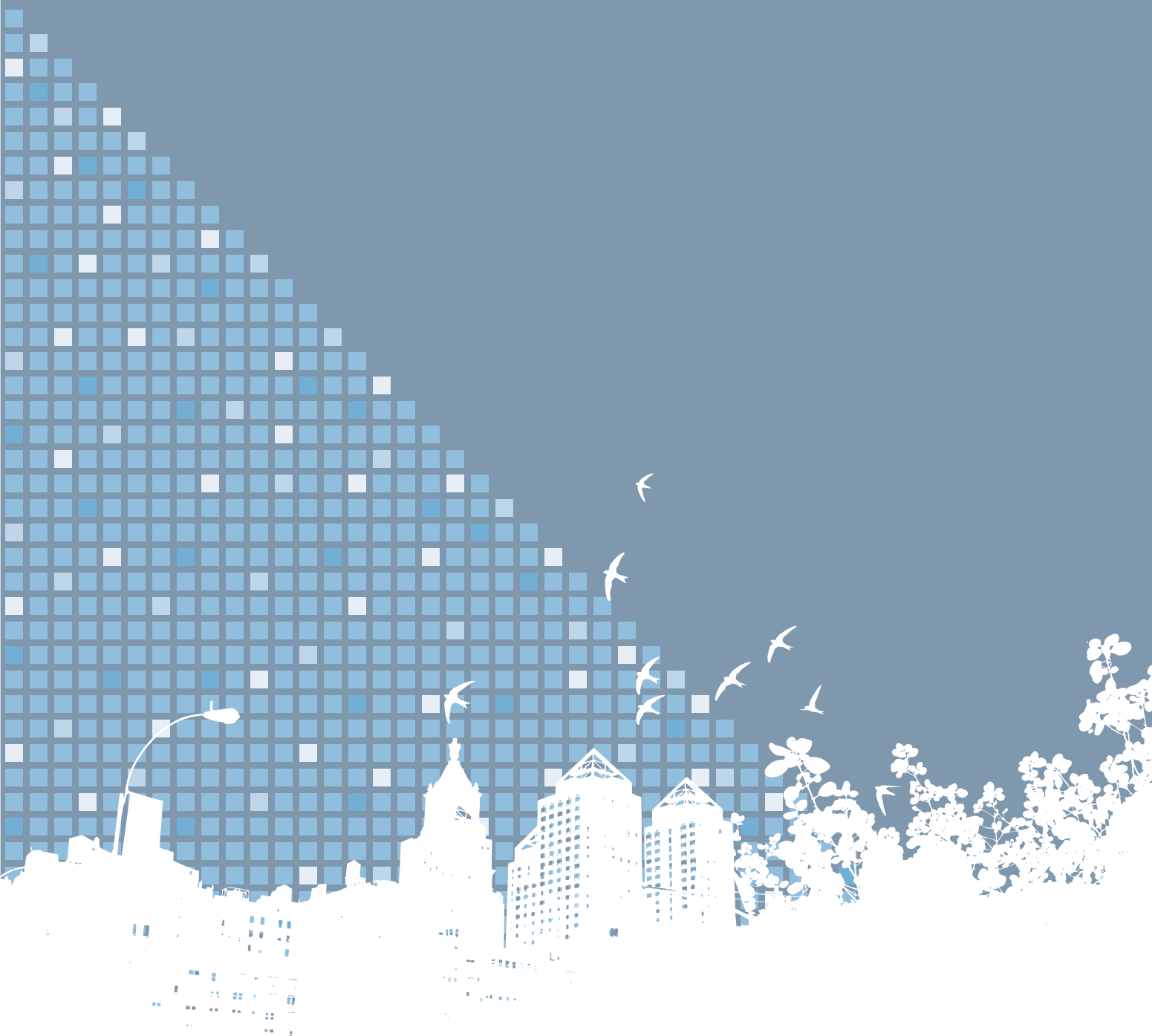
1. Dhaka, Bangladesh. Mr. Sanjib Kumar Saha, Response and Adaptation Management Analyst for the Comprehensive Disaster Management Program, UNDP. Bangladesh is extremely vulnerable to natural hazards and one of the countries most at risk from the impacts of climate change. Mr. Saha presents the context of a perilous combination of density, rapid unplanned urban growth and climate risks. He then presents the “Comprehensive Disaster Management Programme (CDMP),” a collaborative initiative between the UNDP, United Kingdom Aid (UK AID), European Commission (EC), Norwegian Agency for Development Cooperation (NORAD), Swedish International Development Cooperation Agency (Sida), and the Australian Agency for International Development (AusAID). The CDMP has urban risk reduction and climate change adaptation as two among its six outcome areas. One area of the plan focuses on mainstreaming climate adaptation in urban local governance, and another on facilitating partnerships for a “Risk Integrated Development Plan.”
2. Viet Nam. Mr. Phong Tran, Technical Lead ISET- Asian Cities Climate Change Resilience Network program (ACCCRN). Mr. Tran’s PowerPoint presentation features different examples of building Urban Climate Resilience in Viet Nam. Within the context of the Mekong-BRACE and ACCCRN programs, the resilience planning process and the importance of interactive learning are outlined. A case study is included detailing the vulnerability assessment in the historically important city of Hue, which was a participatory, multi-stakeholder process. Several key findings are presented, with a discussion of lessons learned.



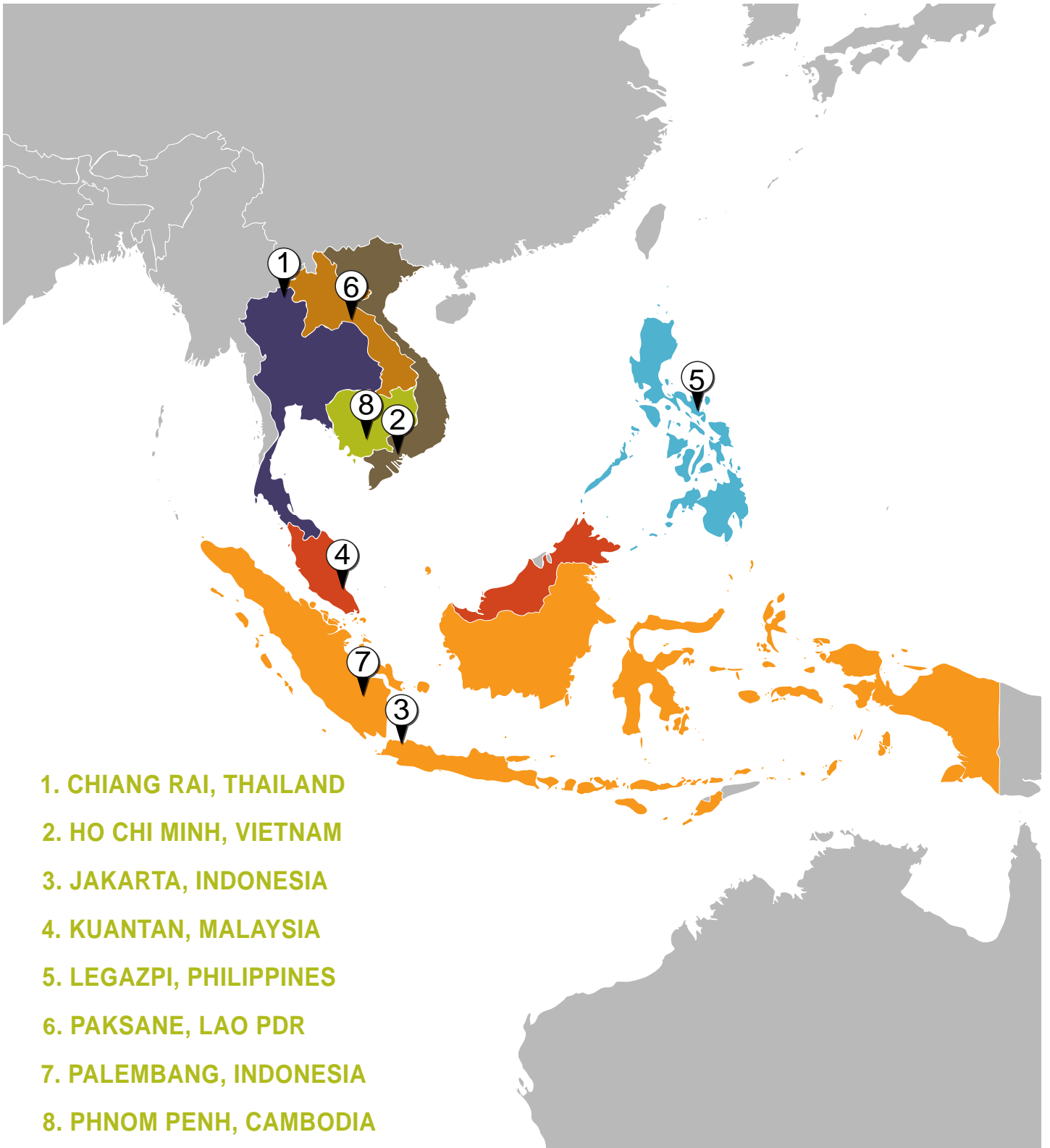
Photo credit: <http://www.flickr.com/photos/70044955@N00/8107852575/>



# Team Profiles



# Map of Participating Teams



1. CHIANG RAI, THAILAND
2. HO CHI MINH, VIETNAM
3. JAKARTA, INDONESIA
4. KUANTAN, MALAYSIA
5. LEGAZPI, PHILIPPINES
6. PAKSANE, LAO PDR
7. PALEMBANG, INDONESIA
8. PHNOM PENH, CAMBODIA



# Team Profiles



Photo credit: Rock Portrait Photography  
<http://www.flickr.com/photos/11374616@N00/3784029313>

The flooded Philippines

The following section includes snapshot descriptions of each ASEAN city participating in the Climate Leadership Academy, “From Risk Barriers to Results: Managing the Social, Political, Environmental and Financial Risks of Urban Infrastructure,” occurring August 13-15, 2013 in Jakarta, Indonesia. Snapshots are meant to provide a rapid overview of the climate risks and best practices of each participating city and are not meant to be comprehensive.

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- 59 Ho Chi Minh, Vietnam
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- 66 Phnom Penh, Cambodia





## TEAM PROFILE:

# Chiang Rai, Thailand

POPULATION: 200,000

Located in the northernmost province of Thailand on the Kok River Basin, Chiang Rai City has a tropical climate, and is under the influence of the southwest monsoon in the rainy season (mid-May to mid-October) and of the northeast monsoon in the winter. The city is prone to heavy thunderstorms and hailstorms in the summer.

## CLIMATE RISKS:

Climate change has shortened the rainy season and increased precipitation levels in Chiang Rai, exacerbating both flooding in the rainy season and drought in the dry season. Minimum, maximum and average temperatures are all steadily increasing.

The risks of climate change to agriculture are severe. Changes in precipitation are likely to cause significantly lower productivity and crop failure. In addition, the distribution pattern of rainfall is critical for growth and productivity, despite the same amount of rainfall. Degradation of natural ecosystems and extreme weather events are also likely to negatively impact tourism – a major source of economic revenue in Chiang Rai. Increased temperatures have contributed to spikes in the spread of dengue fever, malaria, and other tropical diseases.

## BEST PRACTICES:

- Chiang Rai is carrying out an intervention to educate and encourage participation of citizens on issues of climate change. Citizens can monitor the government's actions using indicators and work with the municipality to carry out climate change intervention activities.
- Chiang Rai serves as the Northern Regional Coordinating

Center of the Urban & Environmental Learning Network, created so that 5 municipalities in Thailand can share information and learn from each other.

- Established a task force working group on Climate Change & Adaptation for City Resilience, which is designed to maintain network and policies across administrations.
- Increased green space and civic space in the city, and implemented municipal laws to control construction and curb urban density.
- Decreased air pollution by conserving forest and green space, and initiated a campaign to prevent burning paddy husks and straw after the harvest.
- As one of the Asian Cities Climate Change Resilience Network (ACCCRN) pilot cities, Chiang Rai is increasing resilience to climate change by promoting urban agriculture, supporting ecotourism, building the capacity of Local Government Organizations (LGOs) to reduce risk factors that favor climate-borne contagious diseases and epidemics, and promoting community-health patterns to address health risks exacerbated by climate change.
- The City's Resilience Strategy Plan resulted from the assessment of climate change impact in Chiang Rai as part of the ACCCRN pilot project. They're now in the 4th stage (implementation) of the project.
- The city has begun rehabilitating the old floodway of the Kok River's ecosystem by dredging and improving landscaping along the river bank for public space.
- The City has improved the urban reservoir, floodway and drainage system to avoid flood and drought.
- Chiang Rai has partnered with a local university to research and implement land use strategies on their own.



## TEAM PROFILE:

# Ho Chi Minh, Vietnam

### POPULATION: 7.5 MILLION

Located in the southeastern region of Vietnam, Ho Chi Minh City (HCMC) features a tropical wet and dry climate. The rainy season, which typically begins in May and ends in late November, comprises approximately 150 days of the year. Barely above sea level, 40%–45% of land cover in HCMC is 0–1 meter (m) in elevation, 15%–20% is 1–2 m, and very little land sits above 4 m. The city has a large and rapidly growing population.

### CLIMATE RISKS:

According to the Asian Development Bank (ADB), HCMC ranks among the top 10 cities in the world with populations most likely to be severely affected by climate change. Increased precipitation and severe weather patterns have resulted in increased flooding and storm surge. Urban development has historically decreased infiltration and causes localized flooding. Significant warming has taken place and is continuing at a rapid pace. Sea level rise is also occurring swiftly. In addition, the regular droughts that HCMC generally experiences in March and April have been intensifying, and the city has experienced severe dry seasons in recent years.

### BEST PRACTICES:

- HCMC has established a climate change network led by the Climate Change Steering Board, which includes an Advisory Group for the Steering Board, climate change working groups in various departments, and the Climate Change Bureau.
- The Climate Change Steering Board has coordinated closely to complete a draft Adaptation Action Plan for HCMC for the period of 2013 – 2015, which was released in May 2013. All governmental departments participate, including those dealing with zoning, architecture, construction, finance, S&T, trade and industry, natural resources and environment.
- In cooperation with the city of Rotterdam, HCMC is implementing a program called “Ho Chi Minh City Moving toward Sea Adaptation with Climate Change.”
- HCMC is working with ADB to build a database that tracks energy consumption. Based on this database, they will create an adaptation strategy for transportation and energy efficiency.
- HCMC has looked to private-public partnerships to support adaptation projects. They have executed efforts to privatize waste water treatment and sludge treatment.
- The city government is carrying out rainwater capture activities and educating about reuse of rainwater.



## TEAM PROFILE:

# JAKARTA, INDONESIA

### POPULATION: 10.2 MILLION

Jakarta has a hot and humid climate on the boundary between tropical monsoon and savanna. The wet season in Jakarta covers the majority of the year, running from November through June. The remaining four months form the city's dry season.

### CLIMATE RISKS:

Jakarta faces increasing sea level rise, extreme weather events, increased precipitation, heat island effect, and land sinkage. The city's most vulnerable areas have experienced severe flooding for 20 years and are getting worse. The frequency and unreliability of storms and extreme weather events is increasing, and fire risk has increased during the dry season.

### BEST PRACTICES:

- Jakarta has conducted adaptation city planning for the years 2013-2018.
- The Government of Jakarta is carrying out a program called PICAS (Planning for Integrated Coastal Adaptation Strategy) consisting of three main studies involving Community-based Adaptation Planning, Zoning Regulation for floodplain zone, and urban design guidelines for kampong (villages) where there are regular flood events.

- The city government has supported communities in climate adaptation activities, such as community dredging in East Jakarta and building resilient infrastructure, such as raised housing.
- The city government has placed priority on seeking community feedback and utilizing it as a primary source to inform Jakarta's Adaptation Plan.
- Jakarta has a database of slum neighborhood associations that is being overlaid to the flooded area to identify the vulnerable places. The city takes a qualitative approach, seeking information, feedback, input and ideas from the citizens and encourages civic participation.



## TEAM PROFILE:

# KUANTAN, MALAYSIA

### POPULATION: 608,000

Kuantan features a tropical rainforest climate, with a rainy season occurring from roughly October to March and a hot, dry season from April to September. Eighty percent of the city is covered by green space.

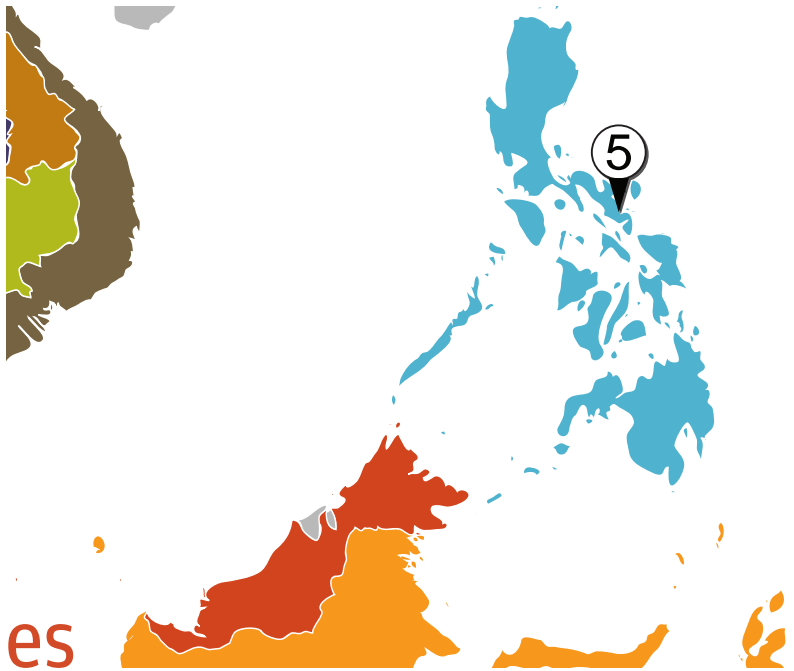
### CLIMATE RISKS:

Sea levels have risen by as much as 10cm along the Kuantan coast over the last century, increasing erosion and stress on infrastructure and natural resources. Rainfall has increased in recent years and extreme weather events caused by climate change occur more frequently. Kuantan is affected by severe flooding – a major flood in 2012 took the city by surprise and ravaged a great deal of infrastructure and housing. During the dry season, forest woodland fires are becoming more frequent and intense due to increased temperatures and heat waves.

### BEST PRACTICES:

- Kuantan has an Environmental Sustainability Plan.
- They are in the process of developing their own Climate Adaptation Committee.
- Kuantan's climate adaptation efforts pertaining to water management has led to the city's participation in the ASEAN Sustainable Cities for Clean Water 2010 project.

- Kuantan had an MOU with a local university through which various studies on water quality were executed and environmental indicators in one of the main industrial areas were tested.
- Kuantan has a plan for preserving and reserving natural resources including mangroves, wetlands, and also forests, as well as a large forest reserve that is protected through city laws and policies. The city works with local communities to plant 10,000 trees annually.
- City policies ensure that housing schemes and infrastructure plans must preserve 10% of green space when building.
- They have a coastal line master plan with guidelines on how to redevelop after disasters. This plan touches on coastal erosion, which is carried out through the Mitigation Department.
- Kuantan is working on a project with the United Nations to control emissions from the city's landfill and to generate renewable energy from methane gas. The implementation of holistic approaches in air quality control has reduced carbon emissions, resulting in good standing on the Air Pollutant Index (API).
- Kuantan has a Disaster Committee that has prepared a plan for disaster preparedness and mitigation.



## TEAM PROFILE:

# Legazpi, Philippines

### POPULATION: 200,000

The capital of Albay Province, Legazpi City features a tropical rainforest climate with copious amount of rainfall throughout the course of the year. The heaviest rains occur between the months of November and January. Legazpi does not have a pronounced dry season.

### CLIMATE RISKS:

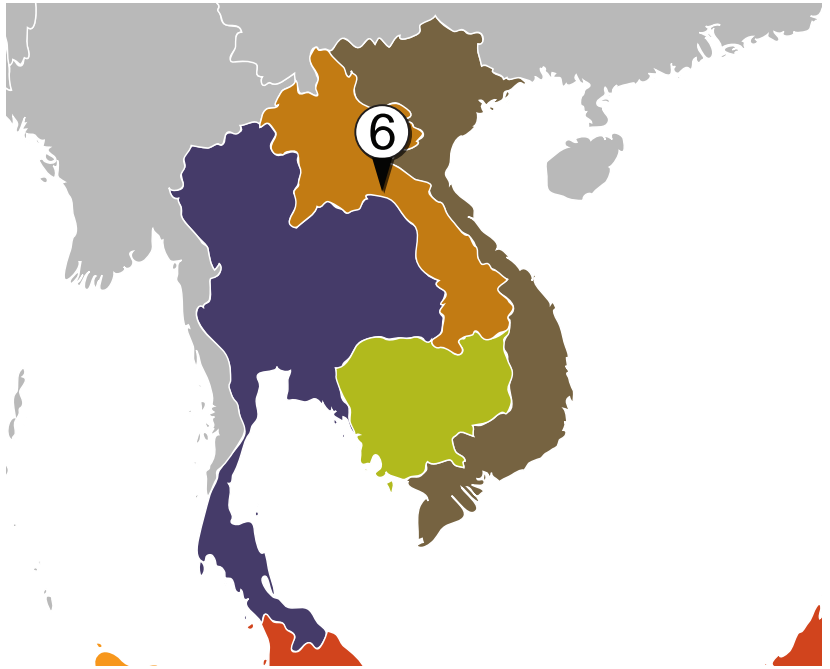
In recent years, Legazpi has noticed variability in temperature and erratic weather patterns. Sea level rise and precipitation has led to increased flooding. The city is especially prone to coastal flooding and typhoons. Landslides from heavy rains are more frequent; a major landslide in 2006 devastated a section of the city, affecting hundreds of families. Legazpi is also prone to volcanic and seismic activity.

### BEST PRACTICES:

- The city's Disaster Risk Reduction and Management/ Climate Change Adaptation and Mitigation (DRRM/CCAM) Plan is currently being finalized.
- Legazpi has an organized City Disaster Risk Reduction and Management Council (CDRRMC), composed of representatives from the local government offices and departments, national line agencies, Local Government Unit (LGU) – accredited non-government organizations, public organizations, civil society groups and subject matter experts from the national agencies.
- Legazpi is taking part in capacity building initiatives organized by the Climate Change Academy of the Provincial Government of Albay, which focus on Health and Environmental Protection.
- Legazpi places an importance on engaging communities in adaptation activities to generate a participatory approach to climate change strategies and solutions. Currently, the city is soliciting information and feedback from communities regarding promising adaptation practices for agriculture and urban infrastructure.
- The City Government of Legazpi was among the 37 LGUs that participated in the pilot training program “Responding Climate Change through Greenhouse Gas Accounting and Management,” launched in 2010 by the Climate Change and Clean Energy Project (CEnergy) and the United States Agency for International Development (USAID) in partnership with the Philippine League of Local Environmental and Natural Resources Officers (PLENRO) and the Greenhouse Gas Management Institute. This consisted of a series of training sessions and the output was an inventory report describing the GHG emissions associated with the LGU's government operations, detailing the boundary conditions, quantification methods, and other key information considered and used in developing the GHG emissions inventory.
- The city Agricultural Services department has started adapting to the effects of climate change by modifying the crop planting seasons and utilizing other crop varieties that will better adapt to the changing climate. Additional irrigation systems and canals were also constructed in the southern farming communities that not only serve to supply water to irrigate the farms but also to catch excess runoff during heavy precipitation.
- The city, together with the other cities and municipalities in the Province of Albay, has been a beneficiary of the adaptive capacity enhancements, provided by

the Center for Initiatives and Research on Climate Adaptation (CIRCA) of the Provincial Government, in integrating DRRM/CCAM elements to spatial planning. The city government was introduced to the utilization and application of simulation software such as the Rapid Earthquake Disaster Assessment System (REDAS,) developed by the Philippine Institute of Volcanology and Seismology, and the SimCLIM, developed by the CLIMsystems, Ltd. that examines the effects of climate variability and change over time and space. So far, the hazard maps produced by REDAS and SimCLIM were used in the risk and vulnerability assessments for the CLUP, CDP and the DRRM/CCAM Plans.

- Legazpi has constructed a city boulevard along the urban coastal and the plantation of mangroves in the southeast coastal area of the city. Both serve as barriers to storm surge and give protection to the barangays (villages) along the shoreline.
- In the urban area, the city is currently implementing the Urban Drainage Master Plan in phases to address the issue of flooding. The project includes the deepening and widening of drainage canals, the rehabilitation of river dikes, the installation of jetties, elevation of roads, and the installation of pumping stations and water gates, to protect the city from the intrusion of sea tidal waters that are exacerbated especially during rainy season.
- After the onslaught of Super Typhoon Reming in the area, the constituents learned to “build back better” by constructing houses that can withstand the winds of a super typhoon and elevate the structures to be safe from flooding.
- Sustainability and strengthening of the Ecological Solid Waste Management Program has been continuously undertaken with the active participation of the community which supports the segregation at source of solid waste, segregated collection, solid waste diversion, recovery/recycling system and the full operation and maintenance of the sanitary landfill facility. A law was passed that requires ecological solid waste management, which is very promising.
- The city has recently approved a Comprehensive Land Use Plan (CLUP) and Comprehensive Development Plan (CDP), which are being enforced through its implementing arm, the Zoning Ordinance. Criteria from the DRRM/CCAM Plan, which is currently being finalized, has already been integrated into the abovementioned plans.
- The Legazpi government linked the DRR/CCAM plan with legislation so city investment would be less risky.
- Following a national mandate, 5% of the city’s estimated revenues from regular sources are allocated for the Local Calamity Fund to accommodate such undertakings.
- A relocation program was also implemented to aid vulnerable communities in the face of disaster events. The program includes the construction of climate adaptive emergency evacuation centers/multi-purpose holding areas. Early warning systems and communication systems for climate/weather related disturbances are in place.



### TEAM PROFILE:

## Paksane, Lao PDR

POPULATION: 22,000

Paksane has a tropical monsoon climate, with a pronounced rainy season from May through October, a cool dry season from November through February, and a hot dry season in March and April. Borikhamxay Province, where Paksane is located, is home to Nam Theun 2 Dam, the country's largest hydroelectric project.

### CLIMATE RISKS:

Paksane is increasingly prone to floods, severe storms, and typhoons in the rainy season, as well as drought in the dry season. In the past few decades, rainfall has been increasingly variable and the average temperature has risen by 2 degrees Celsius. Paksane, which is the Provincial Capital, is extended in between Xanh River and the Mekong where a large part of the town is at risk of flooding during the rainy season. Such climatic phenomena have negatively affected the rice production and other agricultural activities that are the main source of living for the provincial residents.

### BEST PRACTICES:

- Paksane's local government has implemented river bank protection efforts on both sides of the Xanh River and the Mekong. A 20-meter dyke perpendicular to the river bank was constructed that extends all the way to the bank. This has effectively helped reduce the erosion and prevented or mitigated the chronic flooding in town.

- The Provincial Government of Paksane channels its coordination with other stakeholders through the National Disaster Prevention and Control Committee, whose Secretariat serves as the National Disaster Management Office and is staffed by individuals who have a close link with line ministries and all provinces.
- When flooding occurs, the head of the village serves as the central coordinator of people in the village, liaising between provincial government officers and citizens. This coordinator is responsible for relaying information from the impacted village to the district administration or provincial office. The office in turn provides the coordinator with information and instructions on potential relocation.
- Paksane has a program to relocate families living in disaster affected areas. A private counterpart facilitates the relocation process and revisits families sporadically to ensure that their basic needs are being met.
- The Province is actively pursuing efforts to protect and expand its forest and to reduce the use of timber products in order to fulfill the national target of 65% forest coverage of the total national territory by 2015.
- Paksane has been executing various irrigation projects over the past few years that enable biannual agricultural cultivation for residents during the dry season in order to strengthen food security.





## TEAM PROFILE:

# Palembang, Indonesia

### POPULATION: 1.7 MILLION

Palembang has a tropical rainforest climate with relatively high humidity and sometimes significant winds. The expansive swamplands that once occupied the city have largely been destroyed due to rapid urban development.

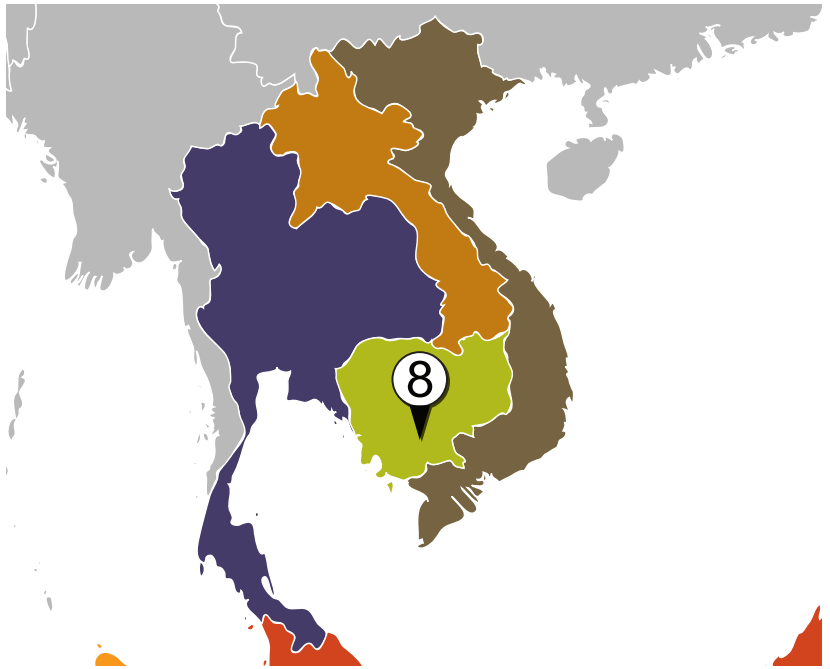
### CLIMATE RISKS:

Palembang has suffered from increased precipitation and flooding during the rainy season, and exacerbated dryness and fires in the dry season. Frequent and extensive flooding in low-lying areas along the waterways has disproportionately impacted slum settlements. The city has experienced particular problems with stagnant water after floods.

During the dry season, Palembang experiences hotter temperatures and water shortages that lead to smoke haze from agricultural and forest fires, as well as health and economic problems for poorer people drinking unsafe water.

### BEST PRACTICES:

- Palembang has established a Climate Change Working group consisting of local government (Environmental Ministry and Public Works Department), academic institutions and the community. They are working together to create a Climate Strategy.
- They have made efforts to control flooding by developing dams along the river basin.
- They have established a catchment area and have a Green Water Management Program.



### TEAM PROFILE:

## Phnom Penh, Cambodia

### POPULATION: 15 MILLION

Phnom Penh has a tropical wet and dry climate that is subject to tropical monsoons. The southwest monsoon blows inland, ushering in the wet season between May and October. The northeast monsoon brings in the dry season from November through April.

### CLIMATE RISKS:

Phnom Penh has been identified as one of the most vulnerable cities to climate change, largely because of its low adaptive capacity, its low elevation, and its proximity to the ocean and the Mekong River. The city is vulnerable to floods and droughts. Average temperature has been on the rise and the dry season is getting longer, which has threatened agriculture. The number of rainy days has declined, but the frequency of more intense rain storms has increased, leading to more flash floods, landslides and debris and mud flows.

### BEST PRACTICES:

- Phnom Penh has begun executing a study to determine how climate change will impact the city. The study findings will inform an urban adaptation plan.
- The local government has identified the goal of executing a pilot project on land use that is informed by the aforementioned study.

# Contact Information & Biographies







# Contact Information

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## CHIANG RAI, THAILAND

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### **SURANID ONG-LA** (TEAM LEADER) CHIEF EXECUTIVE OFFICER

CHIANG RAI MUNICIPALITY

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Suranid Ong-la is the Chief Executive Officer of the Chiang Rai Municipality where she has over 30 years of experience in the local government sector. Her work focuses on how to balance several aspects of sustainable development. Ms. Ong-la has been working with strategic partners such as government bodies, civil society and NGOs to initiate and implement projects related to climate change mitigation and adaptation.

Ms. Ong-la was the Chairperson of the Chiang Rai working group of ACCCRN and has presented at numerous conventions including “City Biodiversity Summit 2010: COP 10” in Nagoya, Japan and “City Biodiversity Summit 2012: COP 11” in Hyderabad, India. Ms. Ong-la received the “Good Practice” award at the World Habitat Day 2011 in Aguascalientes, Mexico. The city of Chiang Rai was selected out of 15 projects for the Guangzhou International Award for Urban Innovation 2012 in Guangzhou, China.

### **SUPITPORN BUNNAG** ASEAN WORKING GROUP ON ENVIRONMENTALLY SUSTAINABLE CITIES FOCAL POINT (AWGESC), DIRECTOR OF GREEN CITY SUBDIVISION, URBAN ENVIRONMENT AND AREA PLANNING DIVISION

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MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

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With 33 years working in ONEP, Ms. Supitporn Bunnag has vast experience in the management of urban environments specifically focused on green and clean cities. She is responsible for setting up a framework on Environmentally Sustainable Cities (ESC) and for the formulation of a policy action plan to green the city under a mandate from ONEP. Ms. Bunnag also coordinates with different partners which include governmental agencies, private sector, NGOs and several cities in Thailand. She works on projects on the international scale as well.

Ms. Bunnag is an AWGESC Coordinator in Thailand and holds a Master's degree in Urban Planning from Thailand University.

### **ANURAK CHALUMPUT** SANITARY OFFICER

CHIANG RAI MUNICIPALITY

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Mr. Anurak Chalumpot has been working in the municipal public health sector for more than 10 years. As Sanitary Officer of the Chiang Rai municipality, his main responsibilities are to ensure the coordination and operation of public health, sanitation, and environment actions in order to implement the development plan of the municipality. Mr. Chalumpot also coordinates the Urban Ecosystems and Biodiversity Conservation towards Sustainable City and Climate Change Resilience Projects. He is a member of the Task Force for the provincial environmental development plan of Chiang Rai Province and a coordinator of Northern Region Learning Network on urban and environment management promoted by Municipality League of Thailand (NMT).

In addition, Mr. Chalumpot is a coach for the Low Carbon City Project and the Secretary of the working group of Chiang Rai Municipality on the Partnership for Democratic Local Governance in Southeast Asia Project (DELGOSEA).

### **THAREE KAMUANG** PROJECT MANAGER

MUNICIPALITY LEAGUE OF THAILAND

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As a freelance researcher for over 17 years, Ms. Kamuang has promoted low carbon and sustainable city concepts in the Thai local government. For 15 years, she worked with a leading environmental NGO in Thailand and implemented more than 30 projects in collaboration with local communities, school teachers and children, as well as with local and national government institutes.

The focus of her work is climate change mitigation and adaptation, with an emphasis on sustainable development. Specific achievements of her work are the development of a toolkit for school teachers on climate change and the promotion of urban agriculture and biodiversity for climate change adaptation in Thai cities. Currently, she is in charge of a 36-month project entitled "The Promotion of Low Carbon City Across Thai Municipalities" under the Municipality League of Thailand (NMT), funded by the European Union.

### **WANNOBON KHUAN-ARCH** RESEARCHER/ PROJECT COORDINATOR

THAILAND ENVIRONMENT INSTITUTE

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Wannobon Khuan-arch is a project coordinator and researcher with over four years of experience, including two years of experience in urban climate resilience projects such as the Asian Cities Climate Change Resilience Network (ACCCRN) project in Thailand. She has worked as a researcher for the ACCCRN project under the Thailand Environment Institute, where she provided significant assistance to Thai local government agencies. Her role included formulating and planning climate resilience strategies and intervention projects for cities. Ms. Khuan-Arch has also worked with the National Municipal League of Thailand (NMT) in facilitating processes of knowledge exchange to local governments and municipalities on building urban climate change resilience for their cities.

### **TRUNG VIET NGUYEN** (TEAM LEADER) **MANAGER**

CLIMATE CHANGE BUREAU

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Dr. Nguyen Trung Viet is currently the Manager of the Ho Chi Minh City Climate Change Bureau (HCCB), and a leader of the Advisory Group for the Climate Change Steering Board. Prior to this role, Dr. Viet was the Head of the Solid Waste Management Division within the Department of Natural Resources and Environment (DoNRE). During his time at DoNRE, Dr. Viet participated in numerous projects and programs related to solid waste management and drove Ho Chi Minh City to improve its solid waste management systems. He contributed to the development of centralized solid waste treatment complexes and also helped draft the city's Master Plan for solid waste management system, which lays out a vision and strategy through the year 2030. He also gave recommendations to the HCM People's Committee to develop the systems for climate change issues.

Earlier in his career, Dr. Viet was a professor and Dean of Faculty of Environmental Technology at the University of Technology at Van Lang University (Ho Chi Minh City). He was also the Director of the Center for Environmental Technology and Management at Van Lang University. He received his Ph.D in Environmental Technology from Wageningen University in the Netherlands.

### **HUY PHUONG NGUYEN** **OFFICIAL**

HO CHI MINH CITY CLIMATE CHANGE BUREAU

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Mr. Nguyen Huy Phuong is an Official in the Climate Change Bureau of Ho Chi Minh City. Mr. Phuong was an active participant in the "Ho Chi Minh City Moving toward the Sea Adaptation with Climate Change" program in cooperation with the city of Rotterdam. The objective of this program was to enable and guide the long-term sustainable socio-economic development of Ho Chi Minh City, taking into account the effects of climate change. Before working in the Climate Change Bureau, he held a position in the Solid Waste Management Division.

Mr. Phuong attended the MRV/NAMA training course in Kitakyushu, Japan last year and is developing a GHG inventory in the MRV manner for HCM City. He received his MSc in Natural Resources and Environment Engineering from the University of Nottingham in the United Kingdom.

### **DO NAM THANG** **AWGESC**, **DEPUTY DIRECTOR OF THE INSTITUTE OF SCIENCE FOR ENVIRONMENTAL MANAGEMENT**

VIETNAM ENVIRONMENT ADMINISTRATION

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Do Nam Thang is the Deputy Director of the Institute of Science for Environmental Management, in the Ministry of Natural Resources and Environment. He is a national focal point of the ASEAN Working Group on Environmentally Sustainable Cities and has led numerous national research projects on several topics including climate change mitigation policy. In addition, Dr. Nam has acted as a resource for the Ministry in various environmental policy issues such as water management, pollution control, climate change policy and environmentally sustainable cities.

Dr. Nam has a Bachelor's degree in Environmental Engineering from the British Columbia Institute of Technology in Canada. He holds a Ph.D in Environmental Economics and a Master's degree in Environmental Management and Development from the Australian National University.



**NGUYEN THANH TRAM** SENIOR OFFICER OF INTERNATIONAL COOPERATION DEPARTMENT

VIETNAM ENVIRONMENT ADMINISTRATION

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As Senior Officer of the International Cooperation Department of the Vietnam Environment Administration, Ms. Nguyen Thanh Tram coordinates the international cooperation activities among ASEAN member countries, in particular, activities related to resilient cities. She holds a Master's degree in Environmental Engineering from the Asian Institute of Technology.

**LINH VU** VICE MANAGER

CLIMATE CHANGE BUREAU

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Linh Vu is currently the Vice Manager of the Ho Chi Minh Climate Change Bureau. His key responsibilities in this role include the development of Ho Chi Minh City's climate change action plan, management of CDM landfill and waste management projects, as well as communications and human resource development. Prior to this role, he worked for the Department of Natural Resources and Environment where he was tasked with managing hazardous waste activities as well as widening international relationships.

Mr. Vu holds a Bachelor's degree in Environmental Management and Technologies from Van Lang University, Ho Chi Minh City, and a Master's degree in Environmental Management from the University of East Anglia, United Kingdom.

### **IZHAR CHAIDIR** (TEAM LEADER) ACTING SECRETARY/ HEAD OF CITY PLANNING DIVISION

SPATIAL PLANNING DEPARTMENT, GOVERNMENT OF DKI JAKARTA PROVINCE

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Mr. Chaidir is the Head of Urban Spatial Planning division in the Department of Spatial Planning, Government of DKI Jakarta province. He was appointed to this position in 2011, after being the head of the section for 11 years in several divisions. In 2012, he became the Acting Secretary of the Department of Spatial Planning. He is responsible for formulating plans from the city level to the local level and is responsible for considering the differences between private needs and government planning proposals.

Mr. Chaidir is involved in the formulation of many projects related to the future of Jakarta, such as the Jakarta Master Plan 2030, the Detail Plan and Zoning Regulation, and the Master Plan of Heritage Area. He is also involved in formulating the IT Master Plan, GIS Master Plan, and implementing the Quality Management System of ISO 2001-2008.

Mr. Chaidir received his Bachelor's degree in Regional and City Planning from the Institute of Technology Bandung (ITB) in Indonesia and he received his Master's degree in International Relations (majoring in Economic Development and Infrastructure) from Waseda University, Tokyo, Japan in 2001.

### **BERNARDUS DJONOPUTRO** SECRETARY GENERAL

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Mr. Djonoputro currently serves as member of the advisory board of the ITB School of Business and Management. Prior to this appointment, he was elected as Secretary General of the Indonesia Association of Planners (Ikatan Ahli Perencana –IAP) for the period of 2007-2010.

During the peak of reform in 1997, he co-founded SPUR (Solidarity of Professionals for Reform), a loose association of young pro-reform professionals to support the student movement that pushed for reformasi. Mr. Djonoputro has more than 20 years of experience in business and the professional services industry. He served as Director of Marketing of Ernst & Young Indonesia for five years before moving to Price Waterhouse Coopers (PWC). As Director of PWC, he was responsible for business development and go-to-market strategy of the firm in Indonesia, until he co-founded HD Asia Advisory.

Mr. Djonoputro graduated from the Institute of Technology Bandung's (ITB) School of Regional & City Planning and is an alumni of the Indonesia-Australia Intergovernmental Youth Exchange Program.

**HENDRICUS ANDY SIMARMATA** LECTURER/ RESEARCHER

UNIVERSITY OF INDONESIA

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Mr. Simarmata is a lecturer, researcher and a certified urban and regional planner. He has written numerous papers on urban and regional planning and climate change adaptation and has been published in international journals and proceedings of international and national conferences. He has twelve years of research and consultancy experience with spatial planning, climate change adaptation and urban environmental assessments.

Mr. Simarmata has worked for UN Habitat Indonesia and received research funding from JICA-RI, START, British Council (UK-Aid), and various government agencies both on the national and local level in Indonesia. He has worked in most of Indonesia's regions including: North Sumatra, West Sumatra, Riau, and Riau Kepulauan; East, South, and Central Kalimantan; DKI Jakarta, Central Java, and Jogjakarta; South and North Sulawesi; and Papua and Papua Barat.

He is currently a Ph.D. fellow at Zentrum fur Entwicklungsforschung (ZEF) in Bonn, Germany.

**IMAN SOEDRADJAT** (NATIONAL GOVERNMENT), DIRECTOR OF NATIONAL SPATIAL PLANNING DIRECTORATE

DIRECTORATE GENERAL OF SPATIAL PLANNING, MINISTRY OF PUBLIC WORKS

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Since 2006, Iman Soedradjat has been the Director of National Spatial Planning at the Directorate General of Spatial Planning within the Ministry of Public Works. He is actively involved in many organizations where he has held key roles such as Treasurer of EAROPH Indonesia between 2004 and 2010. He is also an EXCO member in EAROPH International.

Mr. Soedradjat received a Bachelor's degree in Regional and City Planning from the Institute of Technology in Bandung and holds a Master's of Public Administration degree from Carnegie Mellon University in Pennsylvania, USA.

### **DATO' HAJI ZULKIFLI HAJI YAACOB** (TEAM LEADER) PRESIDENT OF KUANTAN MUNICIPAL COUNCIL

KUANTAN MUNICIPAL COUNCIL

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Dato' Haji Zulkifli bin Haji Yaacob was appointed President of Kuantan Municipal Council in August 2010. As Municipality President, he ensures the operation of the social, economic, environmental and cultural well-being of the city, in accordance with relevant laws, ordinances and administrative guidelines. He is responsible for managing, planning, controlling, liaising and supervising the administration of the council including personnel and fiscal operations. He also manages urban service delivery, city planning, public amenities development and maintenance, public health, business controls, city beautification, environmental development and community development.

Mr. Haji Yaacob has initiated efforts in environmental management and sustainable development which led Kuantan to win the ASEAN Sustainable City Awards in 2011 Category Clean Water, the Silver Award in the International Awards for Livable Communities in 2011 and the Gold Award in the same category in 2012. The awards are related to good practice in safeguarding the environment. He has initiated the 3Rs Partnership Project which was recognized as a Best Practice in the International Dubai Awards in 2012. He was also awarded the Author of the Most Outstanding Project in the 1st International Tehran Festival of Research and Innovation in Urban Management for the same project.

He holds a Master's of Science degree in Urban Planning from University of Wales, United Kingdom.

### **HAMIZA HAMZAH** DIRECTOR OF PLANNING DEVELOPMENT DEPARTMENT

KUANTAN MUNICIPAL COUNCIL

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Hamiza Hamzah is the Director of the Planning Development Department within the Kuantan Municipal Council. In this role, she has played a key part in developing the Kuantan Local Plan 2004-2015, the Kuantan Municipal Council Strategic Planning 2009-2014 and the Sungai Lembing Special Area Plan. She has also undertaken project designs on traffic and transportation management and environmental initiatives. In 2010, she led a sustainable community project called "The Largest Banner of Mind Maps" which was accredited in the Malaysia Book of Records.

Ms. Hamizah actively participates in many regional and international organizations and events, such as the UNDP, UNEP, UNHABITAT, Kuantan Traffic Planning Committee, LYNAS Environment Enforcement Committee and the Kuantan Local Agenda 21 Committee. She also provides advice to various organizations and individuals including government agencies, NGOs, CBOs, developers and professionals.

Ms. Hamizah holds an Advanced Diploma in Town and Regional Planning from the University of Technology, MARA in Selangor, Malaysia. She was certified as a Corporate Planner by the Malaysian Institute of Planning in 1994.

**DATO' ABU HASAN MOHD ISA** (NATIONAL GOVERNMENT), DIRECTOR, STRATEGIC COMMUNICATIONS DIVISION

DEPARTMENT OF ENVIRONMENT MALAYSIA

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Dato' Abu Hasan bin Mohd Isa is Director of the Strategic Communications Division, Department of Environment, Putrajaya since November 2012. Prior to this role, he was Director of Department of Environment in Perak. He has served in this Department for over 30 years and has working experience in enforcement, Environment Impact Assessment, and environmental auditing.

Currently, he is responsible for monitoring, promoting, and implementing awareness through environmental education programs geared toward sustainable development for every sector of society including schools, universities and communities. He also helps to foster regional and international relationships on environmental management and promotes information exchange.

He received his Master's degree in Environment and Pollution Control from University of Manchester, England in 1995.

**ABDUL RAHIM MUDA** HEAD OF ENVIRONMENTAL HEALTH DIVISION

KUANTAN MUNICIPAL COUNCIL

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Abdul Rahim is Head of the Environmental Health Division within the Kuantan Municipal Council. In this role, he is responsible for managing the environmental health and cleanliness programs in the city. Mr. Rahim is an Environmental Health Officer and is currently the President of Environmental Health Officers of Malaysia. He is the backbone for the 3R Partnership Project which was awarded the International Tehran Awards for Research and Innovation Urban Management in 2012 and the International Dubai Awards for Improved Living Environment in 2012. He has been involved in many international events including the International Seminar on Environmental Health Malaysia in 2013, the United Nations Institute Training and Research (UNITAR) on Governance Urban Sanitation in 2011 and the City Biodiversity Index for the ASEAN Sustainable City Workshop in 2010.

Mr. Rahim graduated with a diploma from the Royal Society of Health in London and received his Bachelor's of Science degree in Environmental and Occupational Health from the University Putra Malaysia.

**MUHAMMAD AZHA ABD RANI** HEAD OF INFRASTRUCTURE DIVISION

KUANTAN MUNICIPAL COUNCIL

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As the Head of Infrastructure Division within the Kuantan Municipal Council, Mr. Rani plays a key role in developing, controlling and implementing the infrastructure plan in Kuantan. Most recently, he completed the Stormwater Management and Drainage Master Plan Study in Kuantan. In 2008, he presented the paper 'Infrastructure Management in Kuantan' to the Local Government Development Foundation (LOGODEFF) Conference in the Philippines. Mr. Rani is a member of the Kuantan Environmental Impact Assessment Committee and has served in the community with numerous environmental awareness programs such as the '1River, 1State' program and Kuantan Local Agenda 2.

Mr. Rani is a Civil Engineer and a member of the Institution of Engineers Malaysia (IEM). He graduated from the University Technology MARA, Malaysia, with a Bachelor's of Science degree in Civil Engineering, specializing in Hydraulics and Hydrology.

## LEGAZPI, PHILIPPINES

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### **NOEL ROSAL** (TEAM LEADER) CHIEF EXECUTIVE

CITY GOVERNMENT OF LEGAZPI

As the Chief Executive of the City Government of Legazpi, Honorable Noel Ebriega Rosal is primarily tasked to promote the general welfare of the City and its inhabitants. In addition, Mayor Rosal has the lead responsibility of overseeing climate change adaptation and infrastructural initiatives in Legazpi City.

### **CEDRIC DAEP** PROVINCIAL GOVERNMENT DEPARTMENT HEAD

PROVINCIAL GOVERNMENT OF ALBAY, ALBAY PUBLIC SAFETY AND EMERGENCY MANAGEMENT OFFICE/CLIMATE CHANGE ACADEMY

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Cedric Daep is the Department Head of Albay Public Safety and Emergency Management Office (APSEMO), an office that he created in 1995. Additionally, he was recently appointed as Executive Director of the Climate Change Academy. In these roles, he is responsible for local and national trainings and seminars on DRR/CCA, which aim for zero casualty in areas of high vulnerability to natural calamities. The Climate Change Academy hosts local area and hazard specific trainings that are conducted locally by APSEMO.

### **JOSEPH ESPLANA** CITY PLANNING AND DEVELOPMENT COORDINATOR

LGU LEGAZPI CITY

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Joseph Esplana is the City Planning and Development Coordinator at the Legazpi City Planning and Development Office. Prior to this role, he served in the Planning and Development Office as Senior Project Evaluation Officer, Urban Planner, Planning Officer III, Project Evaluation Officer IV, Assistant City Planning and Development Coordinator. At the start of his career, Mr. Esplana worked as a Development Project Analyst in the Legazpi City Planning and Development Staff/City Mayor's Office.

He holds a Bachelor's degree in Civil Engineering from Bicol University in Legazpi, Philippines and a Master's of Science degree in Management Engineering.

**GILBERT GONZALES** (REGIONAL GOVERNMENT), REGIONAL EXECUTIVE DIRECTOR

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)

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As the Regional Executive Director (RED) of the Department of Environment and Natural Resources (DENR) V, Gilbert Gonzales is responsible for directing and coordinating the implementation of all policies, regulations, programs and projects in environmental and natural resources development and conservation in the Bicol Region. The DENR provides technical support to all environmental management programs initiated by the City Government of Legazpi particularly on Environmental Pollution and Management such as Solid Waste Management (SWM), Air Quality Management and Water Quality Management.

Mr. Gonzales was a member of the SWM Board that formulated the SWM program of the City, as well as part of the Technical Working Group that established Air Quality Monitoring System and Sagumayon River Management Council in the City. He was also one of the prime movers of the Climate Change Adaptation Program of the Province of Albay and Legazpi City.

**RAUL ROSAL** CITY COUNCILOR

LGU LEGAZPI CITY

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Since 2007, Raul Rosal has served as City Councilor of Legazpi City. He is an author of more than 30 notable Ordinances and more than 100 Resolutions concerning environmental protection, assistance to barangay workers, public utilities, public order, safety, and finance and appropriations. Mr. Rosal has chaired several committees including the Committee on Public Utilities, Committee on Finance and Appropriations, Committee on Education, Arts and Culture, and the Committee on Public Order and Safety.

Prior to his current appointment, Mr. Rosal was a Mining Engineer for 28 years. During this time, he worked for the Mines and Geosciences Bureau Region V as a Senior Science Research Specialist.

Mr. Rosal holds a Bachelor's of Science degree in Mining Engineering from the MAPUA Institute of Technology in Manila, Philippines.

**CARMEN GERALDINE BARRAMEDA ROSAL** FORMER CITY MAYOR AND SPECIAL CONSULTANT TO THE MAYOR FOR WOMEN'S CONCERNS

Ms. Rosal was the Mayor of Legazpi City from 2010-2013 and is a Special Consultant to the Mayor for Women's Concerns. Prior to these roles, she worked for DHL Philippines in Naga City and was an Air Philippines Traffic Customer Service Representative.

In 2009, Ms. Rosal was awarded Most Outstanding Chairperson of a Gender Development Program and was recognized for developing the Most Outstanding Community Development Program by the Junior Chamber Philippines.

Ms. Rosal received her Bachelor's of Science degree in Secondary Education from Bicol University in Legazpi, Philippines. She recently completed training courses related to Strategic Management from the Asian Institute of Management and Local Governance from the Ateneo de Manila School of Government.

### **NOUANSAVANH SENGMANY** (TEAM LEADER) DIRECTOR GENERAL

DEPARTMENT OF PUBLIC WORKS AND TRANSPORT OF BORIKHAMXAY PROVINCE

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Since 2008, Mr. Nouansavanh Sengmany has been the Director General of the Department of Public Works and Transport of Borikhamxay Province. Prior to this position, he was Deputy Director for 12 years. He started his professional career as a public servant in the same department with the rank of Head of Transport and Urban Planning Section.

From 2002 to 2004 Mr. Sengmany attended Hanoi Transport and Communication University in Vietnam where he earned a Master's degree in Civil Engineering as an extension of his Bachelor's degree from the Building Construction Institute in the Lao PDR. He also holds a Master's of Science degree in hydro-Engineering from the former USSR Leningrad Water Transport Institute.

### **SENGDARA DOUANGMYXAY** AWGESC, URBAN DEVELOPMENT SPECIALIST

DEPARTMENT OF HOUSING AND URBAN PLANNING, MINISTRY OF PUBLIC WORKS AND TRANSPORT

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Mr. Sengdara Douangmyxay is an urban development specialist and is Lao PDR's National Focal Point for the ASEAN Working Group on Environmentally Sustainable Cities stationed in the Department of Housing and Urban Planning, Ministry of Public Works and Transport. His major duties include supervising territorial planning, assisting the Department in policy formulation and assessing law enforcement in infrastructure and land use planning. Prior to his current position, for six years, he was involved in the management of urban development works funded by the Asian Development Bank in 12 cities.

In 1983, Mr. Douangmyxay completed Architecture and Civil Engineering College in Sofia, Bulgaria and later earned his Master's degree in Civil Engineering from Kharkov Institute of Municipal Engineers in Ukraine. He recently attended the University of Canberra in Australia, where he specialized in urban management and public administration.

### **THONGLITH FONGSINOUAN** HEAD OF HOUSING AND URBAN PLANNING SECTION

DEPARTMENT OF PUBLIC WORKS AND TRANSPORT OF BORIKHAMXAY PROVINCE

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Mr. Thonglith Pongsinouan has been employed by the Department of Public Works and Transport of Borikhamxay Province since 1990. He is currently the Head of the Housing and Urban Planning Section. Prior to this appointment, he was a Civil Engineer in the same section. His main functions include considering building applications, supervising the enforcement of site and building codes within the provincial territory and monitoring housing and urban development projects. He is also responsible for providing assistance to the Director of the Department and the local community in all aspects of urban environment management.

Mr. Fongsinouan graduated from the Building Construction Institute with a Bachelor's degree in Architecture in 1990. In 2012, he obtained a Master's degree in Urban Planning from the National University of Laos.



**YOUPHAS POKHASOMBATH** DEPUTY SECTION HEAD

DEPARTMENT OF PUBLIC WORKS AND TRANSPORT OF BORIKHAMXAY PROVINCE

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Ms. Youphas Pokhasombath is the Deputy Head of Housing and Urban Planning Section of the Department of Public Works and Transport of Borikhamxay Province. Prior to this position, she was the Section's Building Engineer for three years. Her current tasks include assessing building applications and ensuring the compliance of construction with site and building codes, and cost evaluation in government funded projects.

Ms. Pokhasombath holds a Bachelor's degree in Civil Engineering from the Building Construction Institute.

**KEODARA VONGSAVANTHONG** CIVIL ENGINEER

DEPARTMENT OF PUBLIC WORKS AND TRANSPORT OF BORIKHAMXAY PROVINCE

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Mr. Keodara Vongsavanthong is a civil engineer in the Department of Public Works and Transport of Borikhamxay Province. His tasks include monitoring and supervising construction sites, verifying building construction, and identifying repair and maintenance needs for urban infrastructure and public amenities. Prior to his current position, Mr. Vongsavanthong worked for the Institute of Communication Design and Research Institute and was responsible for budget planning and procurement. From 2004 to 2008, he was a Quantity Surveyor and Building Engineer for the Second Mekong Bridge Construction Project, assisting the project manager in evaluation and control of payment certificates during the design and construction of immigration control facilities for both Lao PDR and Thailand.

Mr. Vongsavanthong holds a Bachelor's degree in Civil Engineering from King Mongkut's University of Technology in Bangkok, Thailand.

### **RENI SEFRIANY** (TEAM LEADER) HEAD OF ENVIRONMENTAL RESTORATION AND DAMAGE CONTROL DIVISION

ENVIRONMENTAL AGENCY

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Reni Sefriany is the Head of Environmental Restoration and Damage Control within the Environment Agency of Palembang. Mr. Sefriany is responsible for coordinating, developing and formulating policies, as well as overseeing monitoring and evaluation activities related to climate change and ozone layer protection. He has recently attended several trainings including, "Establishment of Sound Material Cycle for ASEAN Countries – Formulation of Practical Measures" in Kitakyusu, Japan, and "Beyond Climate Change Impact on Water Resources and Biodiversity: Communication and the Role of Society" in Thailand.

Mr. Sefriany has a degree in Chemical Engineering from the University of Sriwijaya in Palembang and a Master's of Management in Urban Development from the Institute of Technology.

### **EKA GUSTINI** FLOOD CONTROL AND DRAINING SUBDIVISION

PUBLIC WORKS DEPARTMENT, PALEMBANG CITY

Eka Gustini is a staff member in the Flood Control and Draining Subdivision of the Public Works Department. Her primary responsibilities include managing flood control, sanitation and drainage infrastructure in Palembang City. She helps to formulate, monitor and implement local regulations and policies regarding flood control, water supply, drainage and sanitation in Palembang City, and she coordinates these policies with other cities and stakeholders, as well as with the national government.

Ms. Gustini holds a Master's degree in Hydraulic Engineering, specializing in land and water development from UNESCO-IHE in Delft, Netherlands. In 2011, she attended an environmental energy course in Korea and

### **NYIMAS IDA APRIANI** HEAD OF ENVIRONMENTAL AGENCY

LOCAL ENVIRONMENTAL AGENCY OF PALEMBANG CITY

Nyimas Ida Apriani is the Head of the Environmental Agency of Palembang City. In this role, she is responsible for formulating policy and regulations, overseeing monitoring and evaluation, as well as analysis and implementation. She also provides technical assistance on projects that include mitigation, adaptation and ozone layer protection in Palembang City.

Ms. Apriani holds a Master's degree in City Planning and Implementation from Gajah Mada University in Yogyakarta county. She has also recently attended an Urban Management course in Japan and a Waste to Energy course in Korea.

**TRI WIDAYATI (NATIONAL GOVERNMENT), HEAD OF CLIMATE CHANGE ADAPTATION EFFORT DIVISION**

ENVIRONMENTAL MINISTRY

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Tri Widayati is the Head of the Climate Change Adaptation Effort Division of the Environmental Ministry. For the past 19 years, he has been responsible for climate change adaptation efforts in Indonesia which includes formulating policies and regulations as well as overseeing monitoring and implementing adaptation efforts. Mr. Widayati has climate adaptation experience working in local, regional, national and international settings.

Mr. Widayati holds a Master's degree from Indonesia University.

**MUHAMMAD YUNUS HEAD OF ENVIRONMENTAL RESTORATION SUB DIVISION**

ENVIRONMENTAL AGENCY OF PALEMBANG CITY

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Muhammad Yunus is Head of the Environmental Restoration Subdivision of Palembang City's Environmental Agency. In this role, Mr. Yunus is responsible for formulating policies and regulations, monitoring and evaluating projects and providing technical assistance. He also gives reports on restoration waste and climate impacts. His educational background is in the biological sciences and he holds a Master's of Public Health.

**MR. CHIEK ANG** (TEAM LEADER), AWGESC, DIRECTOR

PHNOM PENH ENVIRONMENTAL DEPARTMENT

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Mr. Chiek Ang has worked in the Environmental Department of Phnom Penh since 1995. Since 2007, he has served as the National Focal Point of the ASEAN Working Group on ESC. He also currently works for the Permanence Secretariat of the City Steering Committee on CDM and Climate Change.

Prior to these roles, he participated in trainings that included Capacity Building for Environmental Fields in Singapore, China, Japan, and Thailand. In 2005-2006, he participated in the Training for Trainer for Integrated Environmental Education in Yokohama and communicated his experience as a featured presenter in Hanoi. He played a key role in implementing environmental education for all of the primary schools in Phnom Penh City. In 2006, he attended the Capacity Building Program for Water Monitoring Process in New Hampshire, USA. In 2007, he led a project entitled "Establishing Policy on Dry Battery Waste in Cambodia." More recently, he worked for the Consortium Research Project on Solid Waste Management and led a local program for changing behavior regarding waste littering and plastic bags management.

Mr. Chiek Ang holds a Master's degree in Rural Development.

**MR. THAI DARA** HEAD OF SOCIAL AND ECONOMIC OFFICE OF INTER-SECTORS DIVISION

PHNOM PENH CITY HALL

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As Head of the Social and Economic Office of Inter-Sectors Division in Phnom City, Mr. Thai Dara coordinates all of the technical Departments of Ministry lines with the workings of the City Hall and nine other local authorities (districts). Prior to this role, he worked in the Cambodia National Election Committee. In addition, for nine years, he worked with the Local Authority Unit in District of 7 Makara, Phnom Penh City and worked for seven years in the Phnom Penh City Hall.

Mr. Dara has a Bachelor's degree in Architecture and a General Administrative Diploma. He also holds a Master's degree in Public Administration.

**DR. POEUNG RATANAK** PH.D. HEAD OF LAND MANAGEMENT AND URBANIZATION OFFICE

DEPARTMENT OF PHNOM PENH LAND MANAGEMENT, URBANIZATION, CADASTRAL AND CONSTRUCTION

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Prior to his current role as Head of the Land Management and Urbanization Office, Dr. Poeung Ratanak has worked for the Land Management and Urbanization Office for many years and has held several positions including the Section Chief and the Deputy Head of the Office.

Mr. Ratanak has a Bachelor's degree in Business Administration and a Master's of Business Administration. In 2008, he received his Ph.D. in Rural Development.

**MR. CHHUN SEIHA** (NATIONAL GOVERNMENT), DEPUTY HEAD OF VULNERABILITY ASSESSMENT AND ADAPTATION OFFICE

CLIMATE CHANGE DEPARTMENT, MINISTRY OF ENVIRONMENT

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Since 2011, Mr. Chhun Seiha has been the Deputy Head of the Vulnerability Assessment and Adaptation office in the Climate Change Department of the Ministry of Environment. In this role, his primary responsibilities include conducting Vulnerability Assessments and promoting the implementation of climate change adaptation projects in Cambodia. Mr. Seiha oversees adaptation activities at the national and sectoral levels while helping to drive communication with national and international stakeholders working on climate change initiatives. Prior to his current position, he worked as a part-time lecturer at various Universities. In addition, from 2007 to 2011, he worked as a Technical Officer in the Pollution Control Office in the Kandal Provincial Environmental Department. During that time he attended training abroad regarding waste water treatment and water management. In addition, he has had the opportunity to present on the topic of regulation and pollution control to various stakeholders, institutions and other target audiences.

Mr. Seiha has a Bachelor's degree in Business Administration from Norton University and a Bachelor's degree in Education in English, which he earned from the Institute of Foreign Language in 2012. He also holds a Master's degree in Management from the Norton University in Phnom Penh, Cambodia.

**MR. NEY SONA** DEPUTY DIRECTOR

PHNOM PENH DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION (DPWT)

MINISTRY OF PUBLIC WORKS AND TRANSPORTATION

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Ney Sona has worked for the Government of Cambodia for 21 years, starting from the role of general staff of the Kampot Department of Public Works and Transportation (DPWT) in 1994 to Deputy Director of Takeo DPWT in 2000 and shifting to the Capital City in 2007. His current role is Deputy Director of Phnom Penh's DPWT. The DPWT is responsible for building and maintaining public infrastructure including roads, sewage, bridges and dikes.

Mr. Sona holds a Bachelor's degree in Civil Engineering from Soviet Institute of Technology and a Master's degree in Civil Engineering from Phnom Penh International University.

## RESOURCE TEAM & SPEAKERS

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### **GREG BRUCE** EXECUTIVE MANAGER

INTEGRATED SUSTAINABILITY SERVICES DEPARTMENT  
CITY OF TOWNSVILLE, QUEENSLAND, AUSTRALIA

Greg Bruce works in the “*sustainability renaissance city*” of Townsville in north Queensland, Australia – where he is inspired to work with and for the community as a whole, including citizens, residents, businesses, researchers, government, volunteers and students. His passion is what he calls “back to the future thinking” where we evolve the “*memes (ideas, culture) of sustainability and change*” from our own human interactions in our cities. Where smart cities of the future are driven not just by engineering and technology, but also by our past successes and failures; our collective experiences and knowledge; our dreams for the future and most importantly from the actual people embedded in them. He loves finding practical and proven ways to communicate, collaborate and implement on-ground practical and adaptive sustainability that foster innovation, resilience and meaningful outcomes. Where we actively create opportunities to involve citizens and businesses in ways that matter to them, not us. Thinking of cities as carbon-based systems running on sunlight or energy derived from the sun - old or new, food or fuel, because we are already “solar cities”. This type of city is fuelled by people and their interactions with each other, more than their ideas. Mr. Bruce brings this all together by leading and integrating water, energy, waste and nature through an “*integrated sustainability framework for action*” focused on fostering and obtaining functional behaviour change, integrating social and economic dimensions and the creation of new memes (replicable culture for sustainable behaviours).

He works with many private and public champions of “*sustainability in action,*” to develop cutting edge partnerships and collaborations, especially with the local energy utility (Ergon Energy); IBM Smarter Cities Team in Australia; James Cook University (JCU); The Natural Edge Project (TNEP); local companies; and Professors Sam Ham (University of Idaho, USA) and Valerie Brown A.O. (University of Western Sydney), Dr. Doug MacKenzie-Mohr and his outstanding Departmental team and fellow collaborators. Commencing with a national solar city project in 2006 and leading to adaptive and resilience building projects of energy demand management, energy efficiency, integrated renewables, thermal storage in our CBD and developing Townsville as a *Smart City, Solar City*. His vision is for Townsville to be a leading centre in the world for smart technology and sustainability communications enabling an array of environmental products and services and practical, affordable sustainability, supporting and involving people themselves.

Mr. Bruce has been in the Townsville City Council for 18 years and prior spent 14 years in military forces as an officer. He has a Bachelor of Applied Science in Natural Resources Management (NRM) from University of Adelaide and over past few years has regularly to and assisted the city administrators of Port Moresby in actionable sustainability. In 2011, he participated as a Professional Fellow (Climate Change and Sustainability) to the United States and undertook an exchange with City of Dubuque, Iowa.

### JOSEPH FIKSEL

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Dr. Joseph Fiksel is Executive Director of the Center for Resilience at The Ohio State University, and also heads the consulting firm Eco-Nomics LLC. He is an internationally recognized authority on sustainability and resilience, with over 25 years of research and consulting experience for government agencies, multi-national companies, and industry consortia such as the World Business Council for Sustainable Development. Currently he is serving as Special Assistant for Sustainability to the U.S. Environmental Protection Agency, helping to incorporate systems thinking into their research programs.

Dr. Fiksel's current research focuses on the challenges that communities and nations face in adapting to a complex and turbulent environment. Global achievement of sustainable and equitable economic development becomes more challenging in the face of emerging threats such as climate change, resource depletion, and natural habitat degradation. The use of advanced system modeling methods is helping decision makers to develop a more integrated understanding of these dynamic forces, and to invest wisely in assuring the security of food, energy, water, and infrastructure, as well as human rights.

A native of Montreal, Dr. Fiksel began his career at DuPont of Canada, and later served as Director of Decision & Risk Management at Arthur D. Little and Vice President for Life Cycle Management at Battelle. He has published over 80 articles and five books, has testified in Congress, and is a frequent keynote speaker at conferences. He holds a bachelor's degree from M.I.T., a doctorate in Operations Research from Stanford University, and an advanced degree from La Sorbonne in Paris. His most recent book, *Design for Environment*, was published by McGraw-Hill in 2011.

### ROBERT MATHER **PH.D.** HEAD OF THE SOUTHEAST ASIA COUNTRY GROUP

IUCN

Robert Mather earned a Ph.D. from Cambridge University in 1992, based on field work on primate ecology in Central Kalimantan, Indonesia. He joined WWF in 1993 coordinating a large project for the Huay Kha Kaeng-Thung Yai Naresuan World Heritage site, in western Thailand, and established the WWF Thailand Country Office in 1995, taking it from a start-up operation to a nationally well-known and respected organization with 60 talented staff by 2005.

Dr. Mather started working on Mekong issues in 2001 and from 2005-2008 led WWF's Living Mekong Programme based out of Vientiane, Lao PDR. He joined IUCN in September 2008 and is now Head of the Southeast Asia Country Group. In addition to providing overall management responsibility and supervision of IUCN's programmes in all ASEAN countries, Dr. Mather is also directly involved in a number of IUCN flagship initiatives in the region – including the Mekong Water Dialogues (MWD); Mangroves for the Future (MFF); and Building Resilience to Climate Change in Coastal Southeast Asia (BCR); as well as supporting the development of urban biodiversity initiatives in Thailand.

### PHONG TRAN **TECHNICAL LEAD**

ISET

Phong Tran is a Technical Lead of ISET in Vietnam. He has an intensive knowledge of climate change adaptation and disaster risk reduction theories and practices, particularly in urban climate change adaptation. Dr. Tran has worked with city partners in Vietnam on the ACCCRN and USAID funded programs in building urban climate resilience and urban resilience planning.

Dr. Tran obtained his Doctoral degree in Environmental Studies from Kyoto University, Japan and his Master's degree in Urban and Regional Planning from Hawaii University, USA.

## RESOURCE TEAM & SPEAKERS

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### **LEE R. FELDMAN** CITY MANAGER, CITY OF FORT LAUDERDALE, FL

ICMA-CM

Lee Feldman was appointed City Manager for the City of Fort Lauderdale, Florida, in June 2011. Prior to his appointment as Fort Lauderdale City Manager, Mr. Feldman was employed by the City of Palm Bay, Florida, where he served as City Manager from October 2002 through June 2011.

He previously served as the City Manager of North Miami, Florida, from May 1996 to October 2002, and as the Deputy City Manager beginning in 1989. Mr. Feldman's career also includes serving as an Assistant to the City Manager and Assistant City Manager for the City of North Miami Beach.

Mr. Feldman is a graduate of Washington and Lee University, where he received a Bachelor of Arts degree in Liberal Arts. He earned a Master's degree in Governmental Administration from the Fels Center of Government at the University of Pennsylvania. In addition, he is a graduate of the Senior Executive in State and Local Government program at Harvard University's Kennedy School of Government.

Mr. Feldman currently serves as a Vice President (Southeast Region) of the International City and County Management Association (ICMA) and previously served as President of the Florida City and County Management Association. He is a past recipient of the Florida League of Cities' "City Manager of the Year" Award.

His numerous professional affiliations include serving as a member of the United States Federal Emergency Management Agency National Advisory Council, and a member of the National League of Cities Steering Committee on Public Safety and Crime Prevention and Advocacy. Mr. Feldman is a past chair of the National League of Cities' City Futures Panel on Public Finance; and a past chair of the International City and County Management Association's (ICMA) Governmental Affairs and Policy Committee. He serves on the ICMA's Sustainability Advisory Group and has served on the Association's Task Force on Community Tools for Ending Racism.

Mr. Feldman teaches newly elected municipal officials the principles of finance and taxation in Florida and is frequently called upon to speak to professional groups on a variety of municipal issues.

### **SAENGROAJ SRISAWASKRAISORN** CLIMATE CHANGE ADAPTATION SPECIALIST

USAID/RDMA

Mr. Srisawaskraisorn is currently the USAID Project Manager for WaterLinks Alliance, a water related public-private partnership, and Mekong-Building Resilient Asian Cities (M-BRACE), a climate change related project. He has more than 12 years of experience implementing and managing development projects, both as a USAID contractor and a USAID officer. His professional background includes water and sanitation, environmental governance, air quality, urban planning, and climate change adaptation and resilience. As evident in his past and present roles and experiences, he is a natural advocate for peer-to-peer learning, public-private partnerships, and environmental good governance.

Mr. Srisawaskraisorn holds a Bachelor's degree in International Relations from Thammasat University, Thailand, and a Master's degree in Urban and Regional Planning from the University of Hawaii, Honolulu. He is also a former grantee of the East-West Center in Honolulu.



**JOSEPH LOMBARDO** DIRECTOR

ICMA CITYLINKS PROGRAM

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Joseph Lombardo has more than three decades of experience in international development, including 22 years as a Foreign Service Officer with the U.S. Agency for International Development (USAID). As the CityLinks Program Director at ICMA, Mr. Lombardo oversees a USAID-funded program creating city-to-city partnerships to help build resiliency of local governments and vulnerable populations facing interrelated challenges of climate change, food security, and water and sanitation access.

He has held senior leadership positions directing USAID overseas missions, and agency strategic planning and budget in Washington; run his own consulting firm; and held senior management positions with international development NGOs and local governments in the United States. Mr. Lombardo has worked in nearly 30 countries in Asia, Europe, Africa, and Latin America and the Caribbean. His work with USAID earned him numerous honors and performance awards.

He has a B.A. degree in sociology and psychology from the State University of New York at Buffalo, a M.S. in educational psychology and statistics from the State University of New York at Albany, and a MRP (master of regional planning) with a concentration in international development policy, planning, and management from the Maxwell School for Citizenship and Public Affairs, Syracuse University. He is fluent in English and Spanish.

**VIC AQUITANIA** REGIONAL DIRECTOR FOR SOUTHEAST ASIA

ICLEI-LOCAL GOVERNMENTS FOR SUSTAINABILITY

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As Regional Director for Southeast Asia, Vic Aquitania develops, manages and evaluates strategies in optimizing local government capacities on sustainable development. Mr. Aquitania manages a team of experts to localize global and national programs covering issues on climate change mitigation and adaptation, renewable energy and energy efficiency, water and sanitation, cleaner mobility, urban biodiversity, and disaster risk reduction.

Prior to joining ICLEI in 2005, Mr. Aquitania has spent more than a decade as a Planning Officer for the City of Baguio, Philippines, where he has prepared program development plans, physical framework plans, and annual investment plans. He had likewise been involved in the implementation, budgeting and human resource management of projects funded by the local government, national agencies and international organizations.

He holds a Bachelor's degree in Forestry, a Bachelor of Laws, a Bachelor's degree in Forestry, a Bachelor of Laws, and has completed coursework towards a Master's in Public Administration.

## CITYLINKS TEAM

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### **JOY BAILEY** URBAN AND REGIONAL PLANNER

ICLEI-LOCAL GOVERNMENTS FOR SUSTAINABILITY

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Joy Bailey is a licensed Urban and Regional Planner who has worked in Southeast and South Asian countries on projects focused on climate change, disaster response, air quality, water governance, and community development. She has piloted the Walkability Survey in both Colombo, Sri Lanka and in Male, Maldives. As a Fredskorpset (Norwegian Peace Corps) exchange participant from Clean Air Initiatives for Asian Cities, she assisted in the Air Quality Scorecard for Sri Lanka. Ms. Bailey also provided technical support to local governments in Indonesia, Philippines and Thailand who were part of ICLEI's Cities for Climate Protection (CCP) Campaign.

Her postgraduate dissertation was entitled "Do Cities Respond to the Global Call for Climate Protection: A Case Study of Yogyakarta, Indonesia" for her MSc in Environmental Change and Management at the University of Oxford.

### **JESSICA CHO** PROGRAM MANAGER

ICMA CITYLINKS PROGRAM

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Jessica Cho has over five years of experience managing international development projects. She joined ICMA in early 2013 as the CityLinks program manager where she manages capacity building activities through global city-to-city partnerships. Before joining ICMA, Ms. Cho received her Master's of Science degree in Public Policy and Management from the H. John Heinz College at Carnegie Mellon University. While at Heinz College, she was named a fellow with the Council of Women World Leaders. As a fellow, she worked in the Office of the Prime Minister of Trinidad and Tobago on gender and education issues. Prior to completing her degree, she worked in Iraq on counter insurgency and stability projects. Following her time in Iraq, she spent one year in Afghanistan working on a USAID funded nationwide food security and counterinsurgency project.

Ms. Cho's technical competencies include the development and implementation of stability programming in post-conflict environments, monitoring and evaluation, report writing, donor compliance, and gender programming. She was also a Peace Corps volunteer in Jordan, where she learned Arabic and served as an English teacher from 2006 to 2008.

Ms. Cho has a B.A. in Peace and Conflict Studies from Chapman University in Orange, California and is originally from Denver, Colorado.

**MIKE CROWLEY** SENIOR PROGRAM OFFICER

INSTITUTE FOR SUSTAINABLE COMMUNITIES

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Michael Crowley joined the Institute for Sustainable Communities in January 2011 as Senior Program Officer in the US Climate & Environment Program. He helps build the capacity of local practitioners in climate adaptation, transportation, energy efficiency, and sustainability leadership through peer-learning workshops and targeted on-the-ground technical assistance.

Previously he was the Sustainability Program Manager at Environmental Health & Engineering (EH&E), an environmental consulting firm in Needham, MA. In that role, he helped clients develop robust institutional sustainability programs, and provided technical support ranging from change management to climate action planning and green building programming. Prior to his position at EH&E, Mr. Crowley was the Assistant Director of the Harvard University Green Campus Initiative (now the Office for Sustainability), where he established a green building program, managed a \$12 million revolving loan fund for energy conservation projects, and led the strategic planning effort to develop a greenhouse gas reduction commitment for the Faculty of Arts and Sciences.

He holds a Bachelor of Arts degree in Environmental Studies from the University of Vermont, and a M.S. in Environmental Science from Schumacher College/University of Plymouth.

**LAURA J. HAGG** DIRECTOR, MIDDLE EAST & NORTH AFRICA PROGRAMS

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Ms. Hagg is the Knowledge Management and Communications Specialist for CityLinks. She also serves as Director for the Middle East & North Africa programs for ICMA International. She also is the Program Director for a U.S. Department of State exchange program with local government professionals from China, New Zealand, Thailand and the U.S.

At ICMA, she leads efforts for the International Team to utilize the Knowledge Network, a professional networking and knowledge sharing platform launched by ICMA in May 2010. Ms. Hagg began her professional career more than 20 years earlier as a management intern for the city of Westminster, Colorado. There, she learned firsthand about budgeting, economic development, environmental and emergency management, citizen outreach and other critical services. Since then she has worked in a number of public outreach, communications, and policy capacities including work with the city of Philadelphia and Washington DC region.

In 2008, she was selected to participate in USAID's Emerging Market Development Advisors Program (EMDAP) and worked in Amman, Jordan, as a business development officer for the Jordan Inbound Tour Operators Association, where she developed new market opportunities, managed projects, launched an internship program, and successfully wrote two grant proposals.

### **SCOTT A. MULLER** SENIOR MANAGER, INTERNATIONAL CLIMATE PROGRAMS

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Scott Muller has extensive international experience incorporating strategies for sustainability into development with specific attention to climate change, ecosystem services, urbanization, biodiversity, cultural heritage and renewable energy. At ISC, Mr. Muller works with local communities, municipal and national governments to respond to shifting “fitness landscapes” by developing and implementing actions that rapidly scale up urban sustainability and resilience.

From 2007-2012, Mr. Muller was the City Director for the William J. Clinton Foundation’s Climate Initiative (CCI) - C40 Cities Climate Leadership Group in Lima, Peru. His work involved mitigation and adaptation catalyst projects, including a major CNG fueled BRT system, decentralized wastewater treatment and water recycling, massive outdoor LED lighting retrofits, an advanced traffic management system, landfill gas to energy, massive public vehicle scrapping, non motorized transportation initiatives and energy efficiency building retrofits.

Mr. Muller has designed and implemented model programs and served as a technical expert to the Convention on Biological Diversity and UNESCO on issues of development, governance, hydrology and the sustainable use of the components of biodiversity. He received the “EuropeAid for Innovation” Award from the European Union for a project that trained locals and installed photovoltaic systems in more than 40 indigenous villages. He collaborated as a Lead Author on the UN-supported Millennium Ecosystem Assessment as well as several other major publications.

He graduated from Vanderbilt University with a focus on Environmental Engineering.



# Resource Lists



# URBAN INFRASTRUCTURE RESOURCE LISTS

The Resource Lists are organized as follows:

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- 131 MONITORING & EVALUATION
- 134 COASTAL REGIONS AND CLIMATE CHANGE
- 135 GENERAL RESOURCES



# ADAPTATION PLANNING

## 10 PRINCIPLES FOR LIVEABLE HIGH-DENSITY CITIES: LESSONS FROM SINGAPORE

Author: Widness, B. UrbanLand, 2013.

Website: <http://www.uli.org/wp-content/uploads/ULI-Documents/10PrinciplesSingapore.pdf>

This report draws upon Singapore's successful urbanization experience. The ten principles in the publication were developed during two workshops hosted in 2012 by the CLC and ULI Asia Pacific, bringing together 62 thought leaders, experts, and practitioners from different disciplines related to urban planning and development.

## HO CHI MINH CITY ADAPTATION TO CLIMATE CHANGE: A SUMMARY REPORT

Website: <http://www.adb.org/publications/ho-chi-minh-city-adaptation-climate-change-summary-report>

Ho Chi Minh City (HCMC) ranks among the top 10 cities in the world with populations most likely to be severely affected by climate change. By 2050, millions of its citizens will be at increased risk from regular and extreme climatic events such as floods, droughts, and tropical storms. To help reduce the impacts of these risks, this study provides HCMC's government and private sector with projections of HCMC's 2050 exposure in key sectors and areas, and proposes structural and nonstructural measures to build climate resilience in the city's most vulnerable sectors and areas.

## ADAPTING TO CLIMATE CHANGE: STRATEGIES FOR LOCAL GOVERNMENT

Author: Mary L. Walsh

Website: [http://bookstore.icma.org/Adapting\\_to\\_Climate\\_Change\\_St\\_P1960C14.cfm](http://bookstore.icma.org/Adapting_to_Climate_Change_St_P1960C14.cfm)

This report describes the ways leading-edge communities are taking a risk approach to planning and policymaking around the topic of climate change. The first section offers some of the latest scientific findings showing the urgency of the issue; the second section describes tools for adaptation; the third section discusses methods for involving the public; and the last section offers case studies and examples of local government initiatives.

## THE CLIMATE RESILIENCE FRAMEWORK TRAINING MATERIALS

Website: <http://training.i-s-e-t.org/>

These training materials, gathered and prepared by ISET-International are an excellent tool to provide communities with a clear approach to building resilience into sustainable city planning and implementation.



## **INTEGRATING DISASTER RISK MANAGEMENT INTO URBAN MANAGEMENT. PRACTITIONER'S HANDBOOK SERIES.**

Website: <http://www.adpc.net/2012/download/DRM-Handbook/ADPC%20DRM%20Practitioners%20Handbook%20-%20Urban%20Management.pdf>

Developed by the Asian Disaster Preparedness Center, Bangkok (ADPC), with funding from the Asian Development Bank (ADB). The handbook provides DRM practitioners with advice for integrating DRM into four key urban management tools: building regulation, urban land use planning, informal settlement upgrading and critical facilities emergency management. It guides practitioners on how to engage municipal planning teams, urban managers, city officials and other public and private agencies that utilize these four urban management tools to influence or regulate urban development.

## **A FRAMEWORK FOR URBAN CLIMATE RESILIENCE**

Author: Stephen Tyler & Marcus Moench

Website: <http://www.tandfonline.com/eprint/VaVMpErdVGCNYa82jefg/full#.Ud285hb81bw>

This article reviews concepts and theories in a range of diverse fields to illustrate how the general notion of urban climate resilience can be developed into an operational framework for planning practitioners.

## **ADAPTING TO COASTAL CLIMATE CHANGE: A GUIDEBOOK FOR DEVELOPMENT PLANNERS**

Website: [http://pdf.usaid.gov/pdf\\_docs/PNADO614.pdf](http://pdf.usaid.gov/pdf_docs/PNADO614.pdf)

This Guidebook is both a tool in itself and a link to other resources to help with those efforts. The processes, tools, and resources that it contains are based on the inputs of numerous coastal planners, climate change experts, and other development professionals. It was prepared under the guidance of the Water Team and Global Climate Change Team of the U.S. Agency for International Development.

## **CALIFORNIA ADAPTATION PLANNING GUIDE: PLANNING FOR ADAPTIVE COMMUNITIES**

Author: State of California

Website: [http://resources.ca.gov/climate\\_adaptation/local\\_government/adaptation\\_planning\\_guide.html](http://resources.ca.gov/climate_adaptation/local_government/adaptation_planning_guide.html)

The Adaptation Planning Guide (APG) provides guidance to support regional and local communities in proactively addressing the unavoidable consequences of climate change. The APG provides a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development. Usage of the APG is meant to allow for flexibility in the commitment of time, money, and effort to suit the needs of the community.

### **PREPARING FOR CLIMATE CHANGE: A GUIDEBOOK FOR LOCAL, REGIONAL AND STATE GOVERNMENTS**

Author: University of Washington's Climate Impacts Group, King County Washington, and ICLEI, 2007, 186pp.

Website: <http://cses.washington.edu/cig/fpt/guidebook.shtml>

This guidebook describes a step-by-step process for achieving a set of climate change preparedness milestones within the context of municipal planning, based on ICLEI's five milestone process.

### **CENTER FOR CLIMATE STRATEGIES ADAPTATION GUIDEBOOK**

Author: Center for Climate Strategies, Sept 2011, 124pp.

Website: To request a copy of the guidebook, email [info@climatestrategies.us](mailto:info@climatestrategies.us)

This guidebook offers a step-by-step process to help agencies develop climate change adaptation plans at the state, local, or regional level.

### **OBJECTIVE SETTING FOR CLIMATE CHANGE ADAPTATION POLICY**

Author: AEA Technology Environment, Stockholm Environment Institute, Metroeconomica, UK Climate Impacts Programme. 2005, 193pp.

Website: [http://www.ukcip.org.uk/wordpress/wp-content/PDFs/Objective\\_setting.pdf](http://www.ukcip.org.uk/wordpress/wp-content/PDFs/Objective_setting.pdf)

This guide presents an iterative process for setting objectives in climate change adaptation planning and implementation. It also describes how the model was applied by Defra (UK's Department for Environment, Food, and Rural Affairs) to generate 'strawmen' objectives and targets. This methodology can help other regions systematically think through and prioritize their own objectives.

### **THE MITIGATION-ADAPTATION CONNECTION: MILESTONES, SYNERGIES AND CONTRADICTIONS**

Author: ICLEI, Aug 2010, 8pp.

Website: <http://www.iclei.usa.org/action-center/planning/The%20Mitigation-Adaptation%20Connection.pdf>

This primer briefly describes an approach for integrating adaptation into mitigation planning, and provides several examples, by sector, of how mitigation and adaptation actions can be synergistic, and how they may be contradictory.

### **IDENTIFYING ADAPTATION OPTIONS**

Author: UK Climate Impacts Programme, 2009, 35pp.

Website: [http://www.ukcip.org.uk/wordpress/wp-content/PDFs/ID\\_Adapt\\_options.pdf](http://www.ukcip.org.uk/wordpress/wp-content/PDFs/ID_Adapt_options.pdf)

This guide includes a framework for identifying and selecting adaptation options.

### **SHAPING CLIMATE-RESILIENT DEVELOPMENT: A FRAMEWORK FOR DECISION-MAKING**

Author: Economics of Climate Adaptation, 2009, 164pp.

Website: [http://www.mckinsey.com/App\\_Media/Images/Page\\_Images/Offices/SocialSector/PDF/ECA\\_Shaping\\_Climate%20Resilient\\_Development.pdf](http://www.mckinsey.com/App_Media/Images/Page_Images/Offices/SocialSector/PDF/ECA_Shaping_Climate%20Resilient_Development.pdf)

This comprehensive report provides concepts and tools for thinking about adaptation in terms of risk and how to assess that risk: risk to life, to communities, and to economies and livelihoods. It provides guidance on quantifying the risks of climate disruption, how to make an economic case for investing in resiliency, and how to prioritize adaptation projects. It draws on a number of case studies around the world.

### **CLIMATE CHANGE HANDBOOK FOR REGIONAL WATER PLANNING**

Author: State of California Department of Water Resources, EPA, Resources Legacy Fund, and the US Army Corps of Engineers

Website: <http://www.water.ca.gov/climatechange/CCHandbook.cfm>

The Climate Change Handbook for Regional Water Planning provides a framework for considering climate change in water management planning. Key decision considerations, resources, tools, and decision options are presented that will guide resource managers and planners as they develop means of adapting their programs to a changing climate. The handbook uses DWR's Integrated Regional Water Management (IRWM) planning framework as a model into which analysis of climate change impacts and planning for adaptation and mitigation can be integrated.

### **CLIMATE ADAPTATION KNOWLEDGE EXCHANGE (CAKE) WEBSITE**

Author: EcoAdapt and Island Press, 2010

Website: [www.cakex.org](http://www.cakex.org)

This searchable website features: profiles of adaptation project case studies (over 100), information resources (over 300), a directory of people and organizations engaged in adaptation work, tools for decision makers, managers, and educators (40), and a community section including an international events calendar and advice column.

### **US DEPARTMENT OF TRANSPORTATION FRAMEWORK FOR CONSIDERING CLIMATE CHANGE IN TRANSPORTATION AND LAND USE SCENARIO PLANNING**

Author: US DOT RITA Volpe Center, 2011, 68pp.

Website: [http://www.volpe.dot.gov/coi/ppoa/publiclands/projects/docs/cape\\_cod\\_pilot\\_finalreport.pdf](http://www.volpe.dot.gov/coi/ppoa/publiclands/projects/docs/cape_cod_pilot_finalreport.pdf)

This framework report from the US Department of Transportation's Research & Innovative Technology Administration provides an overview and lessons learned from a pilot project in Cape Cod, MA.

## STATE AND LOCAL ADAPTATION PLANS

Author: Georgetown Climate Center, 2010

Website: <http://www.georgetownclimate.org/adaptation/adaptation-plans.php>

This webpage tracks state and local efforts on adaptation planning, and provides links and brief overviews. Localities include Homer AK, Phoenix AZ, several cities in CA, Miami-Dade County FL, Alexandria VA, King County WA, and Milwaukee WI.

## ADAPTING TO CLIMATE CHANGE: A GUIDE FOR BUSINESS IN SCOTLAND

Author: Scottish Climate Change Impacts Partnership, 12pp.

Website: <http://www.sccip.org.uk/3/82/0/Adapting-to-Climate-Change--A-Guide-for-Businesses-in-Scotland.aspx>

A brief, practical guide that officials can use as a model to engage their own business sectors. This guide for the private sector gives an overview of what risk and opportunities climate change may pose for Scottish businesses and explains how to build the adaptive capacity to deal with these risks.

## UKCIP'S CLIMATE ADAPTATION RESOURCE FOR ADVISORS (CLARA)

Author: UK Climate Impacts Programme, 2010

Website: <http://www.ukcip.org.uk/clara/>

This tool is useful for US practitioners who want to engage their local business community. CLARA is a web-based UK resource aimed at helping business advisors support small and medium enterprises (SMEs) in understanding and preparing for the impacts of climate change. The factsheets are designed to be accessed directly by the business community. The site provides background information on climate change, and advice on how to make the business case.

## BUSINESS AS USUAL

Author: London Climate Change Partnership, 2006, 28pp.

Website: <http://www.london.gov.uk/lccp/publications/business-usual.jsp>

Developed for London, this paper could be used by officials elsewhere looking to engage and evolve their area's financial industries. It poses questions for discussions held between the Mayor of London and the city's financial leaders in insurance, pensions, fund management, banking, infrastructure, and utilities regarding the need for them to take account of climate impacts.

## **ADAPTING TO CLIMATE VARIABILITY AND CHANGE: A GUIDANCE MANUAL FOR DEVELOPMENT PLANNING**

Author: USAID, 2007, 31pp.

Website: [http://pdf.usaid.gov/pdf\\_docs/PNADJ990.pdf](http://pdf.usaid.gov/pdf_docs/PNADJ990.pdf)

This guidance manual provides a 6-step process for incorporating vulnerability and adaptation into project design. Although developed for USAID's grantees, the guidelines are readily transferable to other project managers seeking to account for climate hazards.

## **UK CLIMATE IMPACTS PROGRAM ADAPTATION WIZARD**

Author: UK Climate Impacts Programme, 2010

Website: <http://www.ukcip.org.uk/wizard/>

This web-based tool guides users through a 5-step adaptation planning process and provides relevant resources for each step, including how to identify vulnerabilities to climate change and how to identify ways to reduce vulnerability. It is designed for use by a wide range of audiences new to climate change adaptation, and it provides a structure for planning and awareness-raising.

## **PLANNING FOR CLIMATE CHANGE: CUSTOMIZABLE WORKSHOP MATERIALS**

Author: Coastal Training Program, National Estuarine Reserve System, 2009

Website: <http://www.nerrs.noaa.gov/CTPIndex.aspx?ID=455>

The customizable workshop was developed for planners and coastal decision makers. Piloted in two locations in 2009 in Washington State, the materials, including all PowerPoints and streaming videos, are available on the website, and can be used as a roadmap for engaging planners and decision makers. The materials are grounded in science and focus on actions to prepare for and adapt to impacts of climate change.

## **LOCAL GOVERNMENT CLIMATE CHANGE ADAPTATION TOOLKIT**

Author: ICLEI and Australia's Department of Climate Change

Website: <http://www.iclei.org/index.php?id=adaptation-toolkit>

This toolkit includes a 68-page comprehensive manual providing a conceptual framework for adaptation and step-by-step instructions for 14 tools geared towards different stages of adaptation planning. The tools are also available for download from this page, including a planning workshop template, stakeholder identification worksheet, barriers document, and risk assessment scenario worksheet. The tools were piloted with 5 Australian communities prior to the toolkit's release in 2008.

### **CLIMATE ADAPTATION STARTER KIT**

Author: EcoAdapt

Website: <http://ecoadapt.org/programs/awareness-to-action/climate-starter-kit>

The toolkit includes EcoAdapt’s top resources, tools and adaptation examples. It includes resources for assessing climate change vulnerability, risk and impact; processes to guide the development of adaptation strategies; a sampling of climate adaptation portals, tools and resources; adaptation case studies; a guide to getting started on adaptation planning and tips for evaluation and monitoring of adaptation programs.

### **CLIMATE CHANGE ACTIONS FOR LOCAL GOVERNMENTS**

Author: Snowy Mountains Engineering Corporation Australia, Australia Department of the Environment and Water Resources, 2007, 76pp.

Website: <http://pandora.nla.gov.au/pan/81489/20080211-1441/www.greenhouse.gov.au/impacts/publications/pubs/local-government.pdf>

This straightforward guide provides a large sampling of possible adaptation actions related to infrastructure, health services, natural resource management, water and sewerage services, and other areas. Descriptions, case studies, and examples are integrated together for easy reading. The guide was developed for Australia but it offers a useful starting point for US cities.

### **CHULA VISTA CLIMATE ACTION PLANNING - CLIMATE CHANGE WORKING GROUP**

Author: City of Chula Vista, Department of Conservation and Environmental Services, 2010

Webpage: <http://www.ci.chula-vista.ca.us/clean/conservation/Climate/ccwg1.asp>

This webpage provides access to several ‘planning matrices’ – tables of detailed adaptation options by topic, compiled by the City of Chula Vista in Southern California for its adaptation planning efforts. Impact topics include water, energy, public health, biodiversity, business, and sea level.

### **HAZARD MITIGATION BEST PRACTICES SEARCH**

Author: FEMA

Website: <http://www.fema.gov/mitigationbp>

This database of best practice in disaster mitigation is searchable by location, sector type, hazard, type of activity, and keywords. Hazards include drought, severe storm, extreme temperatures, winter storm, and wildfire. Activities include building codes, outreach, floodplain management, land use/planning, community shelters, utility protective measures, vegetation management, and wetland restoration.

## **COMPILATION OF 50 PROGRAMS FOR USE IN COMMUNITY BASED ADAPTATION PROJECTS**

Author: Center for Sustainable Development

Website: <http://www.csd-i.org/csdi-blog/2012/6/13/compilation-of-50-programs-for-use-in-community-based-adapta.html?SSScrollPosition=0>

This compilation presents model programs for addressing challenges in community based adaptation and participatory forest restoration projects. Programs represent the best programs being used successfully in the field today, in categories of water use management, forest restoration, livelihoods, agriculture and building community resilience.

## **ADAPTING TO CLIMATE CHANGE: A CHECKLIST FOR DEVELOPMENT**

Author: Greater London Authority and London Climate Change Partnership, 2005, 72pp.

Website: [http://www.london.gov.uk/lccp/publications/docs/adapting\\_to\\_climate\\_change.pdf](http://www.london.gov.uk/lccp/publications/docs/adapting_to_climate_change.pdf)

This checklist provides guidance on designing building developments to withstand a changing climate throughout their lifetime. The checklist covers issues such as water re-use and efficiency, reducing flood risk, avoiding overheating and minimizing damage from subsidence and heave.

## **ADAPTING TO CLIMATE CHANGE: A CASE STUDY COMPANION TO THE CHECKLIST FOR DEVELOPMENT**

Author: London Climate Change Partnership, 2007, 64pp.

Website: <http://www.sfrpc.com/Climate%20Change/12.pdf>

The companion guide applies the Checklist for Development's guidance (above) and provides case studies of developments or buildings that incorporate adaptation in their design and construction. This guide provides replicable cases of buildings and developments that incorporated adaptation measures to increase resiliency to the changing climate. The case studies address climate change impacts, such as urban heat island effect and flooding, and they illustrate techniques relevant to key climate change adaptations issues, such as siting, site layout, ventilation, drainage, water, outdoor spaces and connectivity.

## **GETTING A COMMITMENT TO ADAPTATION**

### **MAINSTREAMING ADAPTATION INTO DEVELOPMENT PLANS: LESSONS FROM THE REGIONAL CLIMATE CHANGE ADAPTATION KNOWLEDGE PLATFORM FOR ASIA**

Author: Davis, M. Stockholm Environmental Institute, 2013.

Website: [http://www.sei-international.org/publications?pid=2276&utm\\_source=buffer&utm\\_medium=twitter&utm\\_campaign=Buffer:%2BSEIclimate%2Bon%2Btwitter&buffer\\_share=4fcdc](http://www.sei-international.org/publications?pid=2276&utm_source=buffer&utm_medium=twitter&utm_campaign=Buffer:%2BSEIclimate%2Bon%2Btwitter&buffer_share=4fcdc)

The brief identifies several promising entry points for integrating adaptation at the national level, including countries' five- and ten-year development plans, poverty reduction strategy papers, disaster risk reduction strategies, water resource strategies, and conservation strategies.

## **CHANGING CITIES AND CHANGING CLIMATE: INSIGHTS FROM SHARED LEARNING DIALOGUES IN THAILAND AND VIETNAM**

Author: ISET, et al. Institute for Social and Environmental Transition: Bangkok 2012.

Website: [http://www.i-s-e-t.org/images/pdfs/isetinternational\\_changingcities\\_andchangingclimate\\_nistpassandtei\\_2012.pdf](http://www.i-s-e-t.org/images/pdfs/isetinternational_changingcities_andchangingclimate_nistpassandtei_2012.pdf)

This paper describes how the concept of shared learning is being applied in 4 cities in the M-BRACE program (Mekong – Building Climate Resilient Asian Cities). It shares insights on the trends of urbanization and climate change from the perspective of stakeholders, as discussed during the first round of “shared learning dialogues” (SLDs) in each city.

## **GLOBAL INITIATIVE FOR RESOURCE EFFICIENT CITIES**

Author: UNEP Division of Technology

Website: [http://www.unep.org/pdf/GI-REC\\_4pager.pdf](http://www.unep.org/pdf/GI-REC_4pager.pdf)

This Global Initiative for Resource Efficient Cities (GIREC) seeks to connect the many different entities around the world working on Resource Efficiency, using UNEP’s convening ability to mobilize partners and different constituencies from governments at both the national and local levels, civil society, business and industry and other major groups. The ultimate goal of the Global Initiative is to mainstream resource efficiency and sustainable consumption and production into policies and tools at the city level and to change citizens’ and business’ habits accordingly.

## **REGIONAL WORKSHOP ON MAINSTREAMING CLIMATE CHANGE ADAPTATION IN ENVIRONMENTAL IMPACT ASSESSMENT IN ASIA**

Website: [http://www.asiapacificadapt.net/sites/default/files/resource/attach/proceedings\\_0.pdf](http://www.asiapacificadapt.net/sites/default/files/resource/attach/proceedings_0.pdf)

The workshop brought together over 30 Environmental Impact Assessment practitioners and climate change experts from Asia and outside the region. Experts from the Netherlands, Australia, the US and the ADB served as workshop resource persons and facilitators. The workshop provided a comprehensive overview of current progress in mainstreaming climate change in EIA globally and within individual countries in Asia.



## **GREEN INFRASTRUCTURE & ECONOMIC DEVELOPMENT: STRATEGIES TO FOSTER OPPORTUNITY FOR MARGINALIZED COMMUNITIES**

Author: MIT Community Innovators Lab (CoLab)

Website: <http://web.mit.edu/colab/gedi/pdf/Green%20Infrastructure/MIT%20GEDI%20-%20Green%20Infrastructure%20and%20Economic%20Development%20-%20Final%20Report.pdf>

This report articulates local economic development opportunities associated with Green Infrastructure (GI) investments.

This report is intended for economic development organizations (EDOs) and stormwater management agencies. It suggests how practitioners within these organizations can support economic opportunity for local and/or historically disadvantaged communities. Such opportunities include greater representation amongst the GI labor force and contracting firm's ownership, as well as by improving prospects for career advancement and job quality. To identify economic development strategies that may be associated with GI investments, this report reviews practices in two cities leading in GI planning and implementation: New York; and Portland, Oregon. It also conducts a more cursory review of GI investments in Philadelphia.

## **BEST PRACTICES APPROACHES FOR CHARACTERIZING, COMMUNICATING, AND INCORPORATING SCIENTIFIC UNCERTAINTY IN CLIMATE DECISION MAKING**

Author: M. Granger Morgan, et al., US Climate Change Science Program, Jan 2009, 96pp.

Website: <http://downloads.globalchange.gov/sap/sap5-2/sap5-2-final-report-all.pdf>

This report is a tutorial for climate analysis and decision-making communities on current best practice in describing and analyzing uncertainty in climate-related problems.

## **COMMUNITY-BASED RISK SCREENING TOOL—ADAPTATION & LIVELIHOODS (CRISTAL)**

Author: International Union for Conservation of Nature, International Institute for Sustainable Development, Stockholm Environmental Institute's US Center.

Website: <http://www.cristaltool.org/content/about.aspx>

CRISTAL is a project planning and management tool. Used at the community level to incorporate local knowledge about climate change and resource use considerations into development projects, it helps project planners and managers integrate risk reduction and climate change adaptation into projects. CRISTAL uses a series of worksheets to guide users systematically through the climate change context of their project, the resources at risk, existing coping strategies, and possible project modifications to reduce project vulnerability to climate change. It is designed as an Excel Workbook, but can be used in hard copy. The Workbook and User Manual are available in French, English, and Spanish.

### **ENGAGING CHICAGO'S DIVERSE COMMUNITIES IN THE CHICAGO CLIMATE ACTION PLAN**

Author: The Field Museum Division of Environment, Culture, and Conservation, City of Chicago Department of Environment, Aug 2010.

Website: <http://fieldmuseum.org/explore/department/ecco/engaging-chicago-communities-climate-action>

This website provides links to the Field Museum's Division of Environment, Culture and Conservation's (ECCo) reports on community engagement in Chicago regarding implementation of the Chicago Climate Action Plan. The reports describe an inclusive approach for soliciting public perceptions of climate change issues.

### **LOW CARBON SCOTLAND: PUBLIC ENGAGEMENT STRATEGY**

Author: The Scottish Government

Website: <http://www.scotland.gov.uk/Resource/Doc/336432/0110100.pdf>

This publication, part of the Scottish Government's Climate Change Adaptation Toolkit, provides a step-by-step guide for writing an effective communications strategy.

### **LEARNED LESSONS ON KEY CONSIDERATIONS FOR COMMUNICATING CLIMATE RISK**

Author: weADAPT

Website: [http://wikiadapt.org/index.php?title=Learned lessons on key considerations for communicating climate risk](http://wikiadapt.org/index.php?title=Learned_lessons_on_key_considerations_for_communicating_climate_risk)

This webpage summarizes key considerations for communicating climate risk, based on lessons learned from developing climate risk communication strategies and implementing them on the ground in Africa and Asia, but applicable elsewhere. Strategies described are: two-way dialogue; knowing the local context; understanding the local know-how on climate risk; engagement in the process; combining strategies to target different stakeholders; strategic use of space; and innovative ways of communicating.

(Based on a synthesis report of the Advancing Capacity to Support Climate Change Adaptation project, which can be downloaded at <http://start.org/download/accca-synthesis.pdf>.)

### **CLIMATE COMMUNICATIONS AND BEHAVIOR CHANGE**

Author: Cara Pike, Bob Doppelt, Meredith Herr, Climate Leadership Initiative, University of Oregon, 2010. 54pp.

Website: <http://www.theresourceinnovationgroup.org/storage/PubHealthPrepManual5-10LR.pdf>

This guide illustrates the challenges with existing climate change communications efforts and provides tips on how to frame and deliver outreach efforts in a way that motivates changes in thinking and behavior for a range of audience segments. The focus is not on climate adaptation, though the guide does include some tips explicit to it.

## **HOLD THAT THOUGHT! QUESTIONING FIVE COMMON ASSUMPTIONS ABOUT COMMUNICATING WITH THE PUBLIC**

Author: Joe Cone, Oregon Sea Grant: Public Science Communication Research & Practice, 16pp.

Website: <http://seagrant.oregonstate.edu/sgpubs/onlinepubs/h08005.pdf>

This report discusses false assumptions about communicating with the public, and provides some guidance about designing more effective communications. The false assumptions are: We need to get the word out; We already know how to communicate; If they only had information Z then recipients of our information will consider it thoughtfully; and Successful communication is an art.

## **EXPAND YOUR VIEW: INSIGHTS FOR PUBLIC COMMUNICATORS FROM BEHAVIORAL RESEARCH**

Author: Joe Cone, Oregon Sea Grant: Public Science Communication Research & Practice, 24pp.

Website: <http://seagrant.oregonstate.edu/sgpubs/onlinepubs/h08006.pdf>

This primer provides a research-based look at how to improve communication effectiveness. Topics include understanding and addressing psychological barriers, embracing voluntary learning, and fomenting social change. Not specific to climate change but useful to such public officials.

## **TELLING THE TALE OF DISASTER RESISTANCE: A GUIDE TO CAPTURING AND COMMUNICATING THE STORY**

Author: FEMA, 2001, 65pp.

Website: <http://www.fema.gov/library/viewRecord.do?id=1762>

This guidebook provides some of the “best practices” of those who have promoted disaster-resistance efforts throughout the country, which can serve as one component in an overall adaptation outreach strategy. This publication explains what value documenting and disseminating disaster resistance provides to local governments, and provides a step-by-step guide on how to document disaster-resistance efforts, offers guidance for developing story leads, researching and documenting projects.

## **COMMUNICATING CLIMATE CHANGE: PODCASTS WITH SOCIAL SCIENTISTS**

Author: Produced by Joe Cone, Sea Grant Oregon, last updated Aug 2010.

Website: <http://blogs.oregonstate.edu/communicatingclimatechange>

This website features extended audio interviews with leading social scientists about the human dimensions of climate change. The podcast is aimed at professional science communicators, whose job it is to explain complex scientific concepts and the work of scientists to the public at large.

## **SETTING THE RECORD STRAIGHT: RESPONSES TO COMMON CHALLENGES TO CLIMATE SCIENCE**

Author: CLI, Jan 2009, 9pp.

Website: [http://www.theresourceinnovationgroup.org/storage/Setting\\_record\\_Straight.pdf](http://www.theresourceinnovationgroup.org/storage/Setting_record_Straight.pdf)

This brief document provides credible responses to some common ‘skeptic’ arguments against climate change. For more detailed, in-depth treatment, see Grist’s guide, “How to Talk to a Climate Skeptic” <http://www.grist.org/article/series/skeptics>.

## **CLIMATE SOLUTIONS FOR A STRONGER AMERICA: A GUIDE FOR ENGAGING AND WINNING ON CLIMATE CHANGE & CLEAN ENERGY**

Author: Betsy Taylor, Breakthrough Strategies & Solutions, LLC, 22pp.

Website: [http://www.climateaccess.org/sites/default/files/Breakthrough\\_Climate%20Solutions%20for%20a%20stronger%20America.pdf](http://www.climateaccess.org/sites/default/files/Breakthrough_Climate%20Solutions%20for%20a%20stronger%20America.pdf)

This guide provides communication strategies for candidates, business and civic leaders and others advocating for climate and clean energy solutions in the public sphere.

## **INTRODUCTION TO STAKEHOLDER PARTICIPATION**

Author: NOAA, 20pp.

Website: [http://www.csc.noaa.gov/cms/human\\_dimensions/Stakeholder\\_Participation\\_Guidance\\_Document.pdf](http://www.csc.noaa.gov/cms/human_dimensions/Stakeholder_Participation_Guidance_Document.pdf)

For those brand new to stakeholder participation, this document briefly examines several important aspects of stakeholder participation, provides guidance on identifying coastal management stakeholders, describes some of the most commonly used techniques, and discusses evaluation of stakeholder participation.

## **STAKEHOLDER ENGAGEMENT STRATEGIES FOR PARTICIPATORY MAPPING**

Author: NOAA, 28pp.

Website: [http://www.csc.noaa.gov/cms/human\\_dimensions/participatory\\_mapping.pdf](http://www.csc.noaa.gov/cms/human_dimensions/participatory_mapping.pdf)

The participatory mapping tool is designed to help engage the public in land use decisions. The maps represent society’s values, including social, cultural and economic values. The publication provides facilitators with strategies to lead a participatory mapping process. This process is particularly useful in creating opportunities for stakeholder participation, capturing new information, and building community understanding and knowledge of climate risks. The mapping exercise also helps decision makers build community resilience and make better coastal management decisions.

## **PARTICIPATORY LEARNING AND ACTION: COMMUNITY-BASED ADAPTATION TO CLIMATE CHANGE**

Author: International Institute for Environment and Development, Dec 2009, 221pp.

Website: <http://pubs.iied.org/pdfs/14573IIED.pdf>

Through reflections, case studies and descriptions of available participatory tools, the authors give an overview of working in communities on adaptation efforts. The first section includes reflections on participatory processes and practice in community-based adaptation to climate change. These have a variety of entry points, including participatory vulnerability analysis and disaster risk reduction frameworks. The second section focuses on participatory tool-based case studies and describes a participatory process with an emphasis on the use of a particular tool. The third section, participatory tools, includes shorter, step-by-step descriptions of how to facilitate a particular tool in a community.

## **RISK ASSESSMENTS**

### **TURN DOWN THE HEAT: CLIMATE EXTREMES, REGIONAL IMPACTS, AND THE CASE FOR RESILIENCE**

Website: [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/06/14/000445729\\_20130614145941/Rendered/PDF/784240WP0Full00DOCONF0to0June19090L.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/06/14/000445729_20130614145941/Rendered/PDF/784240WP0Full00DOCONF0to0June19090L.pdf)

This report focuses on the risks of climate change to development in Sub-Saharan Africa, South East Asia and South Asia. Building on the 2012 report, Turn Down the Heat: Why a 4°C Warmer World Must be Avoided, this new scientific analysis examines the likely impacts of present day, 2°C and 4°C warming on agricultural production, water resources, and coastal vulnerability for affected populations. It finds many significant climate and development impacts are already being felt in some regions, and in some cases multiple threats of increasing extreme heat waves, sea level rise, more severe storms, droughts and floods are expected to have further severe negative implications for the poorest. Climate related extreme events could push households below the poverty trap threshold. High temperature extremes appear likely to affect yields of rice, wheat, maize and other important crops, adversely affecting food security. Promoting economic growth and the eradication of poverty and inequality will thus be an increasingly challenging task under future climate change. Immediate steps are needed to help countries adapt to the risks already locked in at current levels of 0.8°C warming, but with ambitious global action to drastically reduce greenhouse gas emissions, many of the worst projected climate impacts could still be avoided by holding warming below 2°C

### **CONSTRUCTING WEATHER DATA FOR BUILDING SIMULATION CONSIDERING URBAN HEAT ISLAND**

Author: Building Services Engineering Research and Technology, 2012.

Website: <http://bse.sagepub.com/content/early/2012/12/04/0143624412467194>

This study proposed a method to construct urban hourly weather data by adopting the 'morphing' approach considering urban heat islands. The method starts with the surrounding rural weather as the 'baseline climate' and an Urban Canopy Model is used to provide the differences in the monthly average values of major climate parameters due to urban heat islands.

### **CLIMATE ADAPTATION: RISK, UNCERTAINTY AND DECISION-MAKING**

Author: Robert Willows & Richenda Connell, UK Climate Impacts Programme, 2003, 166pp.  
Website: <http://www.ukcip.org.uk/wordpress/wp-content/PDFs/Risk.pdf>

This report provides an 8-stage decision-making framework for examining and choosing among available adaptation options. This framework is most appropriate for decision makers who have some knowledge of climate risks, but who want to better understand them and their adaptation options.

### **COMMUNITY AND REGIONAL RESILIENCE: PERSPECTIVES FROM HAZARDS, DISASTERS, AND EMERGENCY MANAGEMENT**

Author: Susan Cutter et al., Community & Regional Resilience Initiative (CARRI), 2008, 33pp.  
Website: [http://www.resilientus.org/library/FINAL\\_CUTTER\\_9-25-08\\_1223482309.pdf](http://www.resilientus.org/library/FINAL_CUTTER_9-25-08_1223482309.pdf)

This research paper outlines: what makes people and places vulnerable, including location, infrastructure and economic factors; what makes communities resilient, including recognizing and understanding hazards and planning for disaster recovery, planning and land use and development; and barriers to planning for resilience. It also reviews possible measurement and indicators for resilience and some frameworks for community resilience assessment.

### **CLIMATE CHANGE ADAPTATION IN NEW YORK CITY: BUILDING A RISK MANAGEMENT RESPONSE**

Author: New York City Panel on Climate Change, City of New York, NY; Annals of the New York Academy of Sciences, May 2010.  
Website: <http://www3.interscience.wiley.com/journal/123443047/issue>

This webpage provides access to New York City's risk assessment by chapter. The information and recommendations are relevant to other cities, and could serve as a template for other city risk assessments. Content includes: how and why New York City might adopt a risk-based approach; infrastructure impacts and adaptation challenges; a review of the range of current environmental laws and regulations for their applicability to climate change adaptation efforts; the role of the insurance industry; and recommendations for a monitoring program. The appendices include three workbooks to guide a climate change adaptation planning process: "Climate Risk Information" related to risks to critical infrastructure, "Adaptation Assessment Guidebook" which outlines a stakeholder process, and "Climate Protection Levels" which evaluates policies.

### **ADAPTING TO CLIMATE CHANGE: A RISK-BASED GUIDE FOR LOCAL GOVERNMENTS**

Author: Robert A. Black, James P. Bruce, I.D. Mark Egner, Natural Resources Canada, 2010.  
Website: [http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca.earth-sciences/files/pdf/projdb/pdf/ris\\_e.pdf](http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca.earth-sciences/files/pdf/projdb/pdf/ris_e.pdf)

This guide argues for a risk-based approach to adaptation planning and outlines the process for risk management. It also highlights climate trends and projections in Canada and has an appendix that discusses risk communications and perceptions and how to talk to the public about risks.

### **CLIMATE CHANGE 2007: IMPACTS, ADAPTATION, AND VULNERABILITY**

Author: Martin L. Parry et al., IPCC & Cambridge University Press, Cambridge, United Kingdom, 2007, 1000pp.

Website: <http://www.ipcc-wg2.gov/publications/AR4/index.html>

The report available on this webpage is the Impacts, Adaptation and Vulnerability component of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. The 16-page “Summary for Policymakers” is available here: <http://www.ipcc-wg2.gov/AR4/website/spm.pdf>, and the 36-page chapter on North America here: <http://www.ipcc-wg2.gov/AR4/website/14.pdf>.

### **CLIMATE CHANGE IMPACTS & RISK MANAGEMENT: A GUIDE FOR BUSINESS AND GOVERNMENT**

Author: Australian Government Department of Environment and Heritage, 2006, 75pp.

Website: <http://www.climatechange.gov.au/en/what-you-can-do/community/~media/publications/local-govt/risk-management.ashx>

Although the case studies upon which it is based are Australian, this guide can be used by elected representatives, general management, and risk managers elsewhere particularly in their beginning stages of assessment and prioritization. This guide is designed to assist businesses and organizations adapt to climate change and integrate climate change impacts into risk management and strategic planning activities. Case studies about a large private company, a public utility, a government agency and a local government illustrate a good risk management framework for managing increased risk to organizations due to climate change, and in particular the initial assessment and prioritization of risks.

### **VULNERABILITY ASSESSMENT FOR CLIMATE ADAPTATION**

Author: Thomas E. Downing et al., 2002, 39pp.

Website: [www.aiaccproject.org/meetings/Trieste\\_02/trieste\\_cd/Vulnerability/TP3\\_Downing.doc](http://www.aiaccproject.org/meetings/Trieste_02/trieste_cd/Vulnerability/TP3_Downing.doc)

This technical paper presents a structured approach to climate change vulnerability assessment. The paper recommends five tasks and suggests appropriate methods suitable for different levels of analysis. The five tasks link a conceptual framing of vulnerability to identification of vulnerable conditions, analytical tools and stakeholders.

## **ASSESSING VULNERABILITY AND RISK OF CLIMATE CHANGE EFFECTS ON TRANSPORTATION INFRASTRUCTURE: PILOT OF THE CONCEPTUAL MODEL**

Author: Federal Highway Administration, 2010.

Website: [http://www.fhwa.dot.gov/hep/climate/conceptual\\_model62410.htm](http://www.fhwa.dot.gov/hep/climate/conceptual_model62410.htm)

This webpage outlines a conceptual Risk Assessment Model that is being piloted by three to four State Departments of Transportation or Metropolitan Planning Organizations selected by the Federal Highway Administration (FHWA). FHWA will refine this draft conceptual model and develop a final version for all transportation agencies. The goal of the Risk Assessment Model is to help transportation decision makers (particularly transportation planners, asset managers, and system operators) identify which assets (a) are most exposed to the threats from climate change and/or (b) are associated with the most serious potential consequences of those climate change threats.

## **ENGINEERING LITERATURE REVIEW: WATER RESOURCES – INFRASTRUCTURE IMPACTS, VULNERABILITIES AND DESIGN CONSIDERATIONS FOR FUTURE CLIMATE CHANGE**

Author: Slobodan P. Simonovic, PIEVC, 2008, 204pp.

Website: [http://www.pievc.ca/e/Appendix\\_C\\_Literature\\_Reviews.pdf](http://www.pievc.ca/e/Appendix_C_Literature_Reviews.pdf)

This review includes information on water infrastructure and climate change resource documents, impacts of climate change on water resources, and a summary, discussion and recommendations. Developed for a more adaptation-focused Canadian audience, this review can be a useful starting point for US water managers seeking to assess their risks.

## **BUSINESS AREAS CLIMATE IMPACTS ASSESSMENT TOOL (BACLIAT)**

Author: UK Climate Impacts Programme, 2010.

Website: <http://www.ukcip.org.uk/bacliat/>

This tool provides a good starting point for exploring the implications of climate change for a particular business or sector and for municipalities who would like to engage the business sector in climate adaptation efforts. It is comprised of a simple checklist for assessing the potential impacts of climate change under generic business areas. It encourages the consideration of both threats and opportunities and is most effective when used as part of a group brainstorming exercise.

## **CLIMATESMART—CLIMATE CHANGE: DEVELOPER’S RISK MANAGEMENT GUIDE**

Author: Halifax Regional Municipality, 2007, 35pp.

Website: <http://ccap.org/docs/resources/394/DevelopersGuidetoRiskManagment.pdf>

This can serve as a model government guide for developers. It was created for developers of Halifax’s coastal, lowlying, urban/forest fringe, and rural areas. The guide includes an overview of climate change, describes the predicted impacts on Halifax relevant to development projects, provides a step-by-step approach to assessing the risk, and provides a checklist that can be used in the planning and evaluating of development proposals.



## **HOW TO BECOME STORMREADY®**

Author: National Weather Service, last updated June 2013

Website: <http://www.stormready.noaa.gov/howto.htm>

This website provides guidelines and a toolkit to emergency managers to help them prepare their communities for severe storms, and explains how to apply to become a StormReady community. As of June 2013, there were 2,080 StormReady sites, including cities, counties, and commercial properties.

## **STEMMING THE TIDE: HOW LOCAL GOVERNMENTS CAN MANAGE RISING FLOOD RISKS**

Author: Andrew C. Sifton and Jessica Grannis, Georgetown Climate Center, May 2010, 24pp.

Website: <http://www.georgetownclimate.org/virginia-case-study-stemming-the-tide-how-local-governments-can-manage-rising-flood-risks>

This study analyzes how Virginian local governments can use existing land use powers to adapt to climate change impacts such as flooding and coastal erosion, increased pressures on emergency response and rising infrastructure and property damages. The study also looks at legal obstacles and specific land use tools for local governments implementing policy identified in Virginia's Climate Action Plan.

## **URBAN FLOODING**

Author: Parliamentary Office of Science and Technology, Jul 2007, 4pp.

Website: <http://www.parliament.uk/documents/post/postpn289.pdf>

This document gives an overview of UK approaches to managing urban flooding, including dealing with an overwhelmed sewer system, and examines ways to improve policy.

## **CITIES AND FLOODING: A GUIDE TO INTEGRATED URBAN FLOOD RISK MANAGEMENT FOR THE 21ST CENTURY**

Author: Abhas K Jha, Robin Bloch, Jessica Lamond, International Bank for Reconstruction and Development, 2012, 638pp.

Website: <http://www.seachangecop.org/sites/default/files/documents/2012%20World%20Bank%20-%20Urban%20flood%20risk%20management.pdf>

This text provides guidance on managing the risk of floods in an urban environment and serves as a primer for decision and policy makers across sectors.

## **U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) CLIMATE READY ESTUARIES COASTAL TOOLKIT**

Author: EPA, 2009, 32pp.

Website: <http://www.epa.gov/CRE/toolkit.html>

This webpage compiles resources for estuaries and coastal programs that are interested in learning more about climate change impacts and adaptation. Estuaries are highly and uniquely vulnerable to climate change.

# INFRASTRUCTURE

## **CLIMATE CHANGE AND INFRASTRUCTURE, URBAN SYSTEMS, AND VULNERABILITIES (TECHNICAL REPORT FOR THE U.S. DEPARTMENT OF ENERGY)**

Author: Wilbanks, T.; Fernandez, S. et al. Oak Ridge National Laboratory, Feb 2012.

Website: <http://www.esd.ornl.gov/eess/Infrastructure.pdf>

A central theme of this report is that vulnerabilities and impacts are issues beyond physical infrastructure themselves. The concern is with the value of services provided by infrastructures, where the true consequences of impacts and disruptions involve not only the costs associated with the clean-up, repair, and/or replacement of affected infrastructures but also economic, social, and environmental effects as supply chains are disrupted, economic activities are suspended, and/or social well-being is threatened.

## **HIGH LEVEL PANEL ON INFRASTRUCTURE RECOMMENDATIONS TO G20 – FINAL REPORT**

Author: The High Level Panel (HLP) on Infrastructure Investment, October 2011.

Website: [http://www.boell.org/downloads/HPL\\_Report\\_on\\_Infrastructure\\_10-26-2011.pdf](http://www.boell.org/downloads/HPL_Report_on_Infrastructure_10-26-2011.pdf)

The HLP recommendations are organized around three areas, each corresponding to key issues that it argues must be tackled to produce a step-change in infrastructure investment: 1) Ensuring a strong and sustainable supply of bankable projects; 2) Contributing to building an enabling environment; 3) Making funding available under appropriate terms.

## **USAID BRIEF: ADDRESSING CLIMATE CHANGE IMPACTS ON INFRASTRUCTURE, APRIL 2013**

Website: <https://dec.usaid.gov/dec/GetDoc.axd?ctID=ODVhZjk4NWQ0tM2YyMi00YjRmLTkxNjktZTcxMjM2NDYyYy&rID=MzM2NjIx&pID=NTYw&attchmnt=VHJ1ZQ==&uSesDM=False&rldx=NDM2MzY4&rCFU=>

Infrastructure includes a wide variety of systems that are essential to development priorities—and these assets may be at risk due to climate change. This set of fact sheets describes the impacts climate change may have on nine categories of infrastructure in developing countries. The document also introduces the common themes related to infrastructure, climate change impacts, and adaptation strategies, and covers the basic terminology and concepts that are used in the fact sheets.

## **THE VALUE OF GREEN INFRASTRUCTURE: A GUIDE TO RECOGNIZING ITS ECONOMIC, ENVIRONMENTAL AND SOCIAL BENEFITS**

Author: American Rivers and the Center for Neighborhood Technology

Website: <http://www.americanrivers.org/assets/pdfs/reports-and-publications/natural-security-report.pdf>

“The Value of Green Infrastructure” provides a framework to help communities measure and value the air quality, energy use, and many other benefits that green infrastructure provides. It allows communities to more accurately compare different infrastructure investments and choose the option that provides the greatest long-term benefit.

## **REGIONAL CLIMATE CHANGE EFFECTS: USEFUL INFORMATION FOR TRANSPORTATION AGENCIES**

Author: Federal Highway Administration, 2010

Website: [http://www.fhwa.dot.gov/hep/climate/climate\\_effects/effects00.cfm](http://www.fhwa.dot.gov/hep/climate/climate_effects/effects00.cfm)

This report provides the transportation community (including highway engineers, planners, NEPA practitioners) with digestible, transparent, regional information on projected climate change effects that are most relevant to the US highway system. This information informs assessments of the risks and vulnerabilities facing the current transportation system, and can inform planning and project development activities.

## **THE VALUE OF GREEN INFRASTRUCTURE FOR URBAN CLIMATE ADAPTATION**

Author: Foster, J; Lowe, A; Winkelman, S; The Center for Clean Air Policy, Feb. 2011.

Website: [http://www.cakex.org/sites/default/files/Green\\_Infrastructure\\_FINAL.pdf](http://www.cakex.org/sites/default/files/Green_Infrastructure_FINAL.pdf)

Various solutions can help build adaptive capacity but the uncertainty involved in calculating their economic and social costs and benefits is a barrier to action for local governments. This report evaluates the performance and benefits of a selection of green infrastructure solutions, using their range of technological, managerial, institutional, and financial innovations as a proxy for their value for climate adaptation.

## **PATHWAYS TO CLIMATE ADAPTED AND HEALTHY LOW INCOME HOUSING**

Author: Guy Barnett, Matt Beaty, et al

Website: [http://www.nccarf.edu.au/sites/default/files/attached\\_files\\_publications/S11004-Barnett-Climate-adapted-low-income-housing.pdf](http://www.nccarf.edu.au/sites/default/files/attached_files_publications/S11004-Barnett-Climate-adapted-low-income-housing.pdf)

This report presents the findings from the “Pathways to Climate Adapted and Healthy Low Income Housing” project undertaken by the CSIRO Climate Adaptation Flagship in partnership with two organizations responsible for providing social housing in Australia. The project was based on the premise that interactions between people, housing, and neighborhood are dynamic and best viewed as a complex, coupled social-ecological system. Using social housing as a case study, the objectives of the project were to: Model vulnerability of housing and tenants to selected climate change impacts; Identify/evaluate engineering, behavioral and institutional adaptation options; Scope co-benefits of climate adaptation for human health and well-being; and develop house typologies and climate analogues for national generalizations.

## **INTERNATIONAL CONFERENCE: STRATEGIES FOR ADAPTING PUBLIC AND PRIVATE INFRASTRUCTURE TO CLIMATE CHANGE**

Author: Adaptation Learning Mechanism, Jul 2010

Website: <http://www.adaptationlearning.net/infrastructure-adaptation>

This website presents a list of workshop materials for the international conference, “Strategies for Adapting Public and Private Infrastructure to Climate Change,” held in El Salvador, June 30-July 1, 2010. Resources useful to a US audience include the workshop agenda, concept note, conference presentations, and publications related to the topic of climate proofing of infrastructure in the context of climate change adaptation and urban and regional planning.

# WATER RESOURCE MANAGEMENT & ADAPTATION

## STRIVING FOR BALANCE IN THE NARRAGANSETT BAY WATERSHED: EPA'S TRIPLE VALUE SIMULATION (3VS) MODEL

Website: <http://www.epa.gov/research/docs/3vs-tool-nutrient-mgt-narr-bay.pdf>

Brief on simulation tool that informs decisions used to achieve a balanced water resources management system that will support environmental, economic, and social sustainability. By modeling the full nutrient cycle, the simulation helps to identify solutions that will protect ecosystem integrity while providing the water resources that are essential for continued economic prosperity.

## STORMWATER CALCULATOR TO MANAGE RAINFALL RUNOFF

A new tool developed by EPA allows planners and property owners to assess how green infrastructure can be used to reduce rainwater runoff from development sites <http://www.epa.gov/research/gems/stormwater.htm>. The development of EPA's Stormwater Calculator and SWMM Climate Assessment Tool can be found here: <http://www.epa.gov/ncer/events/calendar/2013/feb26/berner.pdf>

## WATER USE, SANITATION AND HEALTH IN A FRAGMENTED URBAN WATER SYSTEM: CASE STUDY AND HOUSEHOLD SURVEY IN CAN THO CITY VIETNAM

Author: Luis E. Neumann et al., Urban Water Journal

Website: <http://www.tandfonline.com/doi/abs/10.1080/1573062X.2013.768685#.UfuzlZKfiWY>

This report describes a study undertaken to identify strategies to deal with rapid urbanization and threatening climate change, in Can Tho City, Vietnam, a survey of 1200 households was undertaken to investigate water access and sanitation services. The survey targeted three different groups based on their access to water services: (a) those with piped water supply, (b) without piped water, and (c) a mix of (a) and (b). Socio-economic factors and level of urbanization significantly influenced the different water sources accessed by households and their type of sanitation.

## DESIGN AND CONSTRUCTION OF URBAN STORMWATER MANAGEMENT SYSTEMS

Author: American Public Works Association

Website: <http://www2.apwa.net/bookstore/detail.asp?PC=PB.XBBL>

Systems Learn about design for stormwater management systems that meets tomorrow's tough regulatory standards. This book contains the latest in design practices and concepts. Experts in every related discipline take you step-by-step throughout the design process.

## **MUNICIPAL STORMWATER MANAGEMENT - 2ND EDITION**

Author: American Public Works Association

Website: <http://www2.apwa.net/bookstore/detail.asp?PC=PB.XMSW>

Known by many stormwater managers, designers, and planners as the "stormwater bible," the bestselling Municipal Stormwater Management has been expanded and updated to be a standalone desktop reference for the stormwater manager, designer, and planner.

## **WATER RIPPLES: EXPANDING RISKS FOR US WATER PROVIDERS**

Author: Ceres

Website: <http://www.ceres.org/resources/reports/water-ripples-expanding-risks-for-US-water-providers/view>

Citing shrinking federal funds, uncertain water demand and declining revenues to pay for the projects, the report recommends that utilities move carefully before embarking on major pipelines, reservoirs and other new infrastructure that will create financial risks for investors and utility customers alike. The report also recommends that water demand projections be viewed skeptically by credit rating agencies, investors and policymakers; that investors and credit rating agencies seek better understanding of how rate structures influence demand and revenue streams; and that environmental and consumer groups actively work to build public support for water rates that ensure future water security and affordability.

## **DECLINING WATER SALES AND UTILITY REVENUES: A FRAMEWORK FOR UNDERSTANDING AND ADAPTING**

Author: Alliance for Water Efficiency and the Johnson Foundation at Wingspread

Website: <http://www.allianceforwaterefficiency.org/Declining-Sales-and-Revenues.aspx>

In August 2012, AWE and The Johnson Foundation at Wingspread co-hosted a summit with water utility managers, rate experts, price regulators, economists, and advocacy groups to explore the issues surrounding declining water sales, utility revenue losses, and the impact on conservation programs. This white paper provides a summary of these proceedings, which addressed the following five discussion topics: 1) How and why are water sales declining? 2) Are water utility revenues falling short of revenue requirements? 3) Do water utilities and the conservation community have a messaging problem? 4) What methods are available to repair revenues and improve fiscal stability? 5) What role do industry standards, practices, and policy reforms play?

### **WATER WORKS: REBUILDING INFRASTRUCTURE AND CREATING JOBS**

Author: Green for All, American Rivers, Pacific Institute, and the Economic Policy Institute

Website: <http://greenforall.org/focus/water/water-works-rebuilding-infrastructure-creating-jobs-greening-the-environment/>

The report looks at an investment of \$188.4 billion in water infrastructure –the amount the EPA indicates would be required to manage stormwater and preserve water quality. That investment would inject a quarter of a trillion dollars into the economy, create nearly 1.3 million direct and indirect jobs and result in 568,000 additional jobs from increased spending. Further, the report notes that this is the best moment to make the investment. With the recession creating a shortfall of 11.1 million jobs that would be needed to keep pace with the population and 9.1% unemployment, the jobs are critically needed. Moreover, the cost of financing these much-needed upgrades are at historic lows, and the still-struggling economy means much cheaper construction costs.

### **CONFRONTING CLIMATE CHANGE: AN EARLY ANALYSIS OF WATER AND WASTEWATER ADAPTATION COSTS**

Author: Association of Metropolitan Water Agencies

Website: <http://www.amwa.net/galleries/climate-change/ConfrontingClimateChangeOct09.pdf>

This report provides preliminary analyses of potential climate change impacts on drinking water and wastewater services in the United States through 2050. Included in the analyses are initial cost assessments (ranging from \$448 billion to \$944 billion) of potential adaptations to address some of the likely impacts of climate change. The analyses in this white paper, based on potential greenhouse gas scenarios and regional projections of climate change effects, were developed to assist policy makers and the water and wastewater sectors to understand the challenges of ensuring that reliable water and wastewater services continue to be available in the face of a changing climate.

### **URBAN FLOOD RISK MANAGEMENT: A TOOL FOR INTEGRATED FLOOD MANAGEMENT**

Author: Associated Programme on Flood Management, Mar 2008, 44pp.

Website: [http://www.apfm.info/pdf/ifm\\_tools/Tools\\_Urban\\_Flood\\_Risk\\_Management.pdf](http://www.apfm.info/pdf/ifm_tools/Tools_Urban_Flood_Risk_Management.pdf)

This tool guides practitioners on flood management and includes information on various types of urban flood hazards, impacts of flooding in cities, risk assessment and management, and a framework for flood risk management. The tool also discusses integrating flood risks in urban planning, surface water management plans, and participatory planning.

## **EMERGING CLIMATE CHANGE IMPACTS ON FRESHWATER RESOURCES: A PERSPECTIVE OF TRANSFORMED WATERSHEDS**

Author: Alan P. Covich, Resources for the Future, 2009, 45pp.

Website: <http://www.rff.org/rff/documents/RFF-Rpt-Adaptation-Covich.pdf>

This report discusses the effect of climate change on freshwater resources in the United States. Six case studies illustrate regional, cost-effective adaptation efforts for climate change affecting freshwater sources: Colorado River, Boston Metro, New York City, Flint River, Everglades, and San Joaquin River. Starting on page 24 the report also lists adaptive responses to climatic effects.

## **CALIFORNIA WATER SUCCESS STORIES, EXECUTIVE SUMMARY**

Author: Peter H. Gleick et al., Pacific Institute, 1999, 25pp.

Website: [http://pacinst.org/reports/sustainable\\_california/ca\\_water\\_success\\_stories.pdf](http://pacinst.org/reports/sustainable_california/ca_water_success_stories.pdf)

This executive summary sketches 29 stories of effective water management in a variety of contexts. Though an older resource, it helps make the case that sustainable use of water does not require extraordinary actions, but rather a commitment to expanding existing, positive trends. It also reviews the repeating themes and success factors across the cases.

## **SOLUTIONS: SAVING WATER FOR THE FUTURE**

Author: Denver Water, 2010, 40pp.

Website: <http://www.denverwater.org/docs/assets/DCC8BD7A-E2B9-A215-2D2FDDC3D6C736E7/Solutions2010.pdf>

This report includes an outline of Denver's water utility programs and projects to conserve and recycle water, including incentive, education, and outreach programs for the public.

## **SUSTAINABLE WATER JOBS: A NATIONAL ASSESSMENT OF WATER-RELATED GREEN JOB OPPORTUNITIES**

Author: Pacific Institute

Website: [http://www.pacinst.org/reports/sustainable\\_water\\_jobs](http://www.pacinst.org/reports/sustainable_water_jobs)

The report finds that proactive investments increasing efficient water use and re-use will both address growing problems associated with drought, flooding, and contamination and create jobs in a wide range of professions. The study identifies 136 different kinds of jobs involved in implementing sustainable water strategies, from plumbers to landscapers, engineers to irrigation specialists. Thirty-seven of these job types are also projected to have high growth in the overall economy, with each projected to have more than 100,000 job openings across industries by 2020.

## **MANAGING STORMWATER IN REDEVELOPMENT AND GREENFIELD DEVELOPMENT PROJECTS USING GREEN INFRASTRUCTURE**

Author: American Rivers

Website: <http://www.americanrivers.org/newsroom/resources/managing-stormwater-using-green-infrastructure.html>

Clean water and healthy communities go hand in hand. Urban areas are increasingly using green infrastructure to create multiple benefits for their communities. However, there have been questions whether strong stormwater standards could unintentionally deter urban redevelopment and shift development to environmentally damaging sprawl. Working with Smart Growth America, the Center for Neighborhood Technology, River Network and NRDC, American Rivers highlights several communities that are protecting clean water and fostering redevelopment, the findings show that clean water and urban redevelopment are compatible.

## **IMPLICATIONS OF CLIMATE CHANGE FOR URBAN WATER UTILITIES**

Author: Association of Metropolitan Water Agencies

Website: <http://www.americanrivers.org/newsroom/resources/drinking-water-infrastructure.html>

This white paper provides a basic understanding of the potential impacts of climate change on urban water utilities to help move past the initial information overload that can be a barrier to understanding the issues involved and developing appropriate responses. Based on the potential climate impacts outlined, responses to climate change are discussed, both in terms of “adaptation strategies” to reduce or avoid impacts of climate change, and in terms of “mitigation strategies” that utilities may adopt to reduce the contribution of water utility operations to the production of greenhouse gas emissions.

## **ADAPTATION STRATEGIES GUIDE FOR WATER UTILITIES**

Author: EPA Climate Ready Water Utilities

Website: [http://www.amwa.net/galleries/climate-change/EPA%20Climate%20Adaptation%20Guide\\_Jan2012.pdf](http://www.amwa.net/galleries/climate-change/EPA%20Climate%20Adaptation%20Guide_Jan2012.pdf)

A guide developed through EPA’s Climate Ready Water Utilities initiative is designed to help drinking water and wastewater utilities get “a better understanding of what climate change-related impacts they may face in their region and what adaptation strategies can be used to prepare their system for those impacts.” The guide includes basic climate science information, adaptation case studies and planning worksheets intended to help jump-start the adaptation planning process.



### **THE NEW WAVE: GREENING OUR WATER INFRASTRUCTURE**

Author: Green for All

Website: <http://greenforall.org/resources/educators-organizers/the-new-wave-greening-our-water-infrastructure-a-workshop-guide/>

This document provides guidance on how to conduct a highly participatory workshop designed for a diverse set of participants to explore our relationship to water as well as the causes and consequences of the current water crisis, and to collectively generate a comprehensive action plan to ensure fresh water is available for generations to come.

Topics include: Climate Change and Water Scarcity; Water: The Molecule of Life; Water Waste; The Water Cycle; Urbanization and Concrete; Water Pollution; Natural Solutions; and Green Cities.

### **THE CERES AQUA GAUGE: A FRAMEWORK FOR 21ST CENTURY WATER RISK MANAGEMENT**

Author: Ceres

Website: <http://www.ceres.org/resources/reports/aqua-gauge/view>

This report introduces experts and newcomers alike to the Ceres Aqua Gauge™, a new framework for assessing corporate management of water risk. The report provides a broad overview of how competing freshwater demands and limits to supply are beginning to affect corporate financial performance in a range of industrial sectors. The report also identifies trends in corporate and investor responses to emerging water issues –and explains how investors can identify holdings in their portfolios more likely to be exposed to water-related risks.

### **ADDRESSING CLIMATE CHANGE IN LONG-TERM WATER RESOURCES PLANNING AND MANAGEMENT: USER NEEDS FOR IMPROVING TOOLS AND INFORMATION**

Author: US Army Corps of Engineers; US Bureau of Reclamation

Website: <http://www.usbr.gov/climate/userneeds/>

This report seeks to focus research and technology efforts to address information and tools needed for longer-term water resources planning and management. It found there were gaps in the information and tools to help water managers understand how to use climate change information to make decisions, how to assess the responses of natural systems to climate change, and how to communicate the results and uncertainties of climate change assessments to decision-makers.

## **SHORT-TERM WATER MANAGEMENT DECISIONS: USER NEEDS FOR IMPROVED CLIMATE, WEATHER, AND HYDROLOGIC INFORMATION**

Author: US Army Corps of Engineers; US Bureau of Reclamation

Website: <http://www.ccawwg.us/index.php/activities/addressing-climate-change-in-long-term-water-resourcesplanning-and-management>

This report seeks to focus research and technology efforts to address information and tool gaps needed for short-term water resources planning and management. It found there were gaps in the information and tools to help water managers understand how to use climate change information to make decisions, how to assess the responses of natural systems to climate change, and how to communicate the results and uncertainties of climate change to decision-makers.

## **ADAPTIVE RESPONSE FRAMEWORK FOR DRINKING WATER AND WASTEWATER UTILITIES**

Author: EPA Climate Ready Water Utilities

Website: <http://water.epa.gov/infrastructure/watersecurity/climate/upload/epa817f12009.pdf>

This Framework describes approaches for water utilities seeking to become more “climate ready.” It supports and guides utilities as they learn about and pursue management techniques and adaptive actions that can be implemented to build climate readiness, including 11 findings and 12 recommendations. The Adaptive Response Framework highlights six elements of becoming more Climate Ready: Climate Impact Awareness, Adaptation Strategies, Federal and State Policies and Programs, Mitigation Strategies, Community Interest and Support, and Partnerships Outside of the Utility.

## **U.S. NATIONAL WATER PROGRAM 2012 STRATEGY: RESPONSE TO CLIMATE CHANGE**

Author: EPA National Water Program

Website: <http://water.epa.gov/scitech/climatechange/2012-National-Water-Program-Strategy.cfm>

[EPA's](http://water.epa.gov/scitech/climatechange/2012-National-Water-Program-Strategy.cfm) National Water Program 2012 Strategy: Response to Climate Change sets out long-term goals and specific actions that are EPA's contributions to national efforts to prepare for, and build resilience to, the impacts of a changing climate on water resources. The 2012 Strategy is organized around five long-term programmatic vision areas: protecting water infrastructure; coastal and ocean waters; watersheds; and water quality. The EPA National Water Program looks forward to working with state, tribal, and local governments, as well as other partners to implement actions that address climate change challenges in these areas.

## **PLANNING FOR SUSTAINABILITY: A HANDBOOK FOR WATER AND WASTEWATER UTILITIES**

Author: EPA

Website: <http://water.epa.gov/infrastructure/sustain/upload/EPA-s-Planning-for-Sustainability-Handbook.pdf>

This Handbook describes a number of steps utilities can undertake to enhance their existing planning processes to ensure that water infrastructure investments are cost-effective over their life-cycle, resource efficient, and support other relevant community goals. Developed after extensive consultation and input from utilities, states, and other stakeholders, the Handbook is organized around a series of Core Elements, including:

- Setting utility sustainability goals and objectives that also support relevant community goals;
- Analyzing a range of alternatives, including green infrastructure and other innovative approaches, based on full life-cycle costs; and
- Implementing a financial strategy, including adequate rate structures, to ensure the alternatives selected are sufficiently funded, operated, maintained, and replaced over time.

## **CLIMATE READY WATER UTILITIES FINAL REPORT OF THE NATIONAL DRINKING WATER ADVISORY COUNCIL**

Author: EPA National Drinking Water Advisory Council

Website: <http://water.epa.gov/drink/ndwac/climatechange/upload/CRWU-NDWAC-Final-Report-12-09-10-2.pdf>

Working Group to evaluate the concept of “climate ready water utilities.” The evaluation was to provide findings and recommendations relating to the development of a program enabling water and wastewater utilities to prepare longrange plans that account for climate change impacts. NDWAC specifically requested that the Working Group’s findings and recommendations cover three topics: identify the behaviors that will characterize a climate ready utility; identify climate change-related tools, training, and products needed to enable climate ready utility behaviors; and explore ways to encourage broad adoption through recognition or incentives incorporated into existing United States Environmental Protection Agency (EPA) Office of Water recognition and awards programs or new recognition programs.

## **NATURAL SECURITY: HOW SUSTAINABLE WATER STRATEGIES ARE PREPARING COMMUNITIES FOR A CHANGING CLIMATE**

Author: American Rivers

Website: <http://www.americanrivers.org/assets/pdfs/reports-and-publications/natural-security-report.pdf>

This report highlights eight forward-looking communities that have become more resilient to the impacts of climate change by embracing green infrastructure. They have taken steps to prepare themselves in four areas where the effects of rising temperatures will be felt most: public health, extreme weather, water supply, and quality of life. In each case study we demonstrate how these water management strategies build resilience to the projected impacts of climate change in that area and how the communities that have adopted them will continue to thrive in an uncertain future.

## **CASE STUDIES OF SUSTAINABLE WATER AND WASTEWATER PRICING**

Author: EPA Office of Water

Website: [http://www.epa.gov/safewater/smallsystems/pdfs/guide\\_smallsystems\\_fullcost\\_pricing\\_case\\_studies.pdf](http://www.epa.gov/safewater/smallsystems/pdfs/guide_smallsystems_fullcost_pricing_case_studies.pdf)

This document provides eight case studies of water utilities that provide primary funding sources for infrastructure modernization. Each case study addresses EPA's "Four Pillars of Sustainable Infrastructure," including better management; full-cost pricing; efficient water use; and watershed approaches to protection.

## **MUNICIPAL POLICIES FOR MANAGING STORMWATER WITH GREEN INFRASTRUCTURE**

Author: EPA Office of Wetlands, Oceans and Watersheds

Website: [http://www.epa.gov/owow/NPS/lid/gi\\_case\\_studies\\_2010.pdf](http://www.epa.gov/owow/NPS/lid/gi_case_studies_2010.pdf)

This report presents the common trends in how 12 local governments developed and implemented stormwater policies to support green infrastructure. The local policies examined in this paper include interagency cooperation, enforcement and management issues and integration with state and federal regulations. While a strong motivation for these policies and programs is innovation in stormwater management, many communities are moving past the era of single objective spending and investing in runoff reduction and stormwater management strategies that have multiple benefits. Not only do these case studies include success stories for building a comprehensive green infrastructure program, but they also provide insight into the barriers and failures these communities experienced while trying to create a stormwater management system that includes more green infrastructure approaches.

## **CLIMATE CHANGE AND WATER RESOURCES MANAGEMENT: A FEDERAL PERSPECTIVE**

Author: US Department of the Interior; US Geological Survey

Website: <http://pubs.usgs.gov/circ/1331/>

The purpose of this interagency report prepared by the US Geological Survey (USGS), US Army Corps of Engineers (USACE), Bureau of Reclamation (Reclamation), and National Oceanic and Atmospheric Administration (NOAA) is to explore strategies to improve water management by tracking, anticipating, and responding to climate change. This report describes the existing and still needed underpinning science crucial to addressing the many impacts of climate change on water resources management.

## **CLIMATE CHANGE VULNERABILITY ASSESSMENTS: A REVIEW OF WATER UTILITY PRACTICES**

Author: EPA Office of Water

Website: <http://water.epa.gov/scitech/climatechange/upload/Climate-Change-Vulnerability-Assessments-Sept-2010.pdf>

This study examines and documents the steps taken by some of the leading utilities in an attempt to identify the emergent characteristics of water utility climate change vulnerability assessments. By examining the approaches taken and articulating the steps, information, and judgments needed for such decision making, it is the EPA's hope to contribute to the collaborative problem solving among the user and research communities who are working to further refine and validate such procedures. The study describes the activities of eight water utilities who have conducted climate vulnerability assessments: East Bay Municipal Utility District, City of Boulder Utilities Division, Denver Water, Massachusetts Water Resources Authority, New York City Department of Environmental Protection, Portland Water Bureau, Lower Colorado River Authority, and Seattle Public Utilities.

## **THIRSTY FOR ANSWERS**

Author: Natural Resources Defense Council

Website: <http://www.nrdc.org/water/thirstyforanswers.asp>

Cities across the United States face significant water-related vulnerabilities due to climate change, ranging from water shortages to more intense storms and floods to sea level rise. To help cities become more resilient to the impacts of climate change, NRDC reviewed more than 75 scientific studies and other reports to summarize the water-related vulnerabilities in 12 cities across the United States. Although there may still be some uncertainty about what particular impacts threaten cities and how quickly or severely they might occur, action at the local level is the most effective method of reducing and preventing the negative effects of climate change. NRDC urges cities to prepare for the coming challenges relating to water resources. Fortunately, as highlighted in their report, there are steps cities are already taking to become more resilient.

## **FINANCING**

### **FINANCING THE RESILIENT CITY: A DEMAND DRIVEN APPROACH TO DEVELOPMENT, DISASTER RISK REDUCTION AND CLIMATE ADAPTATION**

Author: An ICLEI White Paper, ICLEI Global Report, 2011.

Website: <http://www.cakex.org/virtual-library/financing-resilient-city-demand-driven-approach-development-disaster-risk-reduction->

This report provides a conceptual framework for better understanding how to integrate climate and other risk reduction measures in urban areas and systems. Here resilience is offered as an economic and performance model with far reaching implications. The report calls for more locally responsive climate financing investment strategies and instruments. It also sets the scene for and provides a valuable contribution to the ongoing international discussions on climate financing for adaptation; how it can be mobilized, leveraged and innovated for the local level.

## **RESTORING FLOWS: FINANCING THE NEXT GENERATION OF WATER SYSTEMS: A STRATEGY FOR COALITION BUILDING**

Author: Ceres, American Rivers, 2012.

Website: [http://www.circleofblue.org/waternews/wp-content/uploads/2012/05/Ceres\\_restoring-the-flows.pdf](http://www.circleofblue.org/waternews/wp-content/uploads/2012/05/Ceres_restoring-the-flows.pdf)

This document is an attempt to distill those ideas into a set of high-priority, high-impact strategies that can be jointly pursued by the many stakeholders who have a stake in shaping a more prosperous water future: the utilities who provide water, the financial intermediaries who help capital flow to those water providers, the investors who provide that capital, the NGOs who advocate for better water stewardship and job creation through infrastructure investments, and the foundations who enable cooperation across sectors.

## **FAST OUT OF THE GATE: HOW DEVELOPING ASIAN COUNTRIES CAN PREPARE TO ACCESS INTERNATIONAL GREEN GROWTH FINANCING (USAID)**

Website: <http://lowemissionsasia.org/resources/fast-out-gate-vol-1.pdf>

The report reviews more than 200 public and private sector funds and mechanisms for financing projects, businesses, and infrastructure in the Asia region that mitigate emissions of greenhouse gases and thereby address climate change. The study aims to help Asian policymakers, public and private fund managers, banks, and even local communities identify ways to fund low-carbon development. A key message from the report is that countries that are first to develop strong measurement, reporting, and verification frameworks for greenhouse gas emissions—a central requirement of public and private sector funds—will have the advantage in accessing climate finance.

## **PLANNING, CONNECTING, AND FINANCING CITIES—NOW: PRIORITIES FOR CITY LEADERS.**

Author: World Bank

Website: <http://siteresources.worldbank.org/EXTSDNET/Resources/Urbanization-Planning-Connecting-Financing-2013.pdf>

This report provides Mayors and other policymakers with a policy framework and diagnostic tools to anticipate and implement strategies that can avoid their cities from locking into irreversible physical and social structures. To help mayors and other policy makers identify the bottlenecks they face as urbanization accelerates and to propose policy options to tackle such challenges, the World Bank— with support from the Swiss State Secretariat for Economic Affairs (SECO) and the Cities Alliance—has carried out diagnostics called “Urbanization Reviews” in 12 countries across 4 continents. This program has created a bedrock of credible facts and a set of solutions that are tailored to the fiscal, political, and administrative realities of cities. This report, *Planning, Connecting, and Financing Cities—Now* distills the lessons learned from these diagnostics into a practical framework for sustainable urbanization, which is organized around the three policy pillars of the title.

## **GUIDANCE FOR MUNICIPAL STORMWATER FUNDING**

Author: Doug Harrison Scott Tucker, eds., USEPA, NAFSMA, Jan 2006, 140pp.  
Website: <http://www.nafsma.org/Guidance%20Manual%20Version%202X.pdf>

This paper discusses the evolution of local government's role in municipal stormwater management and serves as a resource to local practitioners as they address stormwater program financing challenges. The guide covers various sources of funding, legal considerations, implementation of stormwater funding programs and case studies from US cities.

## **ADAPT ASIA-PACIFIC SESSION AT THE 3RD APAN FORUM 2013: "ACCESSING CLIMATE CHANGE ADAPTATION FINANCE." MARCH 2013**

Website: <http://www.adaptasiapacific.org/activities/adapt-asia-pacific-session-3rd-apan-forum-2013-accessing-climate-change-adaptation> ADAPT Asia-Pacific Funds Compendium:  
<http://www.adaptasiapacific.org/funds-compendium>

Asia-Pacific countries share insights to accessing international climate finance for adaptation.

## **8 POINTS ON FINANCING CLIMATE CHANGE ADAPTATION IN URBAN AREAS**

Author: David Satterthwaite, IIED. June 2013.  
Website: <http://www.iied.org/8-points-financing-climate-change-adaptation-urban-areas>

This report discusses major issues related to financing climate change adaptation in urban areas. It focuses on where the money might come from, whether governments and international agencies will act with the needed urgency and whether those who need to act get the support they require. The report describes a meeting on Financing Urban Adaptation to Climate Change held at IIED in June 2013 which highlighted eight points to guide funding.

## **CLEAN WATER FINANCING: WATER QUALITY COOPERATIVE AGREEMENTS**

Author: EPA, last updated Jul 2010  
Website: [http://water.epa.gov/grants\\_funding/cwf/waterquality.cfm](http://water.epa.gov/grants_funding/cwf/waterquality.cfm)

This page links to a number of water impact-relevant funding programs, including the Clean Water State Revolving Loan Fund (e.g. for estuary protection projects), Water Quality Cooperative Agreements, and Drinking Water State Revolving Loan Funds.

## **GOING GREEN TO SAVE GREEN: ECONOMIC BENEFITS OF GREEN INFRASTRUCTURE PRACTICES**

Author: American Rivers

Website: <http://www.americanrivers.org/newsroom/resources/going-green-to-save-green.html>

American Rivers' series of new reports highlights the economic benefits of green infrastructure strategies to better manage polluted runoff. These practices, from rain gardens to green roofs, work by capturing rainwater where it falls. By reducing the polluted runoff that flows into rivers and streams, green infrastructure practices play a critical role in protecting clean rivers. Unlike most traditional water infrastructure, green infrastructure practices can help communities save money while also providing a number of economic benefits that include reduced costs, increased energy efficiency, mitigating flooding and improving air quality.

## **CHARTING NEW WATERS CONVENING REPORT: FINANCING SUSTAINABLE WATER INFRASTRUCTURE**

Author: American Rivers, Ceres, and the Johnson Foundation at Wingspread

Website: <http://www.johnsonfdn.org/aboutus/water-infrastructure>

The Financing Sustainable Water Infrastructure report is the product of a meeting convened by The Johnson Foundation, in collaboration with American Rivers and Ceres, that brought together a group of experts to discuss ways to drive funding toward the infrastructure needed for the 21st century. Specifically, this group focused on the following questions:

What new financing techniques can communities use to pay for integrated and sustainable infrastructure approaches? How can we direct private capital toward more sustainable water management projects? The report finds that while options for more cost-effective, resilient and environmentally sustainable systems are available, they are not the norm. In fact, investment in inflexible and expensive "siloes" water systems is still pervasive, despite the fact that money available for financing water infrastructure is increasingly scarce.

## **RESTORING THE FLOWS: FINANCING THE NEXT GENERATION OF WATER SYSTEMS – A STRATEGY FOR COALITION BUILDING**

Author: American Rivers, Ceres

Website: <http://www.ceres.org/resources/reports/restoring-flows-financing-the-next-generation-of-water-systemsa-strategy-for-coalition-building/view>

In this report, Ceres and American Rivers join forces to highlight the importance of bringing together environmentalists, economists, water utilities, water users, financial institutions, foundations, investors and labor groups to create opportunities for the creation of shared pursuits beyond the boundaries of politics, watersheds and economic sectors that typically define our relationship to water.

This report originates from a convening of water providers, finance experts and NGOs in August 2011, as part of The Johnson Foundation's Charting New Waters. With support from the Russell Family Foundation, Ceres and American Rivers were able to continue that dialogue in a series of interviews. This document is an attempt to distill those ideas into a set of high-priority, high-impact strategies that can be jointly pursued by the many stakeholders who have a stake in shaping a more prosperous water future.



## ECOSYSTEM SERVICES

### STATE OF WATERSHED PAYMENTS 2012

Author: Ecosystem Marketplace

Website: [http://www.ecosystemmarketplace.com/pages/dynamic/resources.library.page.php?page\\_id=9544&section=our\\_publications&eod=1](http://www.ecosystemmarketplace.com/pages/dynamic/resources.library.page.php?page_id=9544&section=our_publications&eod=1)

The report, State of Watershed Payments 2012, is the second installment of the most comprehensive inventory to date of initiatives around the world that are paying individuals and communities to revive or preserve water-friendly features of the landscape. Such features include wetlands, streams, and forests that can capture, filter, and store freshwater.

### ENVIROATLAS

Author: U.S. EPA

Website: <http://www.epa.gov/research/enviroatlas/index.htm>

Currently available as a password protection beta-version, EnviroAtlas is a collection of tools and resources that provides geospatial data, maps, research, and analysis on the relationships between nature, people, health, and the economy. Using EnviroAtlas, you can see and explore information related to the benefits that humans receive from nature.

### WHY THE EMERGENCY MANAGEMENT COMMUNITY SHOULD BE CONCERNED ABOUT CLIMATE CHANGE: A DISCUSSION OF THE IMPACT OF CLIMATE CHANGE ON SELECTED NATURAL HAZARDS

Author: Joel Silverman et al., CNA Analysis and Solutions, Jun 2009, 48pp.

Website: <http://www.cna.org/sites/default/files/SAS%20Why%20the%20Emergency%20Management%20Community%20Should%20be%20Concerned%20about%20Climate%20Change.pdf>

This draft report outlines key climate change issues for consideration from an emergency management perspective and introduces potential implications for the near-, medium-, and long-term. It summarizes the current climate change literature, focusing on the estimated impacts on the location, frequency, and occurrence of natural hazards, such as tropical cyclones, wildfires, floods, and winter storms. It also identifies related policy issues in the areas of disaster mitigation, preparedness, response, and recovery. Finally, it provides potential courses of action to support future dialogue among emergency management practitioners from all levels of government to explore policy solutions in greater depth.

## **MITIGATING NEW YORK CITY'S HEAT ISLAND WITH URBAN FORESTRY, LIVING ROOFS, AND LIGHT SURFACES**

Author: New York State Energy Research and Development Authority (NYSERDA), 2006, 173pp.

Website: <http://www.nyseda.ny.gov/Publications/Research-and-Development/Environmental/EMEP-Publications/~media/Files/Publications/Research/Environmental/EMEP/06-06%20Complete%20report-web.ashx>

This report includes a step-by-step cost-benefit analysis of the titular approaches to mitigating the urban heat island effect.

## **FOUR FOREST RESTORATION INITIATIVE**

Author: US Forest Service, accessed March 2012

Website: <http://www.fs.usda.gov/4fri>

The overall goal of the Four Forest Restoration Initiative (4FRI) is to restore the structure, pattern and composition of fire-adapted ecosystems, which will provide for fuels reduction, forest health, and wildlife and plant diversity. A key objective is doing this while creating sustainable ecosystems and industries in the long term. Appropriately-scaled businesses will likely play a key role in the effort by harvesting, processing and selling wood products. The restoration based work opportunities are expected to create jobs across northern Arizona.

## **LANDSCAPE CONSERVATION COOPERATIVES**

Author: Department of Interior, accessed March 2012

Website: <http://www.doi.gov/lcc/index.cfm>

Landscape Conservation Cooperatives (LCCs) recognize that these challenges transcend political and jurisdictional boundaries and require a more networked approach to conservation –holistic, collaborative, adaptive and grounded in science to ensure the sustainability of America's land, water, wildlife and cultural resources. As a collaborative, LCCs seek to identify best practices, connect efforts, identify gaps, and avoid duplication through improved conservation planning and design. Partner agencies and organizations coordinate with each other while working within their existing authorities and jurisdictions. The 22 LCCs collectively form a national network of land, water, wildlife, and cultural resource managers, scientists, and interested public and private organizations –within the US and across international borders—that share a common need for scientific information and interest in conservation.

## **CDC POLICY ON CLIMATE CHANGE AND PUBLIC HEALTH**

Author: Center for Disease Control and Prevention, 2pp.

Website: <http://www.cdc.gov/climateandhealth/policy.htm>

This statement summarizes some of the main public health risks and populations at risk for specific climate impacts. It also identifies eleven priority health responses, most of which point toward actions to be taken in the future.

## **ENVIRONMENTAL HEALTH PRIMER**

Author: National Association of Local Boards of Health, National Environmental Health Science and Protection Accreditation Council, Center for Disease Control and Prevention, 2003.

Webpage: [http://www.cdc.gov/nceh/ehs/NALBOH/NALBOH\\_EH\\_Primer.htm](http://www.cdc.gov/nceh/ehs/NALBOH/NALBOH_EH_Primer.htm)

This primer provides a basic understanding of environmental public health concepts and principles to help local officials make better decisions. Geared to local boards of health but provides useful background information for other official audiences too. Chapters of relevance to climate adaptation include air quality (in Part 2), drinking water and wastewater (Part 3), and vector control (in Part 4).

## **MONITORING & EVALUATION**

### **LEARNING TO ADAPT: MONITORING AND EVALUATION APPROACHES IN CLIMATE CHANGE ADAPTATION AND DISASTER RISK MANAGEMENT – CHALLENGES, GAPS AND WAYS FORWARD.**

Author: Villanueva, P.S. Strengthening Climate Resilience, 2011.

Website: <http://community.eldis.org/.5a093c0d>

This working paper is a methodological contribution to the emerging debate on monitoring and evaluation (M&E) in the context of climate change adaptation and disaster risk reduction. Effectively managing disaster risk is critical for adapting to the impacts of climate change, however disaster risk reduction M&E practice may be limited in capturing progress towards adaptation.

### **MONITORING AND EVALUATION FRAMEWORK FOR ADAPTATION TO CLIMATE CHANGE**

Author: UNDP, 2007-2008.

Website: <http://www.seachangecop.org/node/1480>

To fulfill the mandates of the SCCF and LDCF, the draft M&E framework for adaptation presented here is organized according to seven “Thematic Areas” (TAs) representing key climate change-sensitive development objectives, as well as priorities that have emerged from over 130 country assessments and the scientific consensus of the IPCC.

## **EVALUATION OF ADAPTATION TO CLIMATE CHANGE FROM A DEVELOPMENT PERSPECTIVE**

Author: Hedger, MM.; Mitchell, T.; Leavy, J.; Greeley, M.; and Downie, A. Institute of Development Studies Sussex, GEF-EO, DFID, 2008.

Website: [http://www.seachangepop.org/files/documents/2008\\_08\\_IDS\\_Evaluating\\_CCA\\_from\\_a\\_development\\_perspective.pdf](http://www.seachangepop.org/files/documents/2008_08_IDS_Evaluating_CCA_from_a_development_perspective.pdf)

The aim is to present an overview of approaches relevant to or used for the evaluation of interventions intended to support adaptation to climate change and to identify main gaps in evaluation of adaptation interventions. The report sought answers for the following questions: What types of interventions can already be considered for evaluation with an 'adaptation lens'? What additional questions should be asked when applying an 'adaptation lens' to evaluate such interventions? What indicators of success relating to adaptation have been used in different types of projects and programs?

## **SYNTHESIS REPORT ON EFFORTS UNDERTAKEN TO MONITOR AND EVALUATE THE IMPLEMENTATION OF ADAPTATION PROJECTS, POLICIES AND PROGRAMS AND THE COSTS AND EFFECTIVENESS OF COMPLETED PROJECTS, POLICIES AND PROGRAMS, AND VIEWS ON LESSONS LEARNED, GOOD PRACTICES, GAPS AND NEEDS.**

Author: UNFCCC, 2010.

Website: <http://unfccc.int/resource/docs/2010/sbsta/eng/05.pdf>

This document synthesizes information contained in submissions from Parties and organizations and in other relevant sources on efforts undertaken to monitor and evaluate the implementation of adaptation measures, including projects, policies and programs. This document synthesizes efforts in this area and also reports on the development and use of adaptation indicators. A summary of lessons learned, good practices, gaps and needs is provided, and the document concludes by raising issues for further consideration.

## **TRACKING PROGRESS FOR EFFECTIVE ACTION: A FRAMEWORK FOR MONITORING AND EVALUATING ADAPTATION TO CLIMATE CHANGE**

Author: Sanahuja, H.E., GEF Climate-Eval, 2011.

Website: <http://www.climate-eval.org/www.climate-eval.org/?q=system/files/studies/A%20Framework%20for%20Monitoring%20and%20Evaluating%20Adaptation%20to%20Climate%20Change.pdf>

This framework paper is largely about the application of sound monitoring and evaluation methodologies and processes to initiatives of adaptation to climate change. It is intended as a practical guide to allow for more fluid progress towards capacity development for monitoring and evaluating adaptation to climate change interventions.

## **IIED CLIMATE CHANGE WORKING PAPER 1: TRACKING ADAPTATION AND MEASURING DEVELOPMENT**

Author: Brooks, N; Anderson, S; Ayers, J; Burton, I; and Tellam, I. IIED, 2011.

Website: [http://www.seachangecop.org/files/documents/2011\\_12\\_04\\_IIED\\_Tracking\\_adaptation\\_and\\_monitoring\\_development.pdf](http://www.seachangecop.org/files/documents/2011_12_04_IIED_Tracking_adaptation_and_monitoring_development.pdf)

As adaptation to climate change becomes the focus of increasing attention and the target of significant spending, there is a growing need for frameworks and tools that enable organisations to track and assess the outcomes of adaptation interventions. This paper presents a coherent framework for climate change adaptation programming, including potential indicators, or indicator categories/types, for tracking and evaluating the success of adaptation support and adaptation interventions. The paper begins with a discussion of some of the key issues related to the evaluation of adaptation, and outlines some of the main difficulties and constraints with respect to the development of adaptation indicators. Next, an evaluation framework is proposed and indicator categories or “domains” are identified. Lastly, key conclusions are provided and a theory of change is outlined that shows how development and use of the framework could lead to more effective adaptation investments for climate resilient development.

## **MAKING ADAPTATION COUNT: CONCEPTS AND OPTIONS FOR MONITORING AND EVALUATION OF CLIMATE CHANGE ADAPTATION**

Author: GIZ, WRI, 2011.

Website: [http://pdf.wri.org/making\\_adaptation\\_count.pdf](http://pdf.wri.org/making_adaptation_count.pdf)

This paper aims to provide adaptation and development practitioners with a practical framework for developing M&E systems that can track the success and failure of adaptation initiatives in the development context.

## **ADAPTME TOOLKIT FOR MONITORING AND EVALUATION OF ADAPTATION ACTIVITIES**

Author: Pringle, P.; Lonsdale, K.; Gawith, M.; Goldthorpe, M.; and Street, R. UKCIP, 2011.

Website: <http://www.ukcip.org.uk/wordpress/wp-content/AdaptME/AdaptME.pdf>

This toolkit will help to refine your evaluation purpose and objectives, understand how specific traits of climate adaptation can make evaluation challenging and how you can overcome these challenges, draw out, understand and re-evaluate your assumptions, consider how progress and performance might be best measured and evaluated, identify examples, good practice and techniques which may help ensure your evaluation is robust in the context of climate change, prioritise your evaluation activities, recognising that evaluations need to be proportionate to the investment and are resource limited.

## **URBAN MANAGEMENT CENTER EQUITY OF SERVICE DELIVERY TO URBAN POOR**

Website: [http://umcasia.org/uploads/GIS\\_Based\\_Mapping\\_of\\_Living\\_Heritage\\_of\\_Surat\\_Report\\_Randar\\_Gamtalpdf.pdf](http://umcasia.org/uploads/GIS_Based_Mapping_of_Living_Heritage_of_Surat_Report_Randar_Gamtalpdf.pdf)

A survey tool undertaken in almost 1200 slum pockets across all cities of Gujarat to understand the level of services they receive. This was done with a view to understand the equity of services.

# COASTAL REGIONS AND CLIMATE CHANGE

## SYNTHESIS OF ADAPTATION OPTIONS FOR COASTAL REGIONS

Author: EPA, 2009, 32pp.

Website: [http://water.epa.gov/type/oceb/cre/upload/CRE\\_Synthesis\\_1-09](http://water.epa.gov/type/oceb/cre/upload/CRE_Synthesis_1-09)

This guide provides a brief introduction to key physical impacts of climate change on estuaries and a review of on-the-ground adaptation options available to coastal managers to reduce their systems' vulnerability to climate change impacts. Estuaries are highly and uniquely vulnerable to climate change.

## RESILIENT COASTS: A BLUEPRINT FOR ACTION

Author: Heinz Center and Ceres, Apr 2009, 9pp.

Website: [http://www.heinzctr.org/Major\\_Reports\\_files/Resilient%20Coasts%20Blueprint%20for%20Action.pdf](http://www.heinzctr.org/Major_Reports_files/Resilient%20Coasts%20Blueprint%20for%20Action.pdf)

This blueprint was designed for federal, state and local leaders and identifies critical steps to reduce risks and losses due to climate change. It discusses basic principles of coastal resiliency, and suggests strategies for climate change adaptation, including financing and insurance. The blueprint is designed to help individuals, communities and ecosystems withstand and recover from the impacts of coastal storms and rising sea levels.

## COASTAL COMMUNITIES AND CLIMATE CHANGE: MAINTAINING FUTURE INSURABILITY

Author: Lloyd's of London, 2008, 28pp.

Website: [http://www.lloyds.com/~media/Lloyds/Reports/360/360%20Climate%20reports/360\\_Coastalcommunitiesandclimatechange.pdf](http://www.lloyds.com/~media/Lloyds/Reports/360/360%20Climate%20reports/360_Coastalcommunitiesandclimatechange.pdf)

This report looks at the impact of climate change on flood risk at a number of coastal locations around the world, considering sea level rise, the effect of wind speed on storm surges, and changes in land use. Although the four case studies mentioned in the report are from outside the United States, the lessons learned are applicable to any coastal community. That the publisher is a large insurance company may aid planners in making the case for adaptation action.

## ADAPTING TO COASTAL CLIMATE CHANGE: A GUIDEBOOK FOR DEVELOPMENT PLANNERS

Author: USAID et al., May 2009, 148pp.

Website: [http://pdf.usaid.gov/pdf\\_docs/PNADO614.pdf](http://pdf.usaid.gov/pdf_docs/PNADO614.pdf)

This guidebook provides a 5-step process for integrating climate change adaptation into development planning in coastal regions. The guide goes in-depth into assessment, action selection, integration, implementation, and evaluation. It also provides descriptions of several coastal adaptation measures.

## **THE RESILIENCE OF NEW ORLEANS: URBAN AND COASTAL ADAPTATION TO DISASTERS AND CLIMATE CHANGE**

Author: Douglas J. Meffert, Lincoln Land Institute, 2008, 16pp.

Website: [http://www.lincolnst.edu/pubs/1508\\_The-Resilience-of-New-OrleansStorms/Flooding](http://www.lincolnst.edu/pubs/1508_The-Resilience-of-New-OrleansStorms/Flooding)

This report includes an assessment of the carrying capacity of Coastal Louisiana in terms of geography, infrastructure costs, and land use challenges and opportunities. The methodology used can guide similar assessments for other coastal regions.

## **GENERAL RESOURCES**

### **SUSTAINABLE SERVICE DELIVERY IN AN INCREASINGLY URBANIZED WORLD**

Author: USAID Policy Draft March 2013.

Website: [http://www.usaid.gov/sites/default/files/documents/1870/USAIDSustainableUrbanServicesPolicy\\_DraftforReview\\_March2013.pdf](http://www.usaid.gov/sites/default/files/documents/1870/USAIDSustainableUrbanServicesPolicy_DraftforReview_March2013.pdf)

This report provides tools to help countries and communities improve the delivery of services in urban areas. By focusing on good governance, pro-poor service delivery models, and the sound financial management of water, sanitation, energy, and urban health services, this Policy seeks to prepare the Agency for the ongoing rapid growth of cities throughout the world.

### **USAID ASIA-PACIFIC REGIONAL CLIMATE CHANGE ADAPTATION ASSESSMENT (2010)**

Website: [http://pdf.usaid.gov/pdf\\_docs/PNADS197.pdf](http://pdf.usaid.gov/pdf_docs/PNADS197.pdf)

In recognition of the region's vulnerability to climate change, its role in mitigating greenhouse gas (GHG) emissions, and the moral responsibility of developed countries to assist the most vulnerable people to adapt to climate change as expressed by the Obama administration, this report seeks to identify opportunities for USAID to deepen its regional engagement in supporting adaptation to climate change in Asia.

### **MEKONG ADAPTATION AND RESILIENCE TO CLIMATE CHANGE (MEKONG ARCC)**

Website: [http://www.mekongarcc.net/sites/default/files/mekongarcc\\_draft\\_synthesis\\_report.pdf](http://www.mekongarcc.net/sites/default/files/mekongarcc_draft_synthesis_report.pdf)

This document describes the Mekong ARCC project, a five- year program (2011-2016) funded by the USAID Regional Development Mission for Asia (RDMA) in Bangkok and implemented by DAI in partnership with ICEM - International Centre for Environmental Management and World Resources Institute (WRI). The project focuses on identifying the environmental, economic and social effects of climate change in the Lower Mekong Basin (LMB), and on assisting highly exposed and vulnerable rural populations in ecologically sensitive areas increase their ability to adapt to climate change impacts on water resources, agricultural and aquatic systems, livestock, ecosystems, and livelihood options.

## **USAID'S URBAN SERVICES POLICY (DRAFT)**

Website: [http://www.usaid.gov/sites/default/files/documents/1870/USAIDSustainableUrbanServicesPolicy\\_DraftforReview\\_March2013.pdf](http://www.usaid.gov/sites/default/files/documents/1870/USAIDSustainableUrbanServicesPolicy_DraftforReview_March2013.pdf)

Supporting the Agency's broader development objectives, USAID's Sustainable Urban Services Policy seeks to provide tools to USAID overseas Missions so they can help countries and communities improve the delivery of services in urban areas. This Policy, which is based on existing Agency objectives, enables Missions to empower countries to deliver urban services. By focusing on good governance, pro-poor service delivery models, and the sound financial management of water, sanitation, energy, and urban health services, this Policy seeks to prepare the Agency for the ongoing rapid growth of cities throughout the world.

## **STAYING GREEN AND GROWING JOBS: GREEN INFRASTRUCTURE OPERATIONS AND MAINTENANCE AS CAREER PATHWAY STEPPING STONES**

Author: Green for All and American Rivers

Website: <http://greenforall.org/wordpress/wp-content/uploads/2013/04/Staying-Green-and-Growing-Jobs-April-2013.pdf.pdf>

The operations and maintenance (O&M) of green infrastructure represents a significant opportunity to create entry level jobs in the green sector for individuals from disadvantaged communities. In the coming years, thousands of new green infrastructure (GI) projects will be installed throughout the country. They will require a workforce trained to maintain and monitor the projects. This report reveals that water utilities investing in green infrastructure can outsource O&M work to workforce development programs that train individuals in green infrastructure – in fact, some already do. Operations and maintenance work gives disadvantaged community members access to jobs and career on-ramps while performing the O&M work required by water utilities.

## **JOB PROJECTION AND TRACKING GUIDE**

Author: Green for All

Website: [http://greenforall.org/wordpress/wp-content/uploads/2012/04/Job-Projection-and-Tracking-Guide\\_03.06.2012.pdf](http://greenforall.org/wordpress/wp-content/uploads/2012/04/Job-Projection-and-Tracking-Guide_03.06.2012.pdf)

This guide is a resource for agencies and other organizations responsible for overseeing GI projects, and it highlights the fundamental importance of using sound and persuasive data to foster investment in green jobs. It also calls on agencies that invest in green infrastructure to increase their efforts to track project job outcomes. Unless they collect data on GI project outcomes, agencies and other entities cannot demonstrate the benefits that GI projects create. By providing information in this guide about the benefits of, and challenges to, job tracking and job projection, Green For All's goal is to promote investment in green water infrastructure while also creating quality jobs that provide family supporting wages.



### **FIREWISE COMMUNITIES**

Author: National Fire Protection Association, 2012.

Website: <http://www.firewise.org/>

This website houses information for individuals, firefighters, developers and municipal officials on reducing wildfire risk in communities, particularly in the rural-urban interface.

### **CALIFORNIA FIRE ALLIANCE**

Author: California Fire Alliance, 2012.

Website: <http://www.cafirealliance.org/>

This website houses a wide range of information including sample community fire plans.

### **PREPARING A COMMUNITY WILDFIRE PROTECTION PLAN**

Author: National Association of Counties et al, 2004, 12pp.

Website: <http://www.stateforesters.org/files/cwpphandbook.pdf>

This report from the National Association of Counties, National Association of State Foresters, the Society of American Foresters and the Western Governor's Association provides a step by step process to develop a community level plan.

### **TRANSPORTATION AND CLIMATE CHANGE CLEARINGHOUSE—CLIMATE CHANGE IMPACTS**

Author: Department of Transportation, 2010.

Website: <http://climate.dot.gov/impacts-adaptations/forecasts.html>

This annotated list of resources on the impacts of climate change on transportation infrastructure is continually updated.

### **CLIMATE CHANGE INDICATORS IN THE UNITED STATES**

Author: USEPA, 2010, 80pp.

Website: <http://www.epa.gov/climatechange/pdfs/climateindicators-full.pdf>

This report gives an overview of climate impacts and 24 climate change indicators for the United States. The report uses visual tools to help readers interpret these indicators.

## **GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES**

Author: US Global Change Research Program, 2009, 196pp.

Website: <http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts>

This report summarizes, in plain language, the science and the impacts of climate change on the United States by region, now and in the future. It provides an overview of impacts on various aspects of society and the economy such as energy, water, agriculture, and health.

## **COASTAL CLIMATE ADAPTATION**

Author: NOAA, 2010.

Website: <http://collaborate.csc.noaa.gov/climateadaptation/default.aspx>

This site includes a wide range of resources on climate change impacts and adaptation, and a forum for coastal state and local government officials. The list of resources is organized by topic area and state, and includes adaptation plans, action plans, case studies, strategies, guidebooks, outreach materials, risk and vulnerability assessments, stakeholder engagement guides, and training and workshop materials.

## **ASSESSMENT OF CLIMATE CHANGE IMPACTS ON LOCAL ECONOMIES**

Author: Rosalind, H. Bark, Lincoln Land Institute, Oct 2009, 58pp.

Website: [http://www.lincolnst.edu/pubs/1706\\_Assessment-of-Climate-Change-Impacts-on-Local-Economies](http://www.lincolnst.edu/pubs/1706_Assessment-of-Climate-Change-Impacts-on-Local-Economies)

This report includes an overview of climate change impacts and actions in the Intermountain West: urban heat island and excessive heat events, urban water resources, flooding and floodplain development, ski resorts, national forests and parks, and ranching and farming.

## **CLIMATE CHANGE 101: ADAPTATION**

Author: Pew Center on Global Climate Change, Jan 2011, 14pp.

Website: <http://www.c2es.org/docUploads/climate101-adaptation.pdf>

This report provides a summary analysis of climate change adaptation, providing an overview of the impacts expected across the United States, an argument for adaptation planning, and a series of successful strategies.

## **MANAGING THE RISKS OF EXTREME EVENTS AND DISASTERS TO ADVANCE CLIMATE CHANGE ADAPTATION: SUMMARY FOR POLICYMAKERS**

Website: [http://ipcc-wg2.gov/SREX/images/uploads/SREX-SPMbrochure\\_FINAL.pdf](http://ipcc-wg2.gov/SREX/images/uploads/SREX-SPMbrochure_FINAL.pdf)

This summary for policymakers presents key findings from the Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX). The SREX approaches the topic by assessing the scientific literature on issues that range from the relationship between climate change and extreme weather and climate events ('climate extremes') to the implications of these events for society and sustainable development. The assessment concerns the interaction of climatic, environmental, and human factors that can lead to impacts and disasters, options for managing the risks posed by impacts and disasters, and the important role that non-climatic factors play in determining impacts.

## **COPING WITH GLOBAL CLIMATE CHANGE: THE ROLE OF ADAPTATION IN THE UNITED STATES**

Author: William E. Easterling III et al., Pew Center on Global Climate Change, 2004, 52pp.

Website: [http://www.pewclimate.org/global-warming-in-depth/all\\_reports/adaptation](http://www.pewclimate.org/global-warming-in-depth/all_reports/adaptation)

This report provides a strong overview of proactive adaptation approaches, including infrastructure planning and development, avoidance of "maladaptations," and the role of public policy. It provides more detail on approaches to agriculture, water resources, and sea level rise.

## **CITIES PREPARING FOR CLIMATE CHANGE: A STUDY OF SIX URBAN REGIONS**

Author: Clean Air Partnership, 2007.

Website: [http://www.cleanairpartnership.org/pdf/cities\\_climate\\_change.pdf](http://www.cleanairpartnership.org/pdf/cities_climate_change.pdf)

This report incorporates the lessons learned from six "early adopters" –London, New York, Boston region, Halifax, Greater Vancouver, and Seattle and King County –and addresses these experiences by phase of the adaptation planning process.

## **IMPLEMENTING CLIMATE CHANGE ADAPTATION: LESSONS LEARNED FROM TEN EXAMPLES**

Author: Headwaters Economics, Feb 2012.

Website: [http://headwaterseconomics.org/wphw/wp-content/uploads/Climate\\_Adaptation\\_Lessons\\_Learned.pdf](http://headwaterseconomics.org/wphw/wp-content/uploads/Climate_Adaptation_Lessons_Learned.pdf)

This report provides practical examples of adaptation planning and implementation from cities and counties across the US, including Boulder (CO), Chicago (IL), Chula Vista (CA), Eugene (OR), Keene (NH), Miami-Dade County (FL), New York City (NY), Olympia (WA), Portland (OR) and Taos (NM) and reports on lessons learned.

### **EXCESSIVE HEAT EVENTS GUIDEBOOK**

Author: USEPA, Jun 2006, 60pp.

Website: [http://www.epa.gov/heatisland/about/pdf/EHEguide\\_final.pdf](http://www.epa.gov/heatisland/about/pdf/EHEguide_final.pdf)

This guidebook provides information that local public health officials and others need to begin assessing their vulnerability to excessive heat events and developing and implementing notification and response programs. Cost/benefit guidelines are also included.

### **HEAT ISLAND EFFECT**

Author: EPA, last updated Aug 2010.

Website: <http://www.epa.gov/heatislands/index.htm>

This website provides access to EPA's Urban Heat Island Community Actions Database, by state & locality, initiative type, and strategy. Initiative types include ordinances, building codes, and outreach programs; strategies include trees and vegetation, green roofs, cool roofs, and cool pavements. It also has resources such as outreach materials, a compendium of strategies, and a Mitigation Impact Screening Tool.

### **ADAPTING TO URBAN HEAT: A TOOLKIT FOR LOCAL GOVERNMENTS**

Author: Sara P. Hoverter, Georgetown Climate Center, 2012, 82pp.

Website: [http://www.law.georgetown.edu/academics/academic-programs/clinical-programs/our-clinics/HIP/upload/Urban-Heat-Toolkit\\_RD2.pdf](http://www.law.georgetown.edu/academics/academic-programs/clinical-programs/our-clinics/HIP/upload/Urban-Heat-Toolkit_RD2.pdf)

This analytic tool helps policy makers to consider a combination of four built-environment changes (cool roofs, green roofs, cool pavements, and urban forestry) and provides clear criteria for selecting among them, along with examining the roles government can play in pursuing these changes: shaping government's own operations, mandating or providing incentives for private choices, and engaging in public education.

## APPENDIX 5: CLA Final Agenda

### A. Needs Wants Inquiry Questions

## Needs / Wants Inquiry Questions

### *Narrative at the Start of the Call*

The purpose of the CLA is to help you and your team advance and improve adaptation and resilience efforts by providing the best available information, expertise and thinking in the field, and by offering opportunities to learn from your peers across SE Asia.

This program is offered through CityLinks, a USAID-funded program to share promising practices in urban governance and adaptation with peer cities across the world. CityLinks is managed by the International City Manager's Association. We are working on the program as a sub to ICMA and are offering our Leadership Academy model.

Our Leadership Academies are based on the concept of peer learning. A big part of how we do that is through our "needs/wants inquiry" conference calls. We're calling each team to learn more about your specific challenges, and successes, and obtain input into how the workshop can help you advance your work.

After we talk to each team, we'll put together a list of four or five common themes, and a catalogue promising practices from each team that address those themes. We'll use that information to develop an agenda that is highly customized to the challenges that you face and will be designed to help teams exchange the best practices that address those challenges.

So, I'd like to spend about 45 minutes to an hour today for a needs/wants assessment for your team. I'd like to run through some ideas that we have regarding the scope of the workshop, ask a couple of questions from the team.

One other thing. I'd like to record the call just to make sure that I get all the details correct in case I miss them in my notes. Is that OK with everyone?

### *Questions*

1. Please describe each of your roles in your community's water-related climate adaptation efforts.
2. What are some of the successes your city has achieved in increasing its resilience to climate change impacts? Would you be interested in sharing information about them at the CLA?
3. What are the one or two biggest challenges the city faces in bolstering its water-related climate resilience?
4. What are the specific issues you'd want the CLA to cover? (e.g. adaptation strategies for specific climate impacts, such as sea level rise, flooding, heat waves, and water supply and conservation; funding adaptation; integrating adaptation concerns in city planning; making the case for resilience; achieving regional adaptation approaches).

5. Are there programs in other cities that you'd like to hear more about at the CLA? Are there particular speakers you'd like to hear from at the CLA?
6. The CLA offers a mix of presentations by key speakers, small group discussions, informal networking time, and planning time with your team. Which of these is the highest priority for you and would be most useful in moving your climate adaptation and resilience work forward?

## B. Team Huddle Guide



# Team Huddle Guide

## Instructions and Purpose

Team Huddles provide time each day for your team to reflect on the things you are hearing and learning at the workshop, and to strategize about what you will do differently when you return home.

Below, we have provided guiding questions for you to use in the first two Team Huddles. In the third and last team huddle you will create an action plan for your team to implement over the next three months.

## Team Huddle 1: Getting to Work

What role do each of you play within your community to advance urban climate adaptation? What risks are each of you addressing?

What are the common challenges and goals that you all share? What work has been completed to date to help advance your shared goals?

What is the current state of your adaptation efforts and how close are you to reaching your goals?

What information or skills do you need to begin or advance your work together?

Looking at the agenda, what concurrent sessions do you want to attend, or direct certain team members to attend, over the next two days?

Looking at the list of program participants and resource team members (listed in the back of the Resource Guide), are there any teams, individual team members, or resource team members that you want to network with, or possibly invite into one or more of your team huddles?

What are your goals for this Climate Leadership Academy? What can you reasonably accomplish to advance your efforts over the next two days?

## Team Huddle 2: Putting the Pieces Together

What has your team learned over the last two days – e.g., new information, tools, policies, strategies, connections – that may help you think and work differently to overcome the challenges that you identified in your Team Huddle yesterday?

How has the workshop influenced your thinking about how to address urban climate risks and:

- Build broad-based support for adaptation activities across sectors, levels of government, and across borders;
- Restore urban ecosystems and biodiversity to build natural resilience to climate disruption;
- Re-think urbanization strategies to promote adaptive urban infrastructure and spatial planning;
- Align resources to support adaptation strategies that lower financial risks to large-scale urbanization investments;
- Provide opportunities for poor and vulnerable populations to participate in adaptation-related planning?

Did any of you make new connections with people from other teams or resource team members that could help advance your work? Who might be a priority for ongoing networking and collaboration?

Do you want to refine the goals you set for this Climate Leadership Academy?

### Team Huddle 3: Strategizing & Committing to Action

*Spend this last team huddle developing a three-month action plan to implement when you return home. Have one person fill in the following table, which will be collected by the CityLinks team before you leave.*

Based on what you've learned at the workshop, please describe two or three specific actions, strategies, plans, policies, or projects you will initiate, create, modify, or adapt when your team returns home.

- 1.
- 2.
- 3.

What steps will you take in the next three months to pursue the actions above? Include how your team will:

1. Apply specific tools, knowledge, or connections gained at the workshop; and
2. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.

What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?

C. Final Agenda

CLIMATE LEADERSHIP ACADEMY ON URBAN ADAPTATION  
CITYLINKS PILOT PARTNERSHIP BETWEEN US AND ASEAN MEMBER STATES

MANAGING THE SOCIAL, POLITICAL, ENVIRONMENTAL, AND FINANCIAL RISKS OF URBAN  
INFRASTRUCTURE

Jakarta, Indonesia, August 13-15

## AGENDA

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OPENING DAY | TUESDAY, 13 AUGUST

### Framing the Challenge

- 07:30 – 08:30      **Registration**
- 08:30 – 09:00      **Opening Ceremony**  
Master of Ceremony: Joseph Lombardo, *CityLinks Program Director, ICMA*
- Invited: Joko Widodo, *Governor, Jakarta, Indonesia*  
Mdm. Alicia Dela Rosa Bala, *Deputy Secretary-General of ASEAN for Socio-Cultural Community*  
David Carden, *Ambassador, U.S. Mission to ASEAN*
- 09:00 – 09:30      **Orientation**  
Michael Crowley, *Senior Program Officer, ISC*  
Scott Muller, *Senior Manager of International Climate Programs, ISC*
- 09:30 – 10:45      **Panel Discussion: Prioritizing Adaptation in Urban Infrastructure Planning**  
**Presenter / Moderator:** Joseph Fiksel, *Executive Director, Center for Resilience The Ohio State University*
- Hendricus Andy Simarmata, *Lecturer / Researcher, University of Indonesia*  
Cedric Daep, *Provincial Government Department Head, Provincial Government of Albay and Climate Change Academy, Philippines*

10:45 – 11:00

Break

11:00 – 12:00

Concurrent Session 1

1. **Working with Village Leaders to Respond to Climate Impacts**, with Keodara Vongsavanhong, *Civil Engineer, Department of Public Works and Transport, Borikhamxay Province, Lao PDR*  
Facilitator: Joseph Lombardo, *ICMA*
2. **Adapting Urban Farming Practices to Climate Change**, with Joseph Esplana, *City Planning and Development Coordinator, Local Government of Legazpi City, Philippines*  
Facilitator: Laura Hagg, *Director, Middle East & North Africa Program, ICMA*
3. **Identifying and Managing Urban Climate Risks**, with Wannobon Khuan-arc, *Researcher/Project Coordinator, Thailand Environment Institute*, and Chihun Seiha, *Deputy Head of Vulnerability Assessment and Adaptation Office, Ministry of Environment, Department of Climate Change, Cambodia*  
Facilitator: Joseph Fiksel, *Center for Resilience, The Ohio State University*
4. **Advancing Adaptation through the ASEAN Sustainable Cities for Clean Water Project**, with Muhammad Azha Abd. Rani, *Head of Infrastructure Division, Kuantan, Municipal Council, Malaysia*  
Facilitator: Jessica Cho, *Program Manager, ICMA CityLinks Program*

12:00 – 12:15

Break and Prayer Time

12:15 – 13:15

Lunch and Presentation: Using ICMA's Knowledge Network

Laura Hagg, *Director, Middle East & North Africa Program, ICMA*

13:15 – 14:15

Concurrent Session 2

1. **Green Infrastructure Strategies to Adapt to Flooding**, with Eka Gustini, *Staff of Public Works, Palembang City, Indonesia*  
Facilitator: Michael Crowley, *ISC*
2. **Tools to Identify the Economic, Social, and Environmental Benefits of Urban Adaptation Planning**, with Joseph Fiksel, *Center for Resilience, The Ohio State University*  
Facilitator: Greg Bruce, *Executive Manager, Integrated Sustainability Services Department, Townsville City Council, Queensland, Australia*
3. **Leveraging Private, Government, and International Funds for Adaptation Activities**, with Mayor Noel Rosal, *Local Government of Legazpi City, Philippines*  
Facilitator: Robert Mather, *Head, Southeast Asia, International Union for Conservation of Nature*
4. **International City Collaboration: Best Practices in Delta Adaptation with Ho Chi Minh and Rotterdam**, with Huy Phuong Nguyen, *Official, Ho Chi Minh Climate Change Bureau, Ho Chi Minh City, Vietnam*  
Facilitator: Lee Feldman, *City Manager, City of Fort Lauderdale, Florida, U.S.*

14:15 – 14:30	Break
14:30 – 15:45	<p>Panel Discussion – Regional, National and International Collaboration for Urban Adaptation</p> <p><b>Moderator / Presenter:</b> Phong Tran, <i>Technical Lead, Institute for Social and Environmental Transition (ISET) Vietnam</i></p> <p>Tharee Kamuang, <i>Project Manager, Municipal League of Thailand</i></p> <p>Trung Viet Nguyen, <i>Manager, Climate Change Bureau, Ho Chi Minh City, Vietnam</i></p>
15:45 – 16:15	Break and Prayer Time
16:15 – 17:15	<p><b>Team Huddle</b></p> <p>Teams meet privately to discuss the status of their efforts, identifying accomplishments, challenges and goals for this workshop and beyond.</p>
17:15 – 17:30	Break
17:30 – 18:30	<p>Closing Keynote – Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact</p> <p>Lee Feldman, <i>City of Fort Lauderdale, Florida, U.S.</i></p>
18:30 – 19:00	Reception

## Explore and Inspire

- 08:45 – 09:00 **Opening Remarks**  
Michael Crowley  
Scott Muller, ISC
- 09:00 – 10:15 **Panel 3: Adaptive Urban Ecosystem Services**  
**Moderator:** Robert Mather, *International Union of Conservation of Nature*  
Dato' Haji Zulkifli, *President of Kuantan Municipal Council, Kuantan, Malaysia*  
Wannobon Khuan-arc, *Researcher/Project Coordinator, Thailand Environment Institute*  
Sengdara Douangmyxay, *AWGESC Focal Point, Department of Urban Planning, Ministry of Public Works and Transport, Lao PDR*
- 10:15 – 10:30 **Break**
- 10:30 – 11:30 **Concurrent Sessions, Round 3**
1. **Lessons from Townsville City: Australia's Creek to Coral Partnership**, with Greg Bruce, *Townsville City Council, Queensland, Australia*  
Facilitator: Joseph Lombardo, *ICMA*
  2. **How the Asian Cities Climate Change Resilience Network (ACCCRN) is Helping Advance Adaptation**, with Phong Tran, *Technical Lead, Institute for Social and Environmental Transition (ISET) Vietnam*  
Facilitator: Scott Muller, *ISC*
  3. **Developing a Coastal Zone Master Plan**, with Hamiza Hamzah, *Director of Planning Development, Kuantan Municipal Council, Kuantan, Malaysia*  
Facilitator: Lee Feldman, *City of Fort Lauderdale, Florida, U.S.*
  4. **Identifying Slum Neighborhoods with the Greatest Flooding Risk**, with Bernardus Djonoputro, *Secretary General, Indonesia Association of Planners*  
Facilitator: Bharat Pathak, *Program Director for Disaster Risk Reduction & Climate Change Adaptation, Mercy Corps*
- 11:30 – 12:00 **Break and Prayer Time**
- 12:00 – 13:30 **Lunch Presentation: Ecosystem Services: the Link between Urban and Rural Systems**  
Robert Mather, *Head, Southeast Asia, International Union for Conservation of Nature*
- 13:30 – 13:45 **Break**
- 13:45 – 14:45 **Concurrent Sessions, Round 4**
1. **Rainwater Capture and Reuse**, with Linh Thuy Vu, *Vice Manager, Climate Change Bureau, Ho Chi Minh City, Vietnam*  
Facilitator: Laura Hagg, *ICMA*
  2. **Helping Vulnerable Communities through Relocation**, with Paksane, *Lao, PDR*



Facilitator: Robert Mather, *International Union of Conservation of Nature*

3. **Coastal Adaptation Strategies with Poor Communities**, with Bharat Pathak, *Mercy Corps*

Facilitator: Scott Muller, *ISC*

4. **Leveraging Funding from other Environmental Initiatives to Fund Adaptation Activities**, with Dato' Haji Zulkifi Haji Yaacob, *President of Kuantan Municipal Council, Kuantan, Malaysia*

Facilitator: Jessica Cho, *ICMA*

14:45 – 15:15

Break and Prayer Time

15:15 – 16:15

Team Huddle #2: Sharing Insights

Teams meet privately to discuss insights from the day and how these may be applicable to their respective communities.

16:15 – 16:45

Break

16:45 – 17:45

Closing Keynote: **The Transformation of Townsville, Queensland, Australia**  
Greg Bruce, *Townsville City Council, Queensland, Australia*

## Strategize and Commit

- 08:45 – 09:00 **Opening Remarks**  
**Recap of Days 1 & 2 and Overview of Day 3 Agenda**  
Michael Crowley, ISC  
Scott Muller, *ISC*  
Joseph Lombardo, *ICMA*
- 09:00 – 10:00 **Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps”**  
Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*
- 10:00 – 10:15 **Break**
- 10:15 – 11:15 **Team Huddle 3: Strategizing & Committing to Action**  
Teams meet privately to discuss insights that they’ve acquired at the workshop and how their new knowledge may advance their work. Team leaders prepare short briefs (2-3 min.) on the one specific action that the team will take and on one need that the team will seek to address upon returning home.
- 11:15 – 11:50 **Closing Plenary: Pulling it All Together**  
**Round-the-horn report-outs and Presentation of Certificates**  
Each team reports on the outcomes of their Team Huddle process and next steps for their team upon returning home. (2-3 min. per team)  
Michael Crowley, *Senior Program Officer, ISC*  
Scott Muller, *Senior Manager of International Climate Programs, ISC*
- 11:50 – 12:00 **Closing Remarks**  
Joseph Lombardo, *CityLinks Program Director, ICMA*

## APPENDIX 6: Monitoring & Evaluation

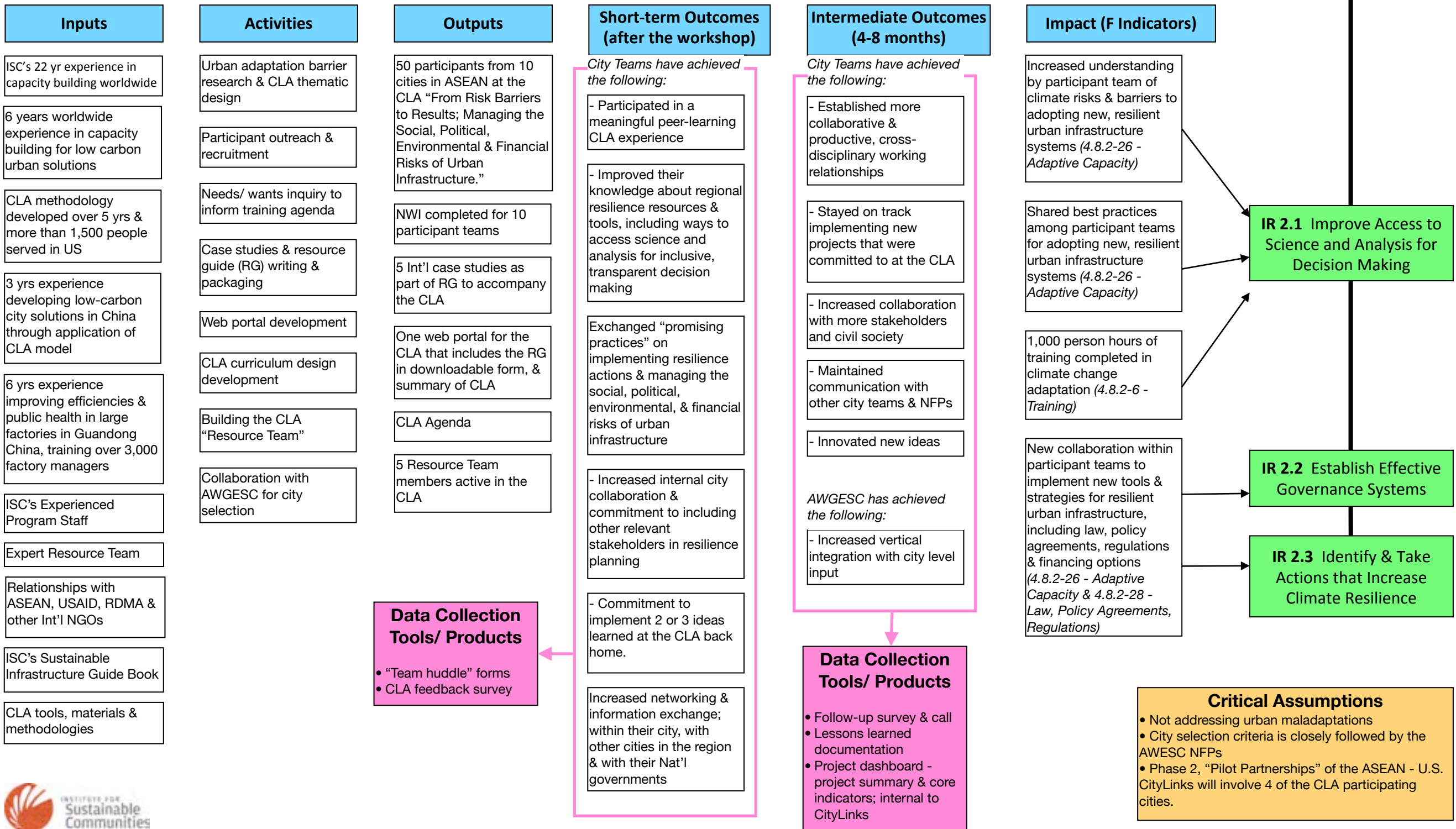
### A. Illustrative Measurement & Verification Plan

# ASEAN Urban Adaptation CLA Illustrative M&E Plan

**Theory of Change:** Forming cross-disciplinary city teams, partnered with a representative from each respective Nat'l Government; and using shared learning methodologies to address the social, political, financial and environmental risks to the planning, construction & maintenance of urban infrastructure, will enable increased implementation of new ideas and tools that accelerate urban adaptation & resilience to climate change.

**Strategy Objective 2: Increase Resilience of People, Places**  
*USAID - Measures of Success (2012-2016)*

- Increased number of institutions with improved capacity for adaptation planning and response
- Decision makers develop greater access to and improved capability to utilize climate data and forecasting
- Number of partner country scientists working in climate change-related fields increased
- Increased engagement of vulnerable stakeholders in climate change responses
- All USAID missions address priority climate vulnerabilities in country development cooperation strategies



B. CLA Data Collection Table

## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

### USAID Climate Change & Development Strategy Objective 2: Increase Resilience of People, Places

#### **Intermediate Result (IR) 2.1: Improve Access to Science and Analysis for Decision Making**

- 2.1.1: Number of participants served disaggregated by city representation and gender
- 2.1.2: Needs/Wants of participants/teams identified and addressed in the CLA curriculum
- 2.1.3: Number of international case studies produced for the CLA Resource Guide
- 2.1.4: Web portal for the CLA launched that includes the RG in downloadable form, & summary of CLA
- 2.1.5: Number of Resource Team members formed disaggregated by thematic expertise
- 2.1.6: Pilot projects for urban adaptive infrastructure identified
- 2.1.7: *Person hours of training completed in climate change supported by USG assistance (F Indicator 4.8.2-6)***
- 2.1.8: Percentage of participants rating the peer-learning experience as very good or excellent disaggregated by city representation and gender
- 2.1.9: Percentage of participants with improved knowledge about regional resilience resources & tools, including ways to access science and analysis for inclusive, transparent decision-making
- 2.1.10: Percentage of participants who have increased their networking & information exchange within teams, with other teams, and with respective national governments, disaggregated by city representation
- 2.1.11: Percentage of participants/ city teams that have maintained communication with other city teams & NFPs
- 2.1.12: *Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG Assistance (F Indicator 4.8.2-26)***
- 2.1.13: *Number of institutions with improved capacity to address climate change issues as a result of USG assistance (F Indicator 4.8.2-14)***

#### **Intermediate Result (IR) 2.2: Establish Effective Governance Systems**

- 2.2.1: Percentage of participants/ city teams that have increased internal city collaboration & commitment to including relevant stakeholders in resilience planning
- 2.2.2: Percentage of participants/ city teams with increased collaboration with more stakeholders and civil society
- 2.2.3: Percentage of participants/ city teams with increased vertical integration with city-level input
- 2.2.4: *Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG Assistance (F Indicator 4.8.2-26)***
- 2.2.5: *Number of institutions with improved capacity to address climate change issues as a result of USG assistance (F Indicator***

## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

4.8.2-14)

### **Intermediate Result (IR) 2.3: Identify & Take Actions that Increase Climate Resilience**

- 2.3.1: Percentage of participants/ city teams with commitment to implement two or three ideas learned at the CLA back home
- 2.3.2: Percentage of participants/ city teams that have stayed on track implementing new projects that were committed to at the CLA
- 2.3.3: Percentage of participants/ city teams that have met their resilience project and or organizational/team goals or objectives
- 2.3.4: *Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG Assistance (F Indicator 4.8.2-26)***
- 2.3.5: *Number of institutions with improved capacity to address climate change issues as a result of USG assistance (F Indicator 4.8.2-14)***

**ASEAN Urban Adaptation CLA Theory of Change:** Forming cross-disciplinary city teams, partnered with a representative from each respective National Government; and using shared learning methodologies to address the social, political, financial and environmental risks to the planning, construction & maintenance of urban infrastructure, will enable increased implementation of new ideas and tools that accelerate urban adaptation & resilience to climate change.

## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

Indicators	Indicator Type	Data Collection	Data Collection Frequency	Target	Baseline	Data Analysis	Responsible Party	Data Verification
<b>IR 2.1: Improved Access to Science and Analysis for Decision-Making</b>								
2.1.1: Number of participants served disaggregated by city representation and gender	Output	Registration List	Upon team acceptance	50		Descriptive statistics	ISC	Participant / Exchange Visitor Biographical Data Form; Stakeholder Compact



## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

Indicators	Indicator Type	Data Collection	Data Collection Frequency	Target	Baseline	Data Analysis	Responsible Party	Data Verification
2.1.2: Needs/ Wants of participants/ teams identified and addressed in the CLA curriculum	Output	Recorded phone calls	One phone call per team	10	Initial assessment of need	Qualitative/ thematic analysis  Curriculum review	ISC	Call Transcript
2.1.3: Number of international case studies produced for the CLA Resource Guide	Output	Document review	Pre-workshop	5		Descriptive Stats	ISC	Document review
2.1.4: Web portal for the CLA launched that includes the RG in downloadable form, & summary of CLA	Output	Review of online portal		Launch date: 8/29/13			ISC, ICMA	Review of online portal
<i>Number of hits disaggregated by visit duration and visitor point of origin</i>		Web Analytics	Before, during, and after the workshop (or monthly, bi-monthly, etc.)			Web Analytics		Review of canned report

## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

Indicators	Indicator Type	Data Collection	Data Collection Frequency	Target	Baseline	Data Analysis	Responsible Party	Data Verification
2.1.5: Number of Resource Team members formed disaggregated by thematic expertise	Output			4			ISC	Participant / Exchange Visitor Biographical Data Form; Stakeholder Compact
2.1.6: Pilot projects for urban adaptive infrastructure identified	Output	Needs/Wants Inquiries; Application Forms; Team Huddle documents	Phone conferences; during the CLA	3		Qualitative/ thematic analysis	ISC, ICMA	Review of completed forms and documents
<b>2.1.7: Person hours of training completed in climate change supported by USG assistance (F Indicator 4.8.2-6)</b>	Output	Registration List	Upon workshop registration	1,000				Participant / Exchange Visitor Biographical Data Form; Stakeholder Compact
2.1.8: Percentage of participants rating the peer-learning experience as very good or excellent disaggregated by city representation and gender	Short-term Outcome	CLA feedback survey	At baseline	80 percent		Descriptive statistics	ISC	
2.1.9: Percentage of participants	Short-term Outcome	CLA feedback	At baseline	80 percent		Descriptive statistics	ISC	Review of completed survey

## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

Indicators	Indicator Type	Data Collection	Data Collection Frequency	Target	Baseline	Data Analysis	Responsible Party	Data Verification
with improved knowledge about regional resilience resources & tools, including ways to access science and analysis for inclusive, transparent decision-making		survey						forms and aggregate statistics
2.1.10: Percentage of participants who have increased their networking & information exchange within teams, with other teams, and with respective national governments, disaggregated by city representation	Short-term Outcome	CLA feedback survey; Session notes	At baseline	80 percent		Descriptive statistics;	ISC	Review of survey
2.1.11: Percentage of participants/ city teams that have maintained communication with other city teams & NFPs	Intermediate Outcome	Follow-up survey and phone interview	At 3 and 6 months follow-up	80 percent		Descriptive statistics	ISC	Review of survey and interview transcript

## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

Indicators	Indicator Type	Data Collection	Data Collection Frequency	Target	Baseline	Data Analysis	Responsible Party	Data Verification
2.1.12: Final Event Report	Output	Feedback survey and event observations	One month after event			Descriptive statistics; Qualitative / Thematic Analysis	ISC/ ICMA	Review of survey and event notes
<i>2.1.12: Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG Assistance (F Indicator 4.8.2-26)</i>	Short-term Outcome	Feedback survey	At baseline	80 percent		Descriptive statistics;	ISC	Review of survey
<i>2.1.13: Number of institutions with improved capacity to address climate change issues as a result of USG assistance (F Indicator 4.8.2-14)</i>	Short-term Outcome	Feedback survey	At baseline	80 percent		Descriptive statistics;	ISC	Review of survey
<b>IR 2.2: Established Effective Governance Systems</b>								
2.2.1: Percentage of participants/ city teams that have	Short-term Outcome	Feedback survey	At baseline	80 percent	Needs/Wants Inquiry	Descriptive statistics	ISC	Triangulation with follow-up needs/wants inquiry

## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

Indicators	Indicator Type	Data Collection	Data Collection Frequency	Target	Baseline	Data Analysis	Responsible Party	Data Verification
increased internal city collaboration & commitment to including relevant stakeholders in resilience planning								
2.2.2: Percentage of participants/ city teams with increased collaboration with more stakeholders and civil society	Intermediate Outcome	Follow-up survey and phone interview	At 6 months follow-up	80 percent	Needs/Wants Inquiry	Descriptive statistics	ISC	Triangulation with follow-up needs/wants inquiry
2.2.3: Percentage of participants/ city teams with increased vertical integration with city-level input	Intermediate Outcome	Follow-up survey and phone interview	At 6 months follow-up	80 percent	Needs/Wants Inquiry	Descriptive statistics	ISC	Triangulation with follow-up needs/wants inquiry
<b><i>2.2.4: Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG Assistance (F Indicator 4.8.2-26)</i></b>	Intermediate Outcome	Follow-up survey and phone interview	At 6 months follow-up	80 percent	Needs/Wants Inquiry; Feedback survey	Descriptive statistics	ISC	Triangulation with follow-up needs/wants inquiry

## ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan

Indicators	Indicator Type	Data Collection	Data Collection Frequency	Target	Baseline	Data Analysis	Responsible Party	Data Verification
<i>2.3.5: Number of institutions with improved capacity to address climate change issues as a result of USG assistance (F Indicator 4.8.2-14)</i>	Intermediate Outcome	Follow-up survey and phone interview	At 6 months follow-up	80 percent	Needs/Wants Inquiry; Feedback survey	Descriptive statistics	ISC	Triangulation with follow-up needs/wants inquiry
<b>IR 2.3: Increased Climate Resilience</b>								
2.3.1: Percentage of participants/ city teams with commitment to implement two or three ideas learned at the CLA back home	Short-term Outcome	“Team Huddle” forms	At baseline	80 percent	Initial Assessment of Actions	Descriptive statistics	ISC	Triangulation with team reports
2.3.2: Percentage of participants/ city teams that have stayed on track implementing new projects that were committed to at the CLA	Intermediate Outcome	Follow-up survey and phone interview	At 6 months follow-up	80 percent	“Team Huddle Form”	Descriptive statistics	ISC	Triangulation with team reports
2.3.3: Percentage of participants/ city teams that have met their resilience	Intermediate Outcome	Follow-up-survey, Phone interview	At program completion (1 month)			Descriptive statistics		Triangulation with team reports

**ASEAN Urban Adaptation CLA: Illustrative Performance Data Collection Plan**

<b>Indicators</b>	<b>Indicator Type</b>	<b>Data Collection</b>	<b>Data Collection Frequency</b>	<b>Target</b>	<b>Baseline</b>	<b>Data Analysis</b>	<b>Responsible Party</b>	<b>Data Verification</b>
project and or organizational/team goals or objectives								
<i>2.3.4: Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG Assistance (F Indicator 4.8.2-26)</i>	Intermediate Outcome	Follow-up survey and phone interview	At 6 months follow-up	80 percent	Needs/Wants Inquiry; Feedback survey	Descriptive statistics	ISC	Triangulation with follow-up needs/wants inquiry
<i>2.3.5: Number of institutions with improved capacity to address climate change issues as a result of USG assistance (F Indicator 4.8.2-14)</i>	Intermediate Outcome	Follow-up survey and phone interview	At 6 months follow-up	80 percent	Needs/Wants Inquiry; Feedback survey	Descriptive statistics	ISC	Triangulation with follow-up needs/wants inquiry

C. CLA M&E Data Post Workshop



<b>Participant Statistics</b> .....	2
2.1.1 Number of participants served disaggregated by city representation and gender .....	2
2.1.5 Number of Resource Team members formed disaggregated by thematic expertise .....	2
2.1.7 Person hours of training completed in climate change supported by USG assistance (F Indicator 4.8.2-6).....	9
<b>Needs / Wants Results</b> .....	10
2.1.2 Needs/Wants of participants/teams identified and addressed in the CLA curriculum .....	10
<b>Resource Guide</b> .....	27
2.1.3 Number of international case studies produced for the CLA Resource Guide .....	27
<b>Web Presence</b> .....	27
2.1.4 Web portal for the CLA launched that includes the RG in downloadable form, & summary of CLA27	
<b>Pilot Projects</b> .....	27
2.1.6 Pilot projects for urban adaptive infrastructure identified .....	27
<b>Climate Leadership Academy Satisfaction</b> .....	28
2.1.8 Percentage of participants rating the peer-learning experience as very good or excellent disaggregated by city representation and gender .....	28
<b>Increased Knowledge about Resilience</b> .....	29
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<b>Increased Networking, Collaboration, and Team Cohesion</b> .....	29
2.1.10 Percentage of participants who have increased their networking & information exchange within teams, with other teams, and with respective national governments, disaggregated by city representation .....	29
2.2.1 Percentage of participants/ city teams that have increased internal city collaboration & commitment to including relevant stakeholders in resilience planning.....	29
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2.2.4 Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG (F Indicator 4.8.2-26).....	31
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## Participant Statistics

2.1.1 Number of participants served disaggregated by city representation and gender; and

2.1.5 Number of Resource Team members formed disaggregated by thematic expertise.

<b>Summary of Participant Teams Disaggregated by City Representation and Gender</b>		
<b>Participant City</b>	<b>Number of Participants</b>	<b>Gender</b>
Phnom Penh, Cambodia	Five	Five Male
Palembang, Indonesia	Five	Four Female; One Male
Jakarta, Indonesia	Four	Four Male
Paksane, Lao PDR	Five	Five Male
Kuantan, Malaysia	Six	Two Female; Four Male
Legazpi, Philippines	Six	One Female; Five Male
Chiang Rai, Thailand	Five	Four Female; One Male
Ho Chi Minh City, Vietnam	Five	Two Female; Three Male
Total	41	13 Female; 28 Male

<b>Participant Teams Disaggregated by City Representation and Gender</b>				
<b>Team</b>	<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Gender</b>
Phnom Penh, Cambodia	Ang Chiek	Director	Phnom Penh Environmental Department	Male
Phnom Penh, Cambodia	Seiha Chhun	Deputy Head of Vulnerability Assessment and Adaptation Office	Ministry of Environment, Department of Climate Change	Male
Phnom Penh, Cambodia	Dara Thai	Head of Social & Economic Affair Office	Phnom Penh City hall	Male

<b>Participant Teams Disaggregated by City Representation and Gender</b>				
<b>Team</b>	<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Gender</b>
Phnom Penh, Cambodia	Ratanak Poeung	Head of Land Management & Urbanization Office	Phnom Penh Department of Land Use and Construction	Male
Phnom Penh, Cambodia	Sona Ney	Deputy Director	Phnom Penh Public Work and Transportation Department	Male
Palembang, Indonesia	Reni Sefriany	Head of Environmental Restoration and Damage Control Division	Environmental Restoration and Damage Control Division	Female
Palembang, Indonesia	Tri Widayati	Head of Climate Change Adaptation Effort Division	Environmental Ministry	Female
Palembang, Indonesia	Nyimas Ida Apriani	Head of Environmental Damage Control Subdivision	Local Environmental Agency of Palembang City	Female
Palembang, Indonesia	Eka Gustini	Staff of Public Works	Public Works Agency of Palembang City	Female
Palembang, Indonesia	M. Kes Muhammad Yunus	Head of Environmental Restoration Subdivision	Local Environmental Agency of Palembang City	Male
Jakarta, Indonesia	Izhar Chaidir Idroes	Acting Secretary/Head of city planning division	Spatial Planning Department, Government of DKI Jakarta Province	Male
Jakarta, Indonesia	Iman Soedradjat	Director of National Spatial Planning Directorate	Directorate General of Spatial Planning, Ministry of Public Work	Male

<b>Participant Teams Disaggregated by City Representation and Gender</b>				
<b>Team</b>	<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Gender</b>
Jakarta, Indonesia	Bernardus Djonoputro	Secretary General	Indonesian Association of Planners	Male
Jakarta, Indonesia	Hendricus Andy Simarmata	Lecturer/Researcher	University of Indonesia	Male
Paksane, Lao PDR	Nouansavanh Sengmany	Director General	Department of Public Works and Transport of Borikhamxay Province	Male
Paksane, Lao PDR	Thonglith Fongsinouan	Head of Housing and Urban Planning Section	Department of Public Works and Transport of Borikhamxay Province	Male
Paksane, Lao PDR	Youphas Pokhasombath	Deputy Section's Head	Department of Public Works and Transport of Borikhamxay Province	Male
Paksane, Lao PDR	Keodara Vongsavanthong	Civil Engineer	Department of Public Works and Transport of Borikhamxay Province	Male
Paksane, Lao PDR	Sengdara Douangmyxay	AWGESC Focal Point	Department of Housing and Urban Planning, Ministry of Public Works and Transport	Male
Kuantan, Malaysia	Dato' Haji Zulkifli Haji Yaacob	President of Kuantan Municipal Council	Kuantan Municipal Council	Male
Kuantan, Malaysia	Dato' Abu Hasan Mohd Isa	Director, Strategic Communications Division	Department of Environment Malaysia	Male

<b>Participant Teams Disaggregated by City Representation and Gender</b>				
<b>Team</b>	<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Gender</b>
Kuantan, Malaysia	Hamiza Hamzah	Director of Planning Development Department	Kuantan Municipal Council	Female
Kuantan, Malaysia	Muhammad Azha Abd. Rani	Head of Infrastructure Division	Kuantan Municipal Council	Male
Kuantan, Malaysia	Abdul Rahim Muda	Head of Environmental Health Division	Kuantan Municipal Council	Male
Legazpi, Philippines	Noel Rosal	City Mayor	Local Government of Legazpi City	Male
Legazpi, Philippines	Gilbert Gonzales	Regional Executive Director	Department of Environment and Natural Resources Region 5	Male
Legazpi, Philippines	Joseph Esplana	City Planning and Development Coordinator	Local Government of Legazpi City	Male
Legazpi, Philippines	Raul Rosal	City Councilor	Local Government of Legazpi City	Male
Legazpi, Philippines	Cedric Daep	Provincial Government Department Head	Provincial Government of Albay and Climate Change Academy	Male
Legazpi, Philippines	Carmen Geraldine B. Rosal	Former City Mayor	Local Government of Legazpi City	Female
Chiang Rai, Thailand	Suranid Ong-la	Chief Executive Officer	Chiang Rai Municipality	Female

<b>Participant Teams Disaggregated by City Representation and Gender</b>				
<b>Team</b>	<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Gender</b>
Chiang Rai, Thailand	Supitporn Bunnag	Director of Green City Subdivision, Urban Environment and Area Planning Division	Office of Natural Resources and Environmental Policy and Planning Ministry of Natural Resources and Environment	Female
Chiang Rai, Thailand	Anurak Chalumpot	Sanitary Officer	Chiang Rai Municipality	Male
Chiang Rai, Thailand	Tharee Kamuang	Project Manager	Municipality League of Thailand	Female
Chiang Rai, Thailand	Wannobon Khuan-arch	Researcher/Project Coordinator	Thailand Environment Institute	Female
Ho Chi Minh, Vietnam	Viet Trung Nguyen	Manager	Ho Chi Minh City Climate Change Bureau	Male
Ho Chi Minh, Vietnam	Do Nam Thang	Deputy Director of Institute of Science for Environmental Management	Vietnam Environment Administration	Male
Ho Chi Minh, Vietnam	Linh Thuy Vu	Vice Manager	Ho Chi Minh city Climate Change Bureau	Female
Ho Chi Minh, Vietnam	Troung Thi Tuyet Nhung	Officer	Vietnam Environment Administration	Female
Ho Chi Minh, Vietnam	Huy Phuong Nguyen	Official	Ho Chi Minh city Climate Change Bureau	Male

<b>Resource Team Members</b>				
<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Thematic Area</b>	<b>Gender</b>
Lee Feldman	City Manager	City of Fort Lauderdale, Florida, USA	City Management	Male
Greg Bruce	Executive Manager, Integrated Sustainability Services (ISS) Department	City of Townsville, Queensland, AUS	City Sustainability	Male
Phong Tran	Technical Lead	Institute for Social and Environmental Transition	Urban Resilience Planning	Male
Joseph Fiksel	Executive Director	Center for Resiliency at The Ohio State University	Wastewater Treatment	Male
Robert Mather	Project Manager, Head of South East Asia Group	International Union for the Conservation of Nature	Climate Change in the Mekong Region	Male
Saengroaj Srisawaskraisorn	Climate Change Adaptation Specialist	USAID / RDMA	Climate Change Adaptation	Male

<b>Guests/Observers</b>			
<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Gender</b>
Alicia Dela Rosa Bala	Deputy Secretary General of ASEAN for SocioCultural Community	ASEAN Secretariat	Female
Natalia Derodofa	Senior Officer at the Environment Division	ASEAN Secretariat	Female
Mardiah Hayati	Technical Officer at the Environment Division	ASEAN Secretariat	Female
Jessica Torrens-Spence	Environment Office	USAID Indonesia	Female
Benjamin Wohlauer	First Secretary, Economic Section	U.S. Embassy-Jakarta	Male
Andrew Sisson	Mission Director	USAID Indonesia	Male
David Carden	U.S. Ambassador to ASEAN	U.S. Department of State	Male



<b>Staff</b>			
<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Gender</b>
Joseph Lombardo	Director, CityLinks Program	ICMA	Male
Laura Hagg	Director, Middle East & North Africa Programs	ICMA	Female
Jessica Cho	Program Manager, CityLinks	ICMA	Female
Josephine Lee	Assistant Program Manager	ICMA	Female
Scott Muller	Senior Manager, International Climate Programs	ISC	Male
Michael Crowley	Senior Program Manager, U.S. Programs	ISC	Male
Joy Bailey	Urban & Regional Planner	ICLEI	Female
Tanya Gaurano		Clean Air Asia	Female
Jonel Navarro		ICLEI	

*2.1.7 Person hours of training completed in climate change supported by USG assistance (F Indicator 4.8.2-6)*

Day 1: 8:30am to 7pm – 10.5 hours

Day 2: 8:45am to 6:45pm – 10 hours

Day 3: 8:45am to 12pm – 3 hours, 15 minutes

Total training hours: 23 hours, 45 minutes

Total number of participants: 41

Total person hours of training = total training hours (23.75) x Total participants (41) = 973.75

## Needs / Wants Results

### 2.1.2 Needs/Wants of participants/teams identified and addressed in the CLA curriculum

<b>Theme 1: Building Broad-Based Support</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
Working across sectors	Team members attribute their success to active participation and collaboration across sectors. Their team is from many organizations/sectors, and have worked together for a long time on various projects, such as the ACCCRN pilot projects.	<b>Chiang Rai, Thailand</b>
Working with local knowledge	Chiang Rai has actively been building local knowledge to inform its adaptation activities. Citizens can monitor the government using indicators and work with the municipality to carry out activities.	<b>Chiang Rai, Thailand</b>
Working with other cities	The Urban & Environmental Learning Network was created so that 5 municipalities in Thailand can share and learn from each other. Chiang Rai is the Northern Regional Coordinating Center of the Network. There will be a conference on adaptation/resilience in December for network members.	<b>Chiang Rai, Thailand</b>
Working with international partners	Chiang Rai is one of the Asian Cities Climate Change Resilience Network (ACCCRN) pilot cities	<b>Chiang Rai, Thailand</b>
Weathering political change	Chiang Rai established a working group on Climate Change & Adaptation for City Resilience, which they think can help maintain network and policies across administrations.	<b>Chiang Rai, Thailand</b>
Collaboration challenges resulting from varying response capacity and jurisdictions among agencies	They are developing their own climate adaptation committee through which they will organize efforts and strategies for planning to adapt to climate change.  Kuantan has a disaster committee for preparing and mitigating and planning that meets regularly. It was established less than 10 years ago. This committee prepared a plan for	<b>Kuantan, Malaysia</b>

<b>Theme 1: Building Broad-Based Support</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
	disaster preparedness and mitigation and is involved in adaptation efforts.	
Limited success in public engagement		<b>Kuantan, Malaysia</b>
Working with local universities	Kuantan had an MOU with local university where they did a few studies on water quality and tested other environmental indicators in one of their main industrial areas.	<b>Kuantan, Malaysia</b>
Prioritizing the agenda Climate Change Working Group among its members	Palembang has a Climate Change Working group consisting of local government (Environmental Ministry and Public Works department), academics and community. They're working together to create a Climate Strategy, but this has yet to be done.	<b>Palembang, Indonesia</b>
Prioritizing the agenda of the Climate Change Steering Board among its members.	Ho Chi Minh city has established a climate change network lead by the Climate Change Steering Board. It includes a Steering Board and climate change working groups in departments and the Climate Change Bureau. These governmental units have coordinated closely to complete a draft Adaptation Action Plan for Ho Chi Minh city. All departments participate – zoning, architecture, construction, finance, S&T, Trade and industry, natural resource and environment.	<b>Ho Chi Minh, Vietnam</b>
Working with international partners	In recognition of the importance of international cooperation, Ho Chi Minh city became a member of C40 in 2009 and participated in Connecting Delta Cities Network and Green Growth Network.  Ho Chi Minh implemented a partnership with Rotterdam City called “Ho Chi Minh City Moving toward the Sea Adaptation with Climate Change.”  They are working with ADB to build an energy consumption database that will be used to create a transportation and energy efficiency adaptation strategy.	<b>Ho Chi Minh, Vietnam</b>
Collective action among urban stakeholders, especially non-	PICAS (Planning for Integrated Coastal Adaptation Strategy) is a project funded by the START secretariat, Indonesia Association of Planners (IAP), Directorate General of Spatial Planning,	<b>Jakarta,</b>

<b>Theme 1: Building Broad-Based Support</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
<p>government actors (private companies, communities).</p> <p>Low political awareness of adaptation. This results in low budget for adaptation activities and less support for vulnerable populations.</p> <p>Different studies on climate change impacts produce differing results and priorities. There is therefore disagreement amongst parties regarding threats, vulnerabilities and priorities.</p>	<p>and Government of DKI Jakarta Province, and USAID. The project includes 3 (three) main studies: 1) Community-based Adaptation Planning (including a study of the adaptation planning process that has been locally conducted by urban kampong; 2) Zoning Regulation for Floodplain Zones (including a zoning needs assessment for sea-level rise); and 3) Urban Design Guidelines for Kampong, which floods regularly.</p> <p>They plan to up-scale the project and use preliminary findings at the city level, with a focus on enhancing zoning regulations and urban design guidelines.</p>	<b>Indonesia</b>
<p>Prioritizing adaptation with the city council and other stakeholders.</p>	<p>Legazpi participates in a City Disaster Risk Reduction and Management Council (CDRRMC), composed of representatives from the local government offices and departments, national line agencies, LGU-accredited non-government organizations, public organizations, civil society groups and subject matter experts from the national agencies. They were actively involved in the formulation of the city's DRRM/CCAM Plan. The Legazpi City Planning and Development Council, an existing multi-sectoral group, regularly meets for planning and development exercises. The two (2) councils are also organized and existing at the barangay level.</p> <p>City Government Offices/Departments have worked with the DRRM/CCA implement the following: 1) The Sangguniang Panlungsod acts as the legislative branch responsible for policy formulation through the enactment of ordinances and resolutions to support DRRM/CCA endeavor; 2) City Planning and Development Office has created risk maps as a basis for the preparation and integration in the local development plans; 3) the Department of Education has integrated adaptation in its curricula.</p>	Legazpi, Philippines

<b>Theme 1: Building Broad-Based Support</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
Working effectively across government agencies	The provincial government coordinates adaptation efforts through the National Disaster Prevention and Control Committee.	<b>Paksane, Lao PDR</b>
Working with village leaders	When flooding occurs, the head of the village is the central coordinator of people in the village. He liaises between provincial government officers to and citizens. He will take responsibility to get information about impact from people in the village. He sends this to district administration or provincial office and they provide him info/instruction about relocation.	<b>Paksane, Lao PDR</b>
Working with the private sectors	Paksane has a private sector partner that helps relocate citizens affected by flooding and revisits them every couple years.	
Limited citizen understanding of climate change. As a result, they are not prepared to handle flooding and other issues		<b>Phnom Penh, Cambodia</b>

## Theme 2: Restoring Urban Ecosystem Services

Issue / Challenge	Promising Practice	Team
Ecosystem restoration	<p>Chiang Rai established a working group for biodiversity, which sent recommendations – including establishing citizen education and participation - to the Mayor. They sent their plan to Mayor and it was integrated into city plan using city budget.</p> <p>Their first project was to begin rehabilitating the ecosystem of the old floodway of Kok River (the main river of Chiang Rai Province) by dredging and improving landscaping along river bank for public space, urban agriculture and ecotourism. They also Improved its urban reservoir, floodway &amp; drainage system to avoid flood and drought.</p> <p>They enforced municipal laws that to decrease the building density, expand green areas, and restore ecosystems, and expanded cultural and ecotourism marketing.</p>	<b>Chiang Rai, Thailand</b>
Air quality	Chiang Rai as seen a reduction of air pollution as a result of 1) more conservation areas; and 2) a campaign to stop burning paddy husk and straws after the harvest	<b>Chiang Rai, Thailand</b>
Food Security	The City Agriculture Services has started adapting to the effects of climate change by modifying the crop planting seasons and utilizing other crop varieties that will suit to the changing climate. Additional irrigation systems and canals were also constructed in the Southern farming communities that not only serve to supply water to irrigate the farms but also to catch excess runoffs during heavy precipitation.	<b>Legazpi, Philippines</b>
Sea level rise / storm surges	<b>Legazpi has constructed a City Boulevard along the Urban Coastal and the plantation of mangroves in the Southeast Coastal Area of the City. Both serve as barriers to storm surge and give protection to the barangays along the shoreline.</b>	<b>Legazpi, Philippines</b>
Flood control	In the Urban Area, the city is currently implementing the Urban Drainage Master Plan in phases to address the issue of flooding. The project includes the deepening and widening of drainage canals, the rehabilitation of river dikes, the installation of jetties, elevation of roads, and the installation of pumping stations and water gates, to protect the city from the intrusion of sea tidal waters that are exacerbated especially during rainy season.	<b>Legazpi, Philippines</b>
Flood control	Ho Chi Minh is requiring rainwater capture and reuse	<b>Ho Chi Minh, Vietnam</b>

## Theme 2: Restoring Urban Ecosystem Services

Issue / Challenge	Promising Practice	Team
Food Security	Irrigation projects are helping improve agriculture during dry season	<b>Paksane, Lao PDR</b>
Ecosystem restoration	The province is actively making a contribution in protecting and expanding its forest, reducing the use of timber products in order to fulfill the national target of reaching 65% forest coverage of the total national territory by 2015.	<b>Paksane Lao PDR</b>
Flood control	Paksane has made significant investments in river bank protection on both sides of the Xanh River and the Mekong. This has effectively helped reduce the erosion and to protect or ease the chronic flooding in town.	<b>Paksane, Lao PDR</b>
Ecosystem restoration	<p>They have a plan for preserving and reserving natural resources, including mangroves, wetlands, and also forests. They have a very large forest reserve.</p> <p>80% of Kuantan is covered by green space. In order to ensure that it's being protected and controlled, they have regulations/policy around forest reserve. They also plan 10,000 trees annually with local communities. Also have housing schemes and plans for infrastructure must preserve 10% green space when building.</p>	<b>Kuantan, Malaysia</b>
Water quality	Climate adaptation in water management has led Kuantan to participate in the ASEAN Sustainable Cities for Clean Water 2010 project.	<b>Kuantan, Malaysia</b>
Air quality	Kuantan is working on a project with the UN to control air emission from their landfill while simultaneously producing renewable energy from methane gas.	<b>Kuantan, Malaysia</b>
Flood control	The Climate Change Working Group includes personnel from public works to address flooding issues. They have established a catchment area and have a green water management program.	<b>Palembang, Indonesia</b>

<b>Theme 3: Rethinking Urbanization</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
Climate vulnerability assessments	They've begun executing a study so they can learn what the effects of climate change are on their city. This is supposed to inform an adaptation plan.	<b>Phnom Penh, Cambodia</b>
Adaptation planning	Ho Chi Minh city Climate Change Bureau has submitted the Adaptation Action Plan in the period of 2013-2015 and this Action Plan may be released in the end of May/2013.	<b>Ho Chi Minh, Vietnam</b>
Adaptive infrastructure	After the onslaught of Super Typhoon Reming in the area, the constituents learned to "build back better" by constructing houses that can withstand the winds of a super typhoon and elevate the structures to be safe from flooding.	<b>Legazpi, Philippines</b>
Adaptation planning	The City's Disaster Risk Reduction and Management/Climate Change Adaptation and Mitigation (DRRM/CCAM) Plan is currently being finalized. There are some strategies identified in the DRRM/CCAM Plan to adapt to and mitigate the effects of climate change.  In addition, relocation program was also implemented to address climate change impacts to vulnerable communities which also include the construction of climate adaptive emergency evacuation centers/multi-purpose holding area. Early warning system and communication system for climate/weather related disturbances are in place.	<b>Legazpi, Philippines</b>
Adaptive infrastructure	Jakarta is currently focused on flood infrastructure, especially along the rivers and coastal area.  They have built a lot of infrastructure, such as drainage, a canal, and in cooperation with the Ministry of Public Works, an eastern flat canal. However, they have also been focused on building a sea wall, which would not be a sustainable solution.	<b>Jakarta, Indonesia</b>
Land use planning	Chiang Rai has begun to implement new land use planning in partnership with a local university. Some actions taken thus far are "pulling down the buildings which blocked the watercourses to the river, increased natural buffer zone into and around the city for air pollution reduction etc."	<b>Chiang Rai, Thailand</b>



<b>Theme 3: Rethinking Urbanization</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
Land use planning	Phnom Penh is planning to pilot a land use project that is driven by a local climate change study	<b>Phnom Penh, Cambodia</b>
Coastal master planning	Kuantan is part of a project called Land Use Planning and Development Along Coast. They have a coastal line master plan with guidelines on how to redevelop to prevent coastal erosion, including mangrove and wetland protection.	<b>Kuantan, Malaysia</b>
Land use planning	The City has recently approved a Comprehensive Land Use Plan (CLUP) and Comprehensive Development Plan (CDP), which are being enforced through its implementing arm, the Zoning Ordinance. Criteria from the City's Disaster Risk Reduction and Management/Climate Change Adaptation and Mitigation (DRRM/CCAM) Plan, which is currently being finalized, has already been integrated into the abovementioned plans.	<b>Legazpi, Philippines</b>

<b>Theme 4: Aligning Financial Investments</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
<p>Availability of financial resources</p> <p>Main budget is from central government (65%), and 35% is from taxes. They also share budget among local governments.</p> <p>“Lack of finance is a barrier for climate adaptation initiatives of Chiang Rai Municipality. We have to use more funds for the investment which is not enough for the local government. The budget that was allocated by the central government has to be increased in commitment from the decentralization policy to local government.”</p>	<p>Chiang Rai government tries to be sufficient without needing external funds. They also take advantage of external donor opportunities.</p> <p>To address finance challenges, the local government has cooperated with various sectors, especially NGOs and academic organizations, which can potentially help attain funding for some climate projects. Also, they have built cooperation with other local governments surrounding common climate issues so that Chiang Rai Municipality can allocate budget from other local government to participate in the same project.</p> <p>“Building on successes of small projects implemented by local government to extend the results to big projects which use more budget and are supported by various organizations.</p>	<p><b>Chiang Rai, Thailand</b></p>
<p>Availability of financial resources</p>	<p>Following the national mandate, the 5% of Legazpi’s estimated revenues from regular sources are allocated for the Local Calamity Fund to accommodate such undertakings. Aside from this, various members of the CDRRMC including partner organizations have also extended their support to the city in terms of their technical services, financial support and the provision of equipment and facilities.</p> <p>Internally, the city government is aggressive at increasing its local revenue through the utilization of a computerized tax assessment and collection system, and updating its real property and business data base. Its partnership with the private sector in major development projects should be continued and enhanced. Through partnership, the city has availed of international financial support from JICA and AECID to implement DRR/CCA projects.</p> <p>In addition, the city leveraged private financing and well as government funds and international project funds for adaptation activities. They also linked the DRR-CAM plan with legislation to create funding stability.</p>	<p><b>Legazpi, Philippines</b></p>

<b>Theme 4: Aligning Financial Investments</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
Leveraging resources	Kuantan has leveraged resources from other environmental projects to incorporate their own initiatives, such as Kuantan Local Agenda 21 projects, Agencies' Corporate Social Responsibility (CSR) projects and East Coast Economy Region (ECER) projects.	<b>Kuantan, Malaysia</b>
<p>The state funding in infrastructure has not been able to meet the needs of the growing population.</p> <p>Post-disaster relief funding has been especially scarce.</p> <p>Due to the government's financial constraints, funding for climate adaptation activities is challenged by the trade off and scrutiny against opportunity costs of other more commercially beneficial investments.</p>		<b>Paksane, Lao PDR</b>
<p>HCMC has been severely affected by the economic crisis and is facing significant shortage of city governmental budget. Particularly, since the city is developing, the government sees boosting the economy and other activities as more of a priority than climate change related activities.</p>	Funding sources for Ho Chi Minh City's climate work are distributed as follows: 30% from ministry, 30% from international organizations, 30% from national government, and 10% from local	<b>Ho Chi Minh, Vietnam</b>
Most grants are for one-off projects, with little sustainable funding.		<b>Kuantan, Malaysia</b>

<b>Theme 5: Elevating Social Equity</b>		
<b>Issue / Challenge</b>	<b>Promising Practice</b>	<b>Team</b>
<p>Including vulnerable populations in planning</p>	<p>Social equity has been thoroughly considered in the analyses and assessments for DRRM and CCAM, in that the affected poor, women and children, persons with disability and the elderly were explicitly identified and quantified per hazard and affected barangay. Equivalent measures to reduce their vulnerabilities to each hazard were also given. It is also stated that these vulnerable groups, across all ages and gender, will be given priority in all the four (4) phases of prevention and mitigation, preparedness, response, and rehabilitation and recovery.</p> <p>The four primary areas of social equity, namely: access to due process, equal protection by and equal right from existing policies and programs; access to manage goods and services and the right to benefit from such; the right to quality and consistency in existing goods and service provided; and policy outcomes that determine whether policies and programs have the same impact for all groups and individuals served, were sufficiently addressed in the identified non-project (service), project and regulatory measures for each hazard.</p> <p>Examples of this concerns include, housing project of the population at risk, safe and accessible communities to infrastructure enhancement, availability of safe schools and temporary evacuation facilities, adaptive cropping patterns to upland farming, and policy and technical support to ensure zero casualty during major disaster.</p>	<p><b>Legazpi, Philippines</b></p>
<p>Poor populations that are vulnerable to flooding.</p> <p>Jakarta's poor face the biggest flood-related vulnerabilities because they tend to settle near river banks, canals, and coastal area. Although the city has a database and map of vulnerable populations, they struggle in figuring out and addressing socio-economic complexities, such as human rights and logistical issues which need to be incorporated in the adaptation strategies.</p>	<p>Jakarta has a database of slum neighborhood association (RT/RW) that is being overlaid to the flooded area to identify the vulnerable places. They take a “qualitative” approach which is unique because most efforts/studies in the city are quantitative. They seek information, feedback, input and ideas from the citizens and encourage civic participation. Many of their ideas are based off adaptive infrastructure processes already being carried out by the poor.</p>	<p><b>Jakarta, Indonesia</b></p>

<b>Needs and Wants for the Climate Leadership Academy</b>		
<b>Theme</b>	<b>Specifics</b>	<b>Team</b>
<b>Shared knowledge/best practices/technologies</b>	Suggested doing a tradeshow theme where each team has a booth with visuals/info, and they all walk around and interact.	<b>Chiang Rai, Thailand</b>
	They would like to build networks in association with the organizations which are cable to support in research and finance.	
	Hope to learn updated schemes, technology and tools, information sharing and networking, on how to maximize the use of our very limited resources while addressing CCAM in order to produce resilient infrastructures.	<b>Legazpi, Philippines</b>
	Would like to learn more about adaptation strategies/methodologies, as they have mainly focused on mitigation hitherto.	<b>Kuantan, Malaysia</b>
<b>Incentives</b>	Noted the <a href="#">Adipura Award</a> that has been promoted in Indonesian cities. It has done a good job providing incentive and spreading awareness on issues of climate change.	<b>Chiang Rai, Thailand</b>
<b>Land use planning</b>	Would like to learn about proper land use planning toward city climate change.	<b>Chiang Rai, Thailand</b>
	Hope to learn best practices and new knowledge regarding integration between adaptation planning and zoning regulation and spatial planning.	<b>Jakarta, Indonesia</b>
	Would like advice in creating a pilot project for land use.	<b>Phnom Penh, Cambodia</b>
<b>Water resources management</b>	Would like to learn about drainage systems and the use of a reservoir to protect the city and prevent flood and drought	<b>Chiang Rai, Thailand</b>

<b>Needs and Wants for the Climate Leadership Academy</b>		
<b>Theme</b>	<b>Specifics</b>	<b>Team</b>
	Would like to learn how to integrate adaptation into their flood strategy.	<b>Palembang, Indonesia</b>
	Looking for best practices in solid waste management and waste water reuse	<b>Ho Chi Minh, Vietnam</b>
	Would like to be able to identify appropriate structural and nonstructural measures for adaptation projects—mainly dealing with WRM	<b>Paksane, Lao PDR</b>
<b>Public Education</b>	Would like to learn strategies for creating public awareness about climate change impacts and to use citizen feedback to inform their adaptation plan.	<b>Phnom Penh, Cambodia</b>
<b>Biodiversity/Urban Ecosystems</b>	Would like to learn more about urban forest and water resources management along with biodiversity conservation for food security and urban ecosystem balancing.	<b>Chiang Rai, Thailand</b>
<b>Energy</b>	Would like to learn about energy savings programs.	<b>Kuantan, Malaysia</b>
<b>Raising awareness/Public education</b>	Would like information on public climate change education. Families are responsible for exacerbating impacts of climate change, like open burnings. They want to learn how to raise awareness among citizens.	<b>Kuantan, Malaysia</b>
<b>Plans/policies</b>	Hope to develop an integrated climate change adaptation action plan, establish the specific outcome indicators and baseline and implement the programs effectively	<b>Kuantan, Malaysia</b>
<b>Housing and Infrastructure</b>	Hope to strengthen the planning policy and regulation related to infrastructure development in Jakarta.  They want help in devising a strategy to relocate the nearly 1 million people who live in the flat plain zone in a pro-poor, socially equitable way.	<b>Jakarta, Indonesia</b>
	Would like to integrate information gained from the CLA in their Provincial 5-Year Socio-Economic	<b>Paksane Lao</b>

<b>Needs and Wants for the Climate Leadership Academy</b>		
<b>Theme</b>	<b>Specifics</b>	<b>Team</b>
	<p>Development Plan.</p> <p>Also hope that the workshop will be give the team the knowledge and capability to play an advisory role for the local government in the assessment and review of the past performance of the town's climate adaptation action plan.</p> <p>Would like to learn more techniques for disaster recovery, especially related to management administration of organizations. They have National Disaster Prevention &amp; Control Dept, but the link locally isn't strong enough. It's too slow moving in the face of disaster.</p>	<b>PDR</b>
	<p>Would like to develop a strategy for addressing solid waste and housing. They have many slums in their city with poor infrastructure and amenities.</p>	<b>Palembang, Indonesia</b>

## At a Glance: First Order Climate Change Impacts for Participant Cities

Issue	Specifics	Team
<b>Precipitation/Flood/Water Resources Management</b>	Rainy season is shorter but with increased precipitation and flooding	<b>Chiang Rai, Thailand</b>
	They were flooded in a storm in 2012 and caught by surprise. They are still trying to figure out what related to infrastructure they need to do to address this kind of problem and prevent flash floods.  Sea levels have risen by as much as four inches along the Kuantan coast over the last century, increasing erosion and generating pressure on the infrastructure and natural resources. Shift in water cycle has affected volume of rainfall every year, causing floods and damages to properties.	<b>Kuantan, Malaysia</b>
	Increased flooding during rainy season	<b>Palembang, Indonesia</b>
	increasing sea level rise, extreme weather events, urban heat island, and major flooding  The vulnerable areas have been flooded for 20 years and are getting worse. Frequency and unreliability is increasing, not so much intensity of storms.	<b>Jakarta, Indonesia</b>
	Flooding due to sea level rise and increased precipitation. Prone to coastal flooding and typhoon.  Major landslide occurred in 2006 that affected 600 families.	<b>Legazpi, Philippines</b>
	Increased urban Flooding due to precipitation and sea level rise. The frequency and intensity of urban flooding is increasing. The city has put priority on developing urban drainage systems to reduce urban flooding, as well as a system of levees to protect low land from high tides.	<b>Ho Chi Minh, Vietnam</b>
	<b>Precipitation/Flood/Water Resources Management</b>	Has flooded some, but hasn't been a huge problem.
Most towns in the Borikhamxay Province are vulnerable or exposed to the effects of climate change, especially from floods and severe storms or typhoons. The Provincial Capital Pakxanh is extended in		<b>Paksane, Lao</b>



<b>At a Glance: First Order Climate Change Impacts for Participant Cities</b>		
<b>Issue</b>	<b>Specifics</b>	<b>Team</b>
	<p>between Xanh River and the Mekong where during the rainy season a larger part of the town is at risk of flooding. Huge flood in 1998.</p> <p>Rainfall has been highly variable in the past few decades.</p>	<b>PDR</b>
<b>Temperature change</b>	Average temperature has increased: the number of days with high temperature is increasing and the number of low temperature days has decreased	<b>Chiang Rai, Thailand</b>
	The rise of temperature combined with the heat-island effect has increased the number of hot days in the city, leads to the increase of energy use for cooling.	<b>Ho Chi Minh, Vietnam</b>
	In the past decades, temperature in the central region, including the area of Borikhamxay province, increased by 2 degrees Celsius, and humidity decreased 4%.	<b>Paksane, Lao PDR</b>
	Major variability in temperature	<b>Legazpi, Philippines</b>
	Temperature increase	<b>Phnom Penh, Cambodia</b>
<b>Drought</b>	Long droughts resulting from shorter rainy season	<b>Chiang Rai, Thailand</b>
	Drought in dry season	<b>Paksane, Lao PDR</b>
	Forest woodland fires are becoming more frequent and intense in dry seasons due to increased temperature and heat wave.	<b>Kuantan, Malaysia</b>
	Hotter and dryer climate with increased drought.	<b>Phnom Penh, Cambodia</b>
	Fire risk increased during dry season	<b>Jakarta,</b>

<b>At a Glance: First Order Climate Change Impacts for Participant Cities</b>		
<b>Issue</b>	<b>Specifics</b>	<b>Team</b>
		<b>Indonesia</b>
	Drought and fires during dry season	<b>Palembang, Indonesia</b>
<b>Salt water intrusion</b>	In dry season, supply water points are harmed by salt intrusion.	<b>Ho Chi Minh, Vietnam</b>

## **Resource Guide**

### *2.1.3 Number of international case studies produced for the CLA Resource Guide*

11 international case studies produced for the CLA Resource Guide:

1. Philadelphia, PA: Weathering the Storms
2. Chicago, IL: Integrating Adaptation into Chicago's Climate Action Plan
3. New Orleans, LA: Saving Coastal Louisiana
4. Denver, CO: Forests to Faucets
5. Create More Sustainable Communities
6. Plan for Climate Adaptation
7. Adopt Green Building Policies
8. Preserve and Create Green Space
9. Engage the Community in the Climate Change Planning Process
10. Approach Climate Change Planning on a Regional Level
11. Address Transportation Through Transit-Oriented Development & Complete Streets

## **Web Presence**

### *2.1.4 Web portal for the CLA launched that includes the RG in downloadable form, & summary of CLA*

TBD

## **Pilot Projects**

### *2.1.6 Pilot projects for urban adaptive infrastructure identified*

TBD

## Climate Leadership Academy Satisfaction

2.1.8 Percentage of participants rating the peer-learning experience as very good or excellent disaggregated by city representation and gender

CLA Feedback Survey Results for Select Questions				
q #	Question summary	# Respondents for Very Good	# Respondents for Excellent	% of Total Respondents for Excellent + Very Good
1.1	Overall, how would you rate the quality of the workshop?	17	14	100
1.2	How well did the workshop help you address the challenges your community faces?	21	10	100
1.4	Would you recommend this workshop to others?	5	21	100
2.1	How well did the workshop assist you in learning from counterparts from other communities?	25	4	97
2.2	How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?	18	8	90
3.1	How well did the workshop assist you in collaborating with your team members?	25	5	97
3.2	How well did the workshop assist you in collaborating with other teams?	22	4	84
3.3	How well did the workshop promote or facilitate your team cohesion?	22	7	94
5.2	How useful will the Resource Guide be to your work?	18	10	97
5.3	What was the overall quality of support you received from CityLinks staff during the workshop?	14	15	97
5.4	What was the overall quality of the workshop venue, accommodation, and food?	14	16	100

## Increased Knowledge about Resilience

2.1.9 Percentage of participants with improved knowledge about regional resilience resources & tools, including ways to access science and analysis for inclusive, transparent decision-making

Feedback question 2.3 a. How confident are you that you know about successful tools and models related to adaptive urban infrastructure? N= 31					
	not confident	less confident	somewhat confident	very confident	extremely confident
<i>before</i>	0%	29%	71%	0%	0%
<i>After</i>	0%	0%	13%	77%	10%

## Increased Networking, Collaboration, and Team Cohesion

2.1.10 Percentage of participants who have increased their networking & information exchange within teams, with other teams, and with respective national governments, disaggregated by city representation; and

2.2.1 Percentage of participants/ city teams that have increased internal city collaboration & commitment to including relevant stakeholders in resilience planning

Feedback question 2.3.C. How confident are you that you know how to collaborate within your team to advance your community's climate change adaptation initiatives			
Extremely + Very Confident Before and After			
	Before	After	Number of Respondents
Palembang, Indonesia	0%	75%	4
Legazpi, Philippines	50%	100%	2
Ho Chi Minh, Vietnam	0%	100%	2
Kuantan, Malaysia	0%	100%	4
Jakarta, Indonesia	33%	100%	3
Paksane, Lao PDR	0%	100%	1
Chiang Rai, Thailand	0%	100%	2

2.2.2 Percentage of participants/ city teams with increased collaboration with more stakeholders and civil society

Feedback question 2.3.D How confident are you that you know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?			
Extremely + Very Confident Before and After			
	Before	After	Number of Respondents
Palembang, Indonesia	0%	100%	4
Legazpi, Philippines	50%	100%	2
Ho Chi Minh, Vietnam	0%	100%	2
Kuantan, Malaysia	0%	100%	4
Jakarta, Indonesia	0%	100%	2
Paksane, Lao PDR	100%	100%	1
Chiang Rai, Thailand	0%	100%	2

Feedback question 3.1: How well did the workshop assist you in collaborating with your team members?			
Extremely + Very Well			
	Extremely Well	Very Well	Number of Respondents
Palembang, Indonesia	0%	100%	4
Legazpi, Philippines	100%	0%	2
Ho Chi Minh, Vietnam	50%	50%	2
Kuantan, Malaysia	25%	75%	4
Phnom Penh, Cambodia	0%	100%	1
Jakarta, Indonesia	0%	100%	3
Paksane, Lao PDR	0%	100%	1
Chiang Rai, Thailand	0%	100%	2

Feedback question 3.2 How well did the workshop assist you in collaborating with other teams?				
Extremely, Very + Somewhat Well				
	Extremely Well	Very Well	Somewhat Well	Number of Respondents
Palembang, Indonesia	0%	100%	0%	4
Legazpi, Philippines	100%	0%	0%	2
Ho Chi Minh, Vietnam	50%	50%	0%	2
Kuantan, Malaysia	0%	100%	0%	4
Phnom Penh, Cambodia	0%	100%	0%	1
Jakarta, Indonesia	0%	67%	33%	3
Paksane, Lao PDR	100%	0%	0%	1
Chiang Rai, Thailand	0%	100%	0%	2

Feedback question 3.3 How well did the workshop promote or facilitate your team cohesion?				
Extremely, Very + Somewhat Well				
	Extremely Well	Very Well	Somewhat Well	Number of Respondents
Palembang, Indonesia	0%	75%	25%	4
Legazpi, Philippines	100%	0%	0%	2
Ho Chi Minh, Vietnam	0%	100%	0%	2
Kuantan, Malaysia	50%	50%	0%	4
Phnom Penh, Cambodia	0%	100%	0%	1
Jakarta, Indonesia	0%	100%	0%	3
Paksane, Lao PDR	100%	0%	0%	1
Chiang Rai, Thailand	0%	100%	0%	2

## Increased Capacity for Urban Climate Adaptation

*2.2.4 Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG (F Indicator 4.8.2-26); and*

*2.1.13 Number of institutions with improved capacity to address climate change issues as a result of USG assistance (F Indicator 4.8.2-14)*

Feedback question 2.3.E: How confident are you that you have the ability to address climate adaptation challenges in your community, overall			
Extremely + Very Confident Before and After			
	Before	After	Number of Respondents
Palembang, Indonesia	0%	75%	4
Legazpi, Philippines	0%	100%	2
Ho Chi Minh, Vietnam	0%	100%	2
Kuantan, Malaysia	0%	75%	4
Jakarta, Indonesia	50%	50%	2
Paksane, Lao PDR	0%	100%	1
Chiang Rai, Thailand	0%	100%	2
Total	6%	82%	17

## **Actions That Increase Climate Resilience**

### *2.3.1 Percentage of participants/ city teams with commitment to implement two or three ideas learned at the CLA back home*

100 percent of teams committed to implementing two or three ideas learned at the CLA back home. See appendix 7d., “Participant Action Plans” for a full list of commitments.



#### D. Participant Action Plans



Joy Bailey <joy.bailey@iclei.org>

**Fwd: Huddle 3: Chiang rai, Thailand team**

1 message

Scott Muller <smuller@iscvt.org>  
To: Joy Bailey <joy.bailey@iclei.org>

Thu, Aug 15, 2013 at 12:52 PM

Please print  
Thanks

Begin forwarded message:

From: "wannobon@tei.or.th<mailto:wannobon@tei.or.th>" <wannobon@tei.or.th<mailto:wannobon@tei.or.th>>>  
Date: August 15, 2013, 11:52:12 AM GMT+07:00  
To: Scott Muller <smuller@iscvt.org<mailto:smuller@iscvt.org>>  
Subject: Huddle 3: Chiang rai, Thailand team

Please see the data below ^^

**Huddle 3: Chiang rai**

A: What we will do when we return home are:

- 1. Extension Chiang rai Climate Change Resilience Learning Center (CR-CCRLC) to be the Northern Region Climate Change Resilience Learning Center(N-CCRLC)
- 2. Data and information system development at N-CCRLC.
- 3. Launching capacity building campaign among stakeholders focus on both CC mitigation and adaptation. Outputs are more understanding on CC mitigation and adaptation, and action plan of each group.
- 4. Strengthening N-CCRLC network thru, Establish social network via facebook, line, website. Collaboration space >> share point, Digital Hub
- Conduct workshop among membership to sharing and learning every 6 months
- Study visit to ACCCRN or M-BRACE and other cities.

B: What steps will you take in the next three months to pursue the actions above include how your team will:

- 1. Conduct meeting among staffs to brainstorming on how to move the N-CCRLC forward and share responsibilities among staffs. As well as development agenda for meeting among ACCCRN working group
- 2. Conduct ACCCRN working group meeting to approve and comment on N-CCRLC action plans.
- 3. Conduct 5 regional and international learning networks conference on Urban Biodiversity towards Climate Change Adaptation during December 18-20, 2013, to discriminate some new ideas, knowledge and tools among membership.

C: Additional tools or assistance do you need to reinforce ...

- 1. New Ideas from experts or other cities to make the N-CCRLC more effective, attractive and benefits among membership.
- 2. New tools for data collections focus on Climate Change Adaptation, such as tools to identify the economic, social and environmental benefits of urban

adaptation planning.

3. The expert who understand local context and can communicate in the simple way to help on capacity building campaign.

Regard,  
Wannobon K., TEI

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This message was sent using IMP, the Internet Messaging Program.

8/15/2013 12:57 PM

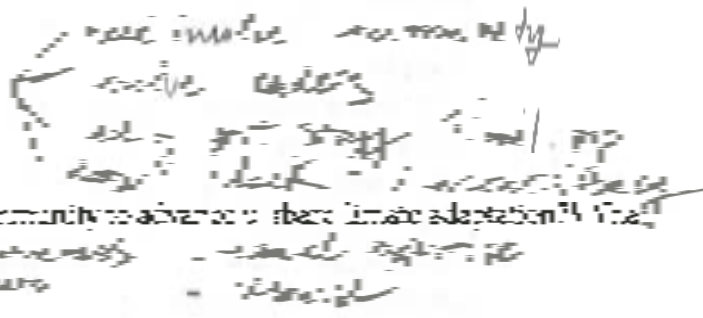


## Team Huddle Guide

### Instructions and Purpose

Team Huddles provide time each day for your team to reflect on the things you are hearing and learning at the workshop, and to strategize about what you will do differently when you return home.

Below, we have provided guiding questions for you to use in the first two Team Huddles. In the third and last team huddle you will create an action plan for your team to implement over the next three months.



### Team Huddle 1: Getting to Work

What role do each of you play within your community to advance or better climate adaptation? What risks are each of you addressing?

What are the common challenges and goals that you all share? What work has been completed to date to help advance your shared goals?

What is the current state of your adaptation efforts and how close are you to reaching your goals?

What information or skills do you need to begin or advance your work together?

Looking at the agenda, what component sessions do you want to attend, or direct certain team members to attend, over the next two days?

Looking at the list of program participants and resource team members listed in the back of the Resource Guide, are there any teams, individual team members, or resource team members that you want to network with, or possibly invite into one or more of your team huddles?

What are your goals for this Climate Leadership Academy? What can you reasonably accomplish to advance your efforts over the next two days?



## Team Huddle 2: Putting the Pieces Together

What has your team learned over the last two days – (e.g., new information, tools, policies, strategies, connections) – that may help you think and work differently to overcome the challenges that you identified in your local community yesterday?

How has the workshop influenced your thinking about how to address urban climate risks and:

- Build broad-based support for adaptation activities across sectors, levels of government, and across borders;
- Restore urban ecosystems and biodiversity to build natural resilience to climate disruption;
- Re-think urbanization strategies to promote adaptive urban infrastructure and spatial planning;
- Align resources to support adaptation strategies that lower financial risks to large-scale urbanization investments;
- Provide opportunities for poor and vulnerable populations to participate in adaptation-related planning?

Did any of you make new connections with people from other teams or resource team members that could help advance your work? Who might be a priority for ongoing networking and collaboration?

Do you want to refine the goals you set for this Climate Leadership Academy?



### Team Huddle 3: Strategizing & Committing to Action HOCUIMUN city

Spend this last team huddle developing a three-month action plan to implement when you return home. Have one person fill in the following table, which will be collected by the CityLinks team before you leave.

Based on what you've learned at the workshop, please describe two or three specific actions, strategies, plans, policies, or projects you will initiate, create, modify, or adapt when your team returns home.

1. Waste management strategy : develop 3R - strategy
2. Water management strategy : recycle wastewater
3. Low carbon city plan : reduce GHG emission, carbon footprint.

What steps will you take in the next three months to pursue the actions above? Include how your team will...

1. Apply specific tools, knowledge, or connections gained at the workshop; and
2. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.

① Waste management strategy :  
 - create training material for citizens  
 - create public awareness campaign  
 - create recycling bins in public places

② Water management strategy :  
 - Industrial wastewater treatment & reuse  
 - household water saving devices  
 - rainwater harvesting system for water supply

What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?

- training material & workshop manual & checklist  
 - financial support for water supply  
 - technical support for water supply



*Jakarin*

## Team Huddle Guide

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What is the current state of your adaptation efforts and how close are you to reaching your goals?

What information or skills do you need to begin or advance your work together?

Looking at the agenda, what concurrent sessions do you want to attend, or direct certain team members to attend, over the next two days?

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CityLinks

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Leaders at the Core of Better Communities



## Team Huddle 2: Putting the Pieces Together

What has your team learned over the last two days – e.g., new information, tools, policies, strategies, connections – that may help you think and work differently to overcome the challenges that you identified in your Team Challenge yesterday?

How has the workshop influenced your thinking about how to address urban climate risks and

- Build broad-based support for adaptation activities across sectors, levels of government, and across borders;
- Restore urban ecosystems and biodiversity to build natural resilience to climate disruption;
- Re-think urbanization strategies to promote adaptive urban infrastructure and spatial planning;
- Align resources to support adaptation strategies that lower financial risks to large-scale urbanization investments;
- Provide opportunities for poor and vulnerable populations to participate in adaptation-related planning?

Did any of you make new connections with people from other teams or resource team members that could help advance your work? Who might be a priority for ongoing networking and collaboration?

Do you want to refine the goals you set for this Climate Leadership Academy?





### Team Huddle 3: Strategizing & Committing to Action

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1. Integrate training material from the issues in regions for national policy proposal.
2. Bring the strategic issue on the training to our team in my Ministry Intervention and Adaptation Team of my Ministry.
3. Bringing it in our policy in preparing spatial planning in District, Province and National Strategic Area.

What steps will you take in the next three months to pursue the actions above? Include how your team will:

1. Apply specific tools, knowledge, or connections gained at the workshop; and
2. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.

1. Bring all issue, and related depend = characteristics of the area.
2. Continue to develop proposal for Government of Jakarta, to solve problem in north area regarding to flood problem.

What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?



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- Build broad-based support for adaptation activities across sectors, levels of government, and across borders;
- Restore urban ecosystems and biodiversity to build natural resilience to climate disruption;
- Re-think urbanization strategies to promote adaptive urban infrastructure and spatial planning;
- Align resources to support adaptation strategies that lower financial risks to large-scale urbanization investments;
- Provide opportunities for poor and vulnerable populations to participate in adaptation-related planning?

Did any of you make new connections with people from other teams or resource team members that could help advance your work? Who might be a priority for ongoing networking and collaboration?

Do you want to refine the goals you set for this Climate Leadership Academy?



### Team Huddle 3: Strategizing & Committing to Action

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Based on what you've learned at the workshop, please describe two or three specific actions, strategies, plans, policies, or projects you will initiate, create, modify, or adapt when your team returns home.

1. To establish a Climate Change Adaptation Committee to promote collaboration within and among agencies, stakeholders and public
2. Carry out the vulnerability Assessment and compilation of data from agencies
3. Promote public awareness to encourage participation and engagement in the climate change planning process.

What steps will you take in the next three months to pursue the actions above? Include how your team will:

1. Apply specific tools, knowledge, or connections gained at the workshop; and
  2. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.
- Get support <sup>and commitment</sup> from the political decision maker
  - Setting-up working group among motivated staffs inter department within local government
  - Tools use - Accckn concept
  - Utilize existing GIS systems in the mapping the vulnerability assessment and data compilation.

What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?

- Assistance on data interpretation on climate change to the layman language
- Need expert in facilitating skill to engage with different stakeholders and background
- How to mobilise the resources for the implementation of action plan



LEGAZPI CITY, ALBAY, PHILIPPINES  
(LA, PHILIPPINES)



### Team Huddle 3: Strategizing & Committing to Action

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Based on what you've learned at the workshop, please describe two or three specific actions, strategies, plans, policies, or projects you will initiate, create, modify, or adapt when your team returns home.

1. RIVER SYSTEM RENOVATION, ~~REPAIR~~
2. RELOCATION OF FLOOD THREATENED POPULATION
3. CONSTRUCTION OF DISASTER-RESILIENT FACILITIES

What steps will you take in the next three months to pursue the actions above? Include how your team will:

1. Apply specific tools, knowledge, or connections gained at the workshop; and
2. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.

1. COMMUNITY CONSULTATION - DIALOGUE
2. HAZARD ASSESSMENT
3. SCENARIO DEVELOPMENT
4. SCENARIO-BASED PLANNING X PROPOSAL MAKING
5. FUNDING ALLOCATION X SOURCING
6. ORGANIZING OF PROJECT MANAGEMENT TEAM, <sup>LEGISLATION</sup> & IMPLEMENTATION
- 7.

What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?

- MORE EXPOSURE - FIELD & PEER TO PEER  
SHARING X COACHING OF BEST PRACTICES  
~~LEGISLATION~~



*put some*

## Team Huddle Guide

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Below, we have provided guiding questions for you to use in the first two Team Huddles. In the third and last team huddle you will create an action plan for your team to implement over the next three months.

### Team Huddle 1: Getting to Work

What role do each of you play within your community to advance climate change adaptation? What risks are each of you addressing?

What are the common challenges and goals that you all share? What work has been completed to date to help advance your shared goals?

What is the current state of your adaptation efforts and how close are you to reaching your goals?

What information or skills do you need to begin or advance your work together?

Looking at the agenda, what concurrent sessions do you want to attend, or direct certain team members to attend, over the next two days?

Looking at the list of program participants and resource team members listed in the back of the Resource Guide, are there any teams, individual team members, or resource team members that you want to network with, or possibly invite into one or more of your team huddles?

What are your goals for this Climate Leadership Academy? What can you reasonably accomplish to advance your efforts over the next two days?



## Team Huddle 2: Putting the Pieces Together

What has your team learned over the last two days – e.g., new information, tools, policies, strategies, connections – that may help you think and work differently to overcome the challenges that you identified in your Learning Challenge yesterday?

How has the workshop influenced your thinking about how to address urban climate risks and:

- o Build broad-based support for adaptation activities across sectors, levels of government, and across borders;
- o Restore urban ecosystems and biodiversity to build natural resilience to climate disruption;
- o Re-think urbanization strategies to promote adaptive urban infrastructure and spatial planning;
- o Align resources to support adaptation strategies that lower financial risks to large-scale urbanization investments;
- o Provide opportunities for poor and vulnerable populations to participate in adaptation-related planning?

Did any of you make new connections with people from other teams or resource team members that could help advance your work? Who might be a priority for ongoing networking and collaboration?

Do you want to refine the goals you set for this Climate Leadership Academy?



### Team Huddle 3: Strategizing & Committing to Action

Spend this 15 minute huddle developing a plan, with action plan to implement when you return home. Have one person fill in the planning table, which will be collected by the CityLinks team before you leave.

Be led on what you've learned at the workshop. Please describe two or three specific actions (strategies, plans, policies, or projects) you will initiate, create, modify, or adapt when you return home.

- 1. Clarification of responsibilities regarding <sup>and exploring possible</sup> ~~urban~~ climate adaptation, <sup>financial resources</sup>
- 2. Continuation of ecological system services, <sup>in the</sup> preservation of forest, wetland, rivers, and adoption <sup>urban</sup> plan with a consideration of climate adaptation factors.
- 3. Networking with regional & international agencies, CityLinks, ICLEI and others.

What steps will you take in the next three months to pursue the actions above? Include how your team will:

- 1. Apply specific tools, knowledge, or connections gained at the workshop; and
  - 2. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.
1. Submission of the proposal to the decision maker
  2. Convene a meeting in the agency to present the ideas and started action plan.
  3. Discussion of the proposed actions with other relevant agencies, stakeholders and local communities.

What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?

1. Assistance in capacity building at provincial level.
2. Providing opportunity for provincial high ranking officials for exposure in more advanced countries in climate adaptation activities.





## Team Huddle Guide

### Instructions and Purpose

Team Huddles provide time each day for your team to reflect on the things you are hearing and learning at the workshop, and to strategize about what you will do differently when you return home.

Below, we have provided guiding questions for you to use in the first two Team Huddles. In the third and last team huddle you will create an action plan for your team to implement over the next three months.

### Team Huddle 1: Getting to Work

What role do each of you play within your community to advance climate adaptation? What risks are each of you addressing?

What are the common challenges and goals that you all share? What work has been completed to date to help advance your stated goals?

What is the current state of your adaptation efforts and how close are you to reaching your goals?

What information or skills do you need to begin or advance your work together?

Looking at the agenda, what concurrent sessions do you want to attend, or direct certain team members to attend, over the next two days?

Looking at the list of program participants and resource team members listed in the back of the Resource Guide, are there any teams, individual team members, or resource team members that you want to network with, or possibly invite into one or more of your team huddles?

What are your goals for this Climate Leadership Academy? What can you reasonably accomplish to advance your efforts over the next two days?



CityLinks

ICMA  
Leaders at the Core of Better Communities



## Team Huddle 2: Putting the Pieces Together

What has your team learned over the last two days – e.g., new information, tools, policies, strategies, connections – that may help you think and work differently to overcome the challenges that you identified in your Team Challenge yesterday?

How has the workshop influenced your thinking about how to address urban climate risks and:

- o Build broad-based support for adaptation activities across sectors, levels of government, and across borders;
- o Restore urban ecosystems and biodiversity to build natural resilience to climate disruption;
- o Re-think urbanization strategies to promote adaptive urban infrastructure and spatial planning;
- o Align resources to support adaptation strategies that lower financial risks to large-scale urbanization investments;
- o Provide opportunities for poor and vulnerable populations to participate in adaptation-related planning?

Did any of you make new connections with people from other teams or resource team members that could help advance your work? Who might be a priority for ongoing networking and collaboration?

Do you want to refine the goals you set for this Climate Leadership Academy?



### Team Huddle 3: Strategizing & Committing to Action

Spend this last team huddle developing a three-month action plan to implement when you return home. Have one person fill in the following table, which will be collected by the CityLinks team before you leave.

Based on what you've learned at the workshop, please describe two or three specific actions (strategies, plans, policies, or projects you will initiate, create, modify, or adapt when your team returns) home.

1. Review Membership (August)
2. Share Learning (Sept - Oct)
3. Finalize VA Study (Oct - Dec)

What steps will you take in the next three months to pursue the actions above? (Include how your team will:

1. Apply specific tools, knowledge, or connections gained at the workshop; and
2. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.

1. Review Memberships of Climate Change Working Group:

- consider to elevate the leadership of city working group and expand the membership such as involving representative from provincial/national level
- Identify and collect policy/regulation of national/provincial/local government relevant to climate change adaptation

2. Shared Learning Dialogue involving all relevant stakeholders

3. Finalize VA Study:

- Public consultation to present of the study and get comment/inputs
- Set up priority action for the year 2017, including resources allocation

What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?

Support Need:

- Technical Assistance
- Practical Guidelines
- Capacity building for ~~local~~ Working Group Members



*Cambodia Team!*

## Team Huddle Guide

### Instructions and Purpose

Team Huddles provide time each day for your team to reflect on the things you are hearing and learning at the workshop, and to strategize about what you will do differently when you return home.

Below, we have provided guiding questions for you to use in the first two Team Huddles. In the third and last team huddle you will create an action plan for your team to implement over the next three months.

### Team Huddle 1: Getting to Work

What role do each of you play within your community to advance local climate adaptation? What risks are each of you addressing?

What are the current challenges and goals that you all share? What work has been completed to date to help advance your shared goals?

What is the current state of your adaptation efforts and how close are you to reaching your goals?

What information or skills do you need to begin or advance your work together?

Looking at the agenda, what concurrent sessions do you want to attend, or direct certain team members to attend, over the next two days?

Looking at the list of program participants and resource team members (listed in the back of the Resource Guide), are there any teams, individual team members, or resource team members that you want to network with, or possibly invite into one or more of your team huddles?

What are your goals for this Climate Leadership Academy? What can you reasonably accomplish to advance your efforts over the next two days?



## Team Huddle 2: Putting the Pieces Together

What has your team learned over the last two days—e.g., new information, tools, policies, strategies, connections—that may help you think and work differently to overcome the challenges that you identified in your Team Huddle yesterday?

How has the workshop influenced your thinking about how to address urban climate risks and:

- Build broad-based support for adaptation activities across sectors, levels of government, and across borders;
- Restore urban ecosystems and biodiversity to build natural resilience to climate disruption;
- Re-think urbanization strategies to promote adaptive urban infrastructure and spatial planning;
- Align resources to support adaptation strategies that lower financial risks to large-scale urbanization investments;
- Provide opportunities for poor and vulnerable populations to participate in adaptation-related planning?

Did any of you make new connections with people from other teams or resource team members that could help advance your work? Who might be a priority for ongoing networking and collaboration?

Do you want to refine the goals you set for this Climate Leadership Academy?



### Team Huddle 3: Strategizing & Committing to Action

Spend this last team huddle developing a three-month action plan to implement when you return home. Have one person fill in the following table, which will be collected by the CityLinks team before you leave.

Based on what you've learned at the workshop, please describe two or three specific actions, strategies, plans, policies, or projects you will initiate, create, modify, or adapt when your team returns home.

1. To create Phnom Penh city steering committee for CCA
2. To prepare CCA city planning
3. Implementation, M & E

What steps will you take in the next three months to pursue the actions above? Include how your team will:

1. Apply specific tools, knowledge, or connections gained at the workshop; and
2. Continue to work as a team, with partners and collaborators back home, and with new connections made at the workshop.

After back home during the next three months, our group will commit to create the process of establishment of Phnom Penh city CCA steering committee and organize the meeting with decision maker and continue to collaborate with the new connections made at this workshop in order to get more experience or technical support.

What additional tools or assistance do you need to reinforce what you've learned here and make you even more effective?

- Need the regional mechanism of city CCA secretariate.  
( Enhancement & implementation )

## E. Priority Ecosystem Services by CLA Team

## ASEAN CLA Output

### Most Important Ecosystem Services identified by participants towards the end of the CLA

<u>City</u>	<u>Services/Status</u>
Kuantan Municipal Council, Malaysia	<ol style="list-style-type: none"><li>1. Flood</li><li>2. Coastal erosion</li><li>3. Green Infrastructure</li><li>4. Forest – reforestation, regulated cutting of trees</li><li>5. Heat Islands</li><li>6. Inter Agency Collaboration</li></ol>

<u>City</u>	<u>Services/Status</u>
Ho Chi Minh (Vietnam)	<ol style="list-style-type: none"><li>1. Flooding Control</li><li>2. Water Quality</li><li>3. Air Quality</li><li>4. Urban Temperature Control</li><li>5. Greenery</li><li>6. Waste Reuse</li><li>7. _____ Forest (biosphere conservation)</li></ol>

<u>City</u>	<u>Services/Status</u>
Chiang Rai Municipality, Thailand	<ol style="list-style-type: none"><li>1. Ecotourism</li><li>2. Flood Control</li><li>3. Recreation</li><li>4. Water Supply</li><li>5. Food Security</li><li>6. Urban Temperature Control</li></ol>

<u>City</u>	<u>Services/Status</u>
Paksane, Lao PDR	<ol style="list-style-type: none"><li>1. Flood Control</li><li>2. Water Supply</li><li>3. Town Greenery</li><li>4. Wetland and Riverbank Protection</li><li>5. Organic Farming</li></ol>



**City**

Phnom Penh, Cambodia

**Services/Status**

1. **Waste Management**
  - Solid waste management
  - Liquid
    - Water quality
    - Wastewater management
2. **Land use management** (regulation, city guidance, slum reduction)
3. **Air Quality** (emission, transportation)
4. **Decision maker commitment**
5. **Collaboration** (private, public, people)
6. **Policy and Legislations** (protection, preservation)
7. **Realistic Plan**
8. **People Awareness**
  - Schools
  - Community
9. **Green Infrastructure** (space, recreation, construction)
10. **Flood Control**
11. **Forest**

**City**

Palembang, Indonesia

**Services/Status**

1. **Water Quality & Quantity**
2. **Air Quality**
3. **Sanitation**
4. **Flood Control and Riverbank Management**
5. **Green Area**
6. **Wetland**
7. **Waste Management**
8. **Ecotourism**
9. **Urban Farming**

**City**

Jakarta, Indonesia

**Services/Status**

1. **Flood Control**
2. **Greenery, i.e. park**
3. **Water Supply**
4. **Sanitation**

City

Legazpi (LA), Philippines

5. **Solid Waste**  
Services/Status

1. **Health** – solid waste management
2. **Water** – watershed management
3. **Coastal** – breakwater, flood control system
4. **Forest** – reforestation, regulated cutting of trees
5. **Agriculture** – multi-story \_\_\_\_\_, \_\_\_\_\_ use of indigenous \_\_\_\_\_, \_\_\_\_\_
6. **Infrastructure** – Drainage system, water pumping station, construction of safe \_\_\_\_\_ centers, \_\_\_\_\_ facilities, construction of city hospital, breakwater construction & facilitation

## F. Ecosystem Services Glossary

ECOSYSTEM SERVICE	ID	Summary	Phnom Penh	Palembang	Jakarta	Paksane	Kuantan	Legazpi	Chiang Rai	Ho Chi Minh City
Supporting Services	S1	Water cycling	X	X	X	X	X	X	X	X
	S2	Soil Formation		X				X	X	X
	S3a	Nutrient cycling – carbon cycle		X				X	X	X
	S3b	Nutrient cycling – nitrogen cycle		X				X	X	X
	S3c	Nutrient cycling – sulfur cycle		X				X	X	X
	S3d	Nutrient cycling – phosphorus cycle		X				X	X	X
	S4	Primary production (of the biosphere)	X	X			X	X		X
	S5	Photosynthesis	X	X	X		X			X
	S6	Biodiversity	X	X	X	X	X	X	X	X
Provisioning Services	P1	Food - agriculture		X		X		X	X	
	P2	Food – capture fisheries							X	
	P3	Food - wild								
	P4a	Fresh water	X	X		X	X	X	X	X
	P4b	Water - energy								
	P4c	Water - transportation								
	P5	Biochemicals and genetic resource								
	P6	Fiber						X		
	P7	Fuel				X	X	X		X
Regulating Services	R1a	Climate regulation – local	X	X	X	X	X		X	X
	R1b	Climate regulation – global				X				
	R2	Air quality regulation	X	X	X	X	X		X	X
	R3	Water purification and Waste Treatment	X	X	X	X	X	X	X	X
	R4	Water regulation	X	X	X	X	X	X	X	X
	R5	Disease regulation								
	R6	Pest regulation						X		
	R7	Natural hazard regulation	X	X	X	X	X	X	X	X
	R8	Erosion regulation – soil retention	X	X	X	X	X	X	X	X
	R9	Pollination (MA 2005)	X	X				X	X	X
	R10	Seed dispersal (Daily 1997)	X					X	X	X
R11	Noise regulation	X		X	X	X			X	
Cultural Services	C1	Social relations	X		X		X		X	
	C2	Cultural heritage values	X					X	X	
	C3	Sense of place	X				X		X	
	C4	Aesthetic	X	X	X	X			X	
	C5	Inspirational								
	C6	Recreation and ecotourism	X	X	X				X	
	C7	Educational and knowledge	X							
	C8	Health						X		
	C9	Spiritual and religious values								

## G. Workshop Feedback Forms



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name EKA GUSTINI

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

Excellent

Very good

Good

Fair

Poor

Comments/examples:

*on time, good facilities, useful knowledge and best practices.*

2. How well did the workshop help you address the challenges your community faces?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

*Best practices of some cities can be done at our city*

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

Face

Concise

Team huddles

Networking

Guided exercises  Other

*sessions*

*sessions*

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

For the one who really want to know more about urban climate change adaptation.

## Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

They can explain and share information and give best practices based on their experiences

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

We have knowledge to implement what we should do related to urban climate change adaptation from technical, social & political perspective.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

E. Have the ability to address climate change adaptation challenges in your community, overall?

Yes, I have.





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

After the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

We can share best practices through team concurrent sessions.

3. How well did the workshop promote or facilitate your team cohesion?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Adapting urban farming practices to climate change  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Green infrastructure strategies to adapt to flooding  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Lessons from Townsville city  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Rainwater capture and reuse  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



CityLinks



CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

This workshop really disseminates knowledge of urban climate change adaptation among resources team member of other cities. We will take best practices that can be done in our city.

Especially for the organizers, we would like to convey many thanks for holding such an excellent and useful workshop and we hope that will be a continuous workshop in the future.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- ~~Panel discussion~~
 ~~Workshop session~~
 Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannopon Khuan and Sengdara Douangmyxay  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: working with village leaders

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: leveraging private, government, and international funds

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Developing a Coastal Zone Master Plan

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Coastal adaptation strategies with poor communities

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful     
  Very useful     
  Somewhat useful     
  Of limited use     
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent     
  Very good     
  Good     
  Fair     
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent     
  Very good     
  Good     
  Fair     
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

- I would not change anything  
 I would change the following:

- More Local Government should be involved in this important event
- visit to specific location that had been implemented best practices on urban adaptation will provide good opportunity for participants.



# CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

- networking with resource persons and all participants is important to be facilitated
- information exchange among participants / resource persons could be facilitated by setting up desk - phone / regularity the (internet based).
- create leadership at local level is crucial to achieve success.
- new ideas / technology / strategy / policy should be disseminated and easily access by the participants
- progress should be also shared to national level stakeholders and replicated to other city

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name Pent Sefriany, Palembang, Indonesia

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?
- Excellent     Very good     Fair     Poor

Comments/examples:

Method of workshop learning such as: panel discussions, concurrent session etc.

2. How well did the workshop help you address the challenges your community faces?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

to planning our job such as: simple technology adaptation activity for awareness stakeholder.

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

~~Panel discussions~~     ~~Concurrent sessions~~     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

with presentation the other country and experience

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

by communication with person from other country,

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## B. Can identify peers from other locations working on initiatives similar to yours?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

After the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

do our job according each responsible

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

go discuss with other team.

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

do guideline our team.

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: “Prioritizing Adaptation in Urban Infrastructure Planning,” with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: “Using ICMA’s Knowledge Network,” with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: “Regional, National and International Collaboration for Urban Adaptation,” with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – “Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact,” with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: “Adaptive Urban Ecosystem Services,” with Robert Mather, Dato’ Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: “Ecosystem Services: the Link between Urban and Rural Systems,” with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: “The Transformation of Townsville, Queensland, Australia,” with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Adapting Urban Farming Practices to Climate Change.

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Green Infrastructure Strategies to Adapt to Flooding

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Identifying Slum Neighborhoods with the Greatest Flooding Risk

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Leveraging Funding from other Environmental Initiatives to Fund Adaptation activities

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:

mindset of stakeholder in our city like government, community or private sector.



# CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

*[Handwritten text in a box, which is mostly illegible due to blurring and low resolution. The text appears to be a response to the survey question above.]*

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

Excellent

Very good

Good

Fair

Poor

Comments/examples:

*Very helpful technically &*

2. How well did the workshop help you address the challenges your community faces?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

*In redesigning the approaches & systems.*

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

~~Panel~~

~~Case study~~

Team huddles

Networking

Guided exercises  Other

If "other," please specify:

*I'd like to see more on the how's by scenarios which must be hazard specific*

11



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

*Ecosystem systems*

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

*- Ecosystem systems  
- Ecosystem systems*

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

After the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

After the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

After the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

After the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

### Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

*during sharing of ideas & experiences*

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

*during sharing of lessons learned*

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

*huddle & sharing of ideas*

### Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: “Prioritizing Adaptation in Urban Infrastructure Planning,” with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: “Using ICMA’s Knowledge Network,” with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – “Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact,” with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: “Adaptive Urban Ecosystem Services,” with Robert Mather, Dato’ Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: “Ecosystem Services: the Link between Urban and Rural Systems,” with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: “The Transformation of Townsville, Queensland, Australia,” with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



# CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Adapting Urban Farming Practices to Climate Change.  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Green infrastructure strategies to adapt to flooding  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: How the Asian Cities Climate Change Resilience Network  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Reinwater Capture = ...  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

*More discussions on the HOW? The counter measures to climate change impacts.*

## Resource Guide and Logistics

*More*  
 1. Did you have the chance to read the Resource Guide?  
 *Yes*     *No*



# CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

Comments/examples:

*It facilitated connection.*

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

*Facilitated administration of personal concerns.*

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

*Conducive, comfortable, accessible.*

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:

*Some feedback from the workshop  
 attendees - include more time for  
 breakout sessions! Participants  
 prefer breakout sessions to  
 large group sessions.*



CityLinks



### CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

The workshop is really much helpful. I  
 found the most insight in reviewing the  
 strategies in integrating CCA/BER to  
 development plan. However, climate change  
 specific the topic is only one of the main  
 aspects. How about earthquake mitigation  
 and volcanic risk reduction? Earthquake  
 is more dangerous having no warning available.  
 Services-based.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name JOSEPH R. EPLINA

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?
- Excellent     Very good     Good     Fair     Poor

Comments/examples:

KEEP IT UP!

2. How well did the workshop help you address the challenges your community faces?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

THE SHARING WAS INDEED AN EYE OPENER ...

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

~~Panel~~ discussions     ~~Coaching~~ sessions     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?



Please specify:

BOTH GOVERNMENT & PRIVATE (RELATED) INSTITUTIONAL

## Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

PRESENTATIONS MADE ARE VALID RESOURCES, WHERE APPLICABLE.

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

B. Can identify peers from other locations working on initiatives similar to yours?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

### Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

### Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



# CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: “Prioritizing Adaptation in Urban Infrastructure Planning,” with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
2. Lunch Presentation 1: “Using ICMA’s Knowledge Network,” with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
3. Panel Discussion 2: “Regional, National and International Collaboration for Urban Adaptation,” with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
4. Closing Keynote – “Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact,” with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
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 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
7. Closing Keynote: “The Transformation of Townsville, Queensland, Australia,” with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



# CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: ADAPTING URBAN FARMING PRACTICES TO CLIMATE CHANGE  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: TOOL TO IDENTIFY SOC. & ENVIRON. BENEFITS OF URBAN ADAPTATION PLANS  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: IDENTIFYING SLUM NEIGHBORHOODS WITH THE GREATEST FLOODING RISK  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: DIGITAL ADAPTATION STRATEGIES WITH POOR COMMUNITIES  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

VERY RELEVANT & INTERESTING.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



# CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

Comments/examples:

SUSTAIN

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

APPRECIATE THEIR EFFORTS

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

MORE THAN EXPECTED

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:

MORE TIME FOR PRESENTATIONS ..



# CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

CONGRATULATIONS FOR A JOB-WELL-DONE.

MY PERSONAL EXPERIENCE HAS ENHANCED MY CURRENT STOCK KNOWLEDGE ON THE SUBJECT MATTERS DISCUSSED - PRESENTED.

THUS, MY INVOLVEMENT IN OFFICIAL CAPACITIES, WILL FURTHER BOOST MY CONFIDENCE TO TEND BY MY CONVICTIONS ON MATTERS OF CONCERN ON URM/CLA.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

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(Optional Information)

Name ROUL E. ROSA

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent     Very good     Good     Fair     Poor

Comments/examples:

A WELL-BALANCE WORKSHOP WHEREIN THE PARTICIPANTS ARE NOT BORED BECAUSE YOU HAVE PANEL DISCUSSION, SMALL <sup>GROUP</sup> DISCUSSION AND A TEAM HUDDLE WHEREIN THE SUBORDINATES CAN RAISED THEIR VIEWS AS WELL AS CAN RECOMMEND TO ~~THEIR~~ THEIR SUPERVISE -

2. How well did the workshop help you address the challenges your community faces?

- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

BY HAVING NEW IDEAS AND APPROACHES IN DEALING WITH URBAN CLIMATE ADAPTATION AS WELL AS MITIGATING MEASURES AND SOLUTIONS TO THE CONCERNED PROBLEMS.

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- ~~Panel~~ ~~discussions~~     ~~Case studies~~ ~~sessions~~     Team huddles     Networking     Guided exercises     Other

If "other," please specify:

I THINK ALL OF THEM!



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

THE RESILIENCE AND ADAPTATION OF EACH COUNTRY.

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

B. Can identify peers from other locations working on initiatives similar to yours?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input checked="" type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: ADVANCING ADAPTATION THROUGH THE ASEAN SUSTAINABLE CITIES

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

FM CLEAN WATER PROJECT

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: INTERNATIONAL CITY COLLABORATION: BEST PRACTICES IN DELTA ADAPTATION

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: LESSONS FROM TOWNVILLE CITY: AUSTRALIA'S CREEK TO CORAL

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

PARTNERSH.

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: LEVERAGING FUNDING FROM OTHER ENVIRONMENTAL INITIATIVE

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

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CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

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(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?
- Excellent     Very good     Good     Fair     Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)
- Panel     Document     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

B. Can identify peers from other locations working on initiatives similar to yours?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

E. Have the ability to address climate change adaptation challenges in your community, overall?





### CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  Somewhat useful     Of limited use     Not at all useful

Extremely useful     Very useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  Somewhat useful     Of limited use     Not at all useful

Extremely useful     Very useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  Very useful     Somewhat useful     Of limited use     Not at all useful

Extremely useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  Somewhat useful     Of limited use     Not at all useful

Extremely useful     Very useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



# CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

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CLIMATE LEADERSHIP ACADEMY

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(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Panel
  Case study
  Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  No  Yes

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?
- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?
- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

**A. Know about successful tools and models related to adaptive urban infrastructure?**

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

**B. Can identify peers from other locations working on initiatives similar to yours?**

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

**C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?**

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

**D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?**

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

**E. Have the ability to address climate change adaptation challenges in your community, overall?**





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

After the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: “Prioritizing Adaptation in Urban Infrastructure Planning,” with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: “Using ICMA’s Knowledge Network,” with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: “Regional, National and International Collaboration for Urban Adaptation,” with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – “Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact,” with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: “Adaptive Urban Ecosystem Services,” with Robert Mather, Dato’ Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: “Ecosystem Services: the Link between Urban and Rural Systems,” with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: “The Transformation of Townsville, Queensland, Australia,” with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



# CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying and Managing Urban Climate Risks  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Tools to Identify the Economic, Social and Env. Benefits of UAP.  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Lessons from Townsville City: Australia's Creek to Coral Partnership  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Helping Vulnerable Communities through Resilience  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

- I would not change anything  
 I would change the following:



CityLinks



CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

[Empty rectangular box for providing feedback]

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@cliscvt.org](mailto:acasey@cliscvt.org).

(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?
- Excellent     Very good     Good     Fair     Poor

Comments/examples:

- Tools, knowledge and networking provided is good
- should be have an example about megacity

2. How well did the workshop help you address the challenges your community faces?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- ~~Panel~~     ~~Workshop~~     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

B. Can identify peers from other locations working on initiatives similar to yours?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

E. Have the ability to address climate change adaptation challenges in your community, overall?





CLIA 2015



### CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: “Prioritizing Adaptation in Urban Infrastructure Planning,” with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: “Using ICMA’s Knowledge Network,” with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: “Regional, National and International Collaboration for Urban Adaptation,” with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – “Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact,” with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: “Ecosystem Services: the Link between Urban and Rural Systems,” with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: “The Transformation of Townsville, Queensland, Australia,” with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Advancing Adaptation through ASEAN Sustainable Cities for Clean Water Proj

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: International City Collaboration: Best Practices in Delta Adaptation with HCM & Rotterdam

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: How the ASEAN Cities Climate Change Resilience Network is helping advance adaptation

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Leveraging Funding from other Environmental Initiatives to Fund Adaptation Activities

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful     
  Very useful     
  Somewhat useful     
  Of limited use     
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent     
  Very good     
  Good     
  Fair     
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent     
  Very good     
  Good     
  Fair     
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



CityLinks



CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

The workshop gave me a wonderful chance to learn best practices from international experts & peer city ASEAN cities. I think the knowledge receiving from the workshop will be very useful for me in developing adaptation projects for my city. Thank you!!!

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)  
Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

Excellent

Very good

Good

Fair

Poor

Comments/examples:

- content of workshop
- keynote speaker
- participant quality

2. How well did the workshop help you address the challenges your community faces?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

All presentations and discussions have gone their own challenges, so we can learn from these practices

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

Field

Case studies

Team huddles

Networking

Guided exercises

Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

*For special field; like construction, Energy, etc.*

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

- By concurrent sections
- private discussion

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

- Team huddle
- Discuss with keynote speaker
- project done.

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

## B. Can identify peers from other locations working on initiatives similar to yours?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

## E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

After the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

*- The more information The better collaboratg*

2. How well did the workshop assist you in collaborating with other teams?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

*- We have oppotunity to jidenstand together.*

3. How well did the workshop promote or facilitate your team cohesion?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

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7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Adapti Urban ...

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Green Infrastructure ...

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: How the Asian ...

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Helping Vulnerable ...

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

Extremely useful

Very useful

Somewhat useful

Of limited use

Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

Excellent

Very good

Good

Fair

Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

Excellent

Very good

Good

Fair

Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:

*- The methods  
- Experiences*



CityLinks



CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

- The workshop should be organized in the series
- Solutions for the challenges set up for this workshop should be added in next workshop.
- Materials of the workshop should be given in advance.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@discvt.org](mailto:acasey@discvt.org).

(Optional Information)

Name VU THUY LINH

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent     Very good     Good     Fair     Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Free discussions     Community sessions     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?

Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

- Stakeholder meeting or dialogue to a good tool for us to identify climate risks as well as solution.

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?

Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

- Lot of information about climate change adaptation, ecosystem services that can be done.

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

- Concurrent section is chance for members of each team can talk and share opinions.

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying and Managing Urban Climate Risks  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: International City Collaboration: Best Practices in Delta Adc  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Lesson from Tomsville City  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Rainwater capture & Reuse  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

This is a great idea and I hope to experience it all participants from other cities. It is a great idea and I hope to experience it all participants from other cities. It is a great idea and I hope to experience it all participants from other cities. Especially, this is a great chance to share our activities as well as getting comments from other cities.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



12



# CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. We ask that you please return this form to us before you leave. Alternatively, you may send via email to [acasey@discvt.org](mailto:acasey@discvt.org).

(Optional Information)

Name Muhammad Yousif

### Workshop Experience

How well did you enjoy the workshop?  Excellent  Very good  Good  Fair  Poor

Comments examples:   
 1) On time   
 2) Great material   
 3) Full activity

How well did the workshop help you address the challenges you face?  Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments examples:   
 1) Great material   
 2) I have many things to do at my expense to address and to follow up in my community   
 3) Learning and experience

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Face-to-face sessions
- Coordinated sessions
- Team huddles
- Networking
- Guided exercises
- Other

If "other," please specify:



# CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?

Yes

No

Please specify:

*This workshop is very good and interesting. We hope to continue program to other city.*

## Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying and managing Urban Climate Risks

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: International City Collaborating: Best Practices in Delta Adaptation on the Ho Chi Minh and Red Rivers

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Lesson From Townsville City: Australia's Coast

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Rainwater Capture and Use

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



# CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts or comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

✓

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@discvt.org](mailto:acasey@discvt.org).

(Optional Information)

Name NYIMAS IDA APRIANI, PALEMBANG CITY, INDONESIA

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

- provide best practice from city to city
- networking city to city

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

- Knowledge about climate change adaptation

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- ~~Fun~~
 ~~Challenging~~
 Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

To find the material of presentation in the website to other person and stakeholders in Palembang city

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

To include the poor and vulnerability population into stakeholder  
 + working group of climate change adaptation.

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

learning about river basin and crab bank

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

## B. Can identify peers from other locations working on initiatives similar to yours?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

## E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

### Comments/examples:

by team huddle, our team member collaborate to find what will we do after this workshop in our city

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

### Comments/examples:

by concurrent session, the workshop assist my team to collaborate other team and other city

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

### Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



# CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

- Extremely useful
- Very useful
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- Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

- Extremely useful
- Very useful
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- Of limited use
- Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful



# CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying and Managing Urban Climate Risks.  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: International City Collaboration  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: How the Asian Cities Climate Change Resilience Network (ACCR)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Rainwater Capture and Reuse  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

Yes     No



# CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

Thank you for the services. No

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

Very good accommodation, food and overall  
Thank you very much.

If this workshop were to be done all over again, what aspects of it would you change?

~~\_\_\_\_\_~~

~~\_\_\_\_\_~~

concurrent session need not only 1 hour every session and give the key 2-3 presentation and give the material of presentation or article about the topic



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

Thank you for the opportunity to join the CityLinks team for the workshop. I got a lot of ideas about climate change adaptation and how to work with other cities and go back home with a lot of great ideas from other cities.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name HESSIA HAMZAH

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent     Very good     Good     Fair     Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Panel discussions     Discussed sessions     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?
- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?
- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	---	--	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	---	--	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	---	--	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	---	--	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## E. Have the ability to address climate change adaptation challenges in your community, overall?





Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

### Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

### Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Working with Village Leaders

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: International City Collaboration

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Designing a Coastal Zone Master Plan

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Coastal Adaptation Strategies with Poor Communities

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



CityLinks



CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/concerns you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your other adaptation efforts back home, and how we can improve the design and delivery of our programs.

*Incorporate site visit to best practice program/project*

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



## CLIMATE LEADERSHIP ACADEMY

# FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name Abd. Rahim Mudg

## Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent     Very good     Fair     Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- ~~Free~~ Exercises     ~~Case studies~~     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 **Yes**  **No**

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 **Extremely well**  **Very well**  **Somewhat well**  **Less well**  **Not at all well**

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 **Extremely well**  **Very well**  **Somewhat well**  **Less well**  **Not at all well**

Comments/examples:

*For the next summit/workshop, social & psychosocial impact for adaptation of climate change to community should be elaborate to participant.*

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
----------------------------	---	--	---	--	--

<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
---------------------------	---	---	--	--	--

## B. Can identify peers from other locations working on initiatives similar to yours?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
----------------------------	---	--	---	--	--

<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
---------------------------	---	---	--	--	--

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
----------------------------	---	--	---	--	--

<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
---------------------------	---	---	--	--	--

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
----------------------------	---	--	---	--	--

<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
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## E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

After the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



# CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Adopting Urban Planning Practices to Climate Change  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Leveraging Private, Government & International Fund for Adaptive Activities  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: How the Asian Cities Climate Change Resilience Network  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Leveraging Funding from other Environmental Initiatives to Fund Adaptive Activities  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

These activities are good to increase my knowledge about climate change adaptation. I had new knowledge and they stressed that we have now this workshop considered me up to improve in our municipality. The challenging is about our decision making from the top level (national government and state government) to agree and working together to implement the climate change adaptation.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name MUHAMMAD AZHA BIN ABD RANI

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Panel
  Case studies
  Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?

**Yes**

**No**

**Please specify:**

## Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?

**Extremely well**

**Very well**

**Somewhat well**

**Less well**

**Not at all well**

**Comments/examples:**

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?

**Extremely well**

**Very well**

**Somewhat well**

**Less well**

**Not at all well**

**Comments/examples:**

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## B. Can identify peers from other locations working on initiatives similar to yours?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## E. Have the ability to address climate change adaptation challenges in your community, overall?





## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

### Team Experience

1. How well did the workshop assist you in collaborating with your team members?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

### Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Advancing Adaptation through the ASEAN Sustainable Cities for Clean water Project  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Green Infrastructure strategies to adapt to flooding  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Identifying Slum Neighbourhoods with the greatest Flooding Risk  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Rainwater Capture and Reuse  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples: The case studies given can be used as reference in my everyday works.

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples: All the staff are helpful at the whole events.

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples: All things given are first class same standard as the hotel.

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



CityLinks



CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your other adaptation efforts back home, and how we can improve the design and delivery of our programs.

The workshop was a great experience and we are looking forward to the next one. We will be implementing the strategies discussed in the workshop and we will be sharing our experiences with our colleagues. We will be implementing the strategies discussed in the workshop and we will be sharing our experiences with our colleagues.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**





CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@icma.org](mailto:acasey@icma.org).

(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent  Very good  Good  Fair  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Panel discussions  Case study sessions  Team huddles  Networking  Guided exercises  Other

If "other," please specify:



CityLinks



CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

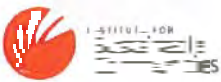
1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## E. Have the ability to address climate change adaptation challenges in your community, overall?





### CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

### Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments examples:

3. How well did the workshop process or facilitate your team's work?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments examples:

### Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote - "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



# CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawasakraisorn, *Program Development Specialist, USAID / RDMA*  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Water (4)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: tools (2)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: ACECLN (2)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Rain (2)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful   
  Very useful   
  Somewhat useful   
  Of limited use   
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent   
  Very good   
  Good   
  Fair   
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent   
  Very good   
  Good   
  Fair   
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:

Contents of the workshop could be more organised to more clearly address climate change issues



## CLIMATE LEADERSHIP ACADEMY

Please use this space to state any other thoughts or interests you wish to share with the City Links team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name NEY SONA (Cambodia)

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent     Very good     Good     Fair     Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- ~~Panel~~     ~~Case studies~~     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



**CLIMATE LEADERSHIP ACADEMY**

4. Would you recommend this workshop to others?  
 Yes  No

**Please specify:**

## Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

**Comments/examples:**

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

**Comments/examples:**

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## E. Have the ability to address climate change adaptation challenges in your community, overall?





### CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Working with Village Leader to respond to climate impo  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Green Infrastructure Strategy to adapt to Flooding  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Identifying Slum Neighborhood with the Greatest Flooding Rv.  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

- I would not change anything  
 I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

The workshop is an excellent format. It gave me experience for urban climate change adaptation. But we need more the edge and experience in the field to contribute to the development of an manage and control disaster caused by climate change.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

Excellent

Very good

Good

Fair

Poor

Comments/examples:

Very good  
Very good

2. How well did the workshop help you address the challenges your community faces?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

looking for the Ground (Grassroot) challenges

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

Panel

Exercise

Team huddles

Networking

Guided exercises

Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

- Report to Minister & City Governor

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

- Some tools & Model,  
- Best Practices

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

- Tools  
- Steps

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## B. Can identify peers from other locations working on initiatives similar to yours?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input checked="" type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input checked="" type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

## E. Have the ability to address climate change adaptation challenges in your community, overall?





### CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

### Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

### Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricks Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful



## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying and Managing Urban Climate Risks

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Green Infrastructure Strategies

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Lesson from Townsville

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



CityLinks



CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

This ws. very useful of our works  
 when Return home I will:

- Sharing this Knowledge to Deptal Incharge
- Establish a CCA City Climate Adaptation Committee
- Inception and Discussion WS.
- Collaborating & communicating with internal & external relevant organizations

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name Surya Sumarmaha

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?  
 Excellent     Very good     Good     Fair     Poor

Comments/examples:

It's interesting to gather with the other ASEAN cities and international resource persons.

2. How well did the workshop help you address the challenges your community faces?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

We find good material to add our initiative in adaptation to climate change

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

Panel discussions     Case studies     Team huddles     Networking     Guided exercises     Other

If "other," please specify:

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
After the Workshop	<input checked="" type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> Very Confident	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
After the Workshop	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
After the Workshop	<input checked="" type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> Very Confident	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
After the Workshop	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

E. Have the ability to address climate change adaptation challenges in your community, overall?



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: “Prioritizing Adaptation in Urban Infrastructure Planning,” with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1. “Using ICMA’s Knowledge Network,” with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: “Regional, National and International Collaboration for Urban Adaptation,” with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – “Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact,” with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: “Adaptive Urban Ecosystem Services,” with Robert Mather, Dato’ Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: “Ecosystem Services: the Link between Urban and Rural Systems,” with Robert Mather  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: ‘The Transformation of Townsville, Queensland, Australia,’ with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful





## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: working with village leaders

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Tools to identify the economic, social, env benefits

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: How ALRN is helping advance adaptation

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: helping vulnerable communities through relocation

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

- I would not change anything  
 I would change the following:

Add time for team huddle with facilitators ; whom experienced to the issues



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

This workshop open our eyes on how adaptation to ce have been conducte in M&A cities. How they plan, what kind of institutions, and what were the results an failures. The added knowledge will lead us to sharpen our initiatives in dealing with 'network collaboration' and ecosystem services.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



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CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

Excellent

Very good

Good

Fair

Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

Role playing

Simulations

Team huddles

Networking

Guided exercises

Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.



# CLIMATE LEADERSHIP ACADEMY

How confident are you that you...

## A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop

<input type="checkbox"/> EXTREMELY Confident	<input checked="" type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	--	---	---

After the Workshop

<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	---	---	---

## B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop

<input type="checkbox"/> EXTREMELY Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

After the Workshop

<input type="checkbox"/> EXTREMELY Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	--	---	---

After the Workshop

<input type="checkbox"/> EXTREMELY Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	--	---	---	---

## D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop

<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	---	---	---

After the Workshop

<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
--	---	---	---	---

## E. Have the ability to address climate change adaptation challenges in your community, overall?



## CLIMATE LEADERSHIP ACADEMY

Before the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

After the Workshop

Extremely Confident

Very Confident

Somewhat Confident

Less Confident

Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful
  
7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful





## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

**Comments/examples:**

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

**Comments/examples:**

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

**Comments/examples:**

If this workshop were to be done all over again, what aspects of it would you change?

- I would not change anything  
 I would change the following:



CityLinks



**CLIMATE LEADERSHIP ACADEMY**

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

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(Optional Information)

Name Dato Hj. Zulkifli

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- ~~Panel~~
 ~~Case study~~
 Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 **Yes**  **No**

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 **Extremely well**  **Very well**  **Somewhat well**  **Less well**  **Not at all well**

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 **Extremely well**  **Very well**  **Somewhat well**  **Less well**  **Not at all well**

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

**A. Know about successful tools and models related to adaptive urban infrastructure?**

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

**B. Can identify peers from other locations working on initiatives similar to yours?**

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

**C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?**

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input checked="" type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

**D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?**

<i>Before the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input type="checkbox"/> <del>Very Confident</del>	<input checked="" type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>
<i>After the Workshop</i>	<input type="checkbox"/> <del>Extremely Confident</del>	<input checked="" type="checkbox"/> <del>Very Confident</del>	<input type="checkbox"/> <del>Somewhat Confident</del>	<input type="checkbox"/> <del>Less Confident</del>	<input type="checkbox"/> <del>Not at all Confident</del>

**E. Have the ability to address climate change adaptation challenges in your community, overall?**



## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful





## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying and Managing Urban Climate Risks  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Tools to Identify the Economic, Social and Environmental Benefits of Urban Adaptation Planning  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Lessons from Townsville city: Aodaha's Creek to Coral Parklands  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Helping Vulnerable Communities through Relocation.  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

Extremely useful

Very useful

Somewhat useful

Of limited use

Not at all useful

**Comments/examples:**

3. What was the overall quality of support you received from CityLinks staff during the workshop?

Excellent

Very good

Good

Fair

Poor

**Comments/examples:**

4. What was the overall quality of the workshop venue, accommodation, and food?

Excellent

Very good

Good

Fair

Poor

**Comments/examples:**

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts or comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



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## CLIMATE LEADERSHIP ACADEMY

# FEEDBACK FORM

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(Optional Information)

Name

*Sengolava Doungmyrath*

## Workshop Experience

1. Overall, how would you rate the quality of the workshop?

Excellent

Very good

Good

Fair

Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

Extremely well

Very well

Somewhat well

Less well

Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

Panel

Case study

Team huddles

Networking

Guided exercises

Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 **Yes**  **No**

Please specify:

## Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 **Extremely well**  **Very well**  **Somewhat well**  **Less well**  **Not at all well**

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 **Extremely well**  **Very well**  **Somewhat well**  **Less well**  **Not at all well**

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

**A. Know about successful tools and models related to adaptive urban infrastructure?**

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

**B. Can identify peers from other locations working on initiatives similar to yours?**

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

**C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?**

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

**D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?**

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

**E. Have the ability to address climate change adaptation challenges in your community, overall?**



## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote - "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful





# CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: 4/ Advancing Adaptation through <sup>from</sup> <sup>sest</sup> <sup>city</sup> <sup>for</sup> <sup>clean</sup> <sup>water</sup> <sup>pro</sup>  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: 2/ Tools to identify the econ, social & enviro benefits of sub. develop - playwood  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: 1/ Lessons from Townsville city  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:

To provide a full travel cost, including the hotel accommodations, during airport transfer in case of need, for participants from low income countries.



# CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

The workshop was very good at understanding the reality of current conditions and the role of the government in providing services and infrastructure. The shared ideas during the workshop will be a good reference for planning and reviewing the adaptation efforts currently underway in all participating cities and is well appreciated. The design and delivery of the program were great.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. We ask that you please return this form to us before you leave. Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name 12hr Chaikin Halls

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent  Very good  Good  Fair  Poor

Comments/examples:

Concurrent session and Team Huddle were very fruitful

2. How well did the workshop help you address the challenges your community faces?

- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Panel  Scenario  Team huddles  Networking  Guided exercises  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

**A. Know about successful tools and models related to adaptive urban infrastructure?**

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

**B. Can identify peers from other locations working on initiatives similar to yours?**

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

**C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?**

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

**D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?**

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

**E. Have the ability to address climate change adaptation challenges in your community, overall?**



## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> EXTREMELY Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input checked="" type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

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## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawasakfaisorn, *Program Development Specialist, USAID / RDMA*
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying and Managing Urban Climate Risks

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Leveraging Private, Government, and International Funds for Adaptation Activities

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Developing a Coastal Zone Master Plan

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Coastal Adaptation Strategies with Poor Communities

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



# CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts or comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

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CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

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(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Role playing
  Case studies
  Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

**A. Know about successful tools and models related to adaptive urban infrastructure?**

<i>Before the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>
<i>After the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>

**B. Can identify peers from other locations working on initiatives similar to yours?**

<i>Before the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>
<i>After the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>

**C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?**

<i>Before the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>
<i>After the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>

**D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?**

<i>Before the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>
<i>After the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>

**E. Have the ability to address climate change adaptation challenges in your community, overall?**



## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
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Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

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## CLIMATE LEADERSHIP ACADEMY

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

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CLIMATE LEADERSHIP ACADEMY

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(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Role playing
  Case studies
  Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?
- Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?
- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?
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How confident are you that you...

**A. Know about successful tools and models related to adaptive urban infrastructure?**

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

**B. Can identify peers from other locations working on initiatives similar to yours?**

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

**C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?**

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

**D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?**

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

**E. Have the ability to address climate change adaptation challenges in your community, overall?**



## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?
- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful





## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Advancing Adaptation through the ASEAN (4)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts or comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

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(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

- Compact of Agriculture, slum neighborhood living near the river bank  
Landslide, flood - -

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Role playing
  Case studies
  Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:

- Some problemes are the same at near my country.



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?

Comments/examples:

- to know about the face problems of climate change adaptative
- Land use management
- Help the group of vulnerable face of flooding.

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?

Comments/examples:

- Can do better between with the public sector and private sector about CCS in my city esp to adapt urban infrastructure

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input checked="" type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input checked="" type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input checked="" type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input checked="" type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

E. Have the ability to address climate change adaptation challenges in your community, overall?



## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input checked="" type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?

- Extremely well   
 Very well   
 Somewhat well   
 Less well   
 Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?

- Extremely well   
 Very well   
 Somewhat well   
 Less well   
 Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?

- Extremely well   
 Very well   
 Somewhat well   
 Less well   
 Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

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- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

6. Lunch Presentation 2: "Ecosystem Services: the Link between Urban and Rural Systems," with Robert Mather

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

7. Closing Keynote: "The Transformation of Townsville, Queensland, Australia," with Greg Bruce

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful





## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Adapting Urban Farming practices to CCA (1)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: (2)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: (3)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: (4)  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?  
 Yes     No



# CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful
- Very useful
- Somewhat useful
- Of limited use
- Not at all useful

**Comments/examples:**

- Documents with provide by workshop.  
 - website related.

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent
- Very good
- Good
- Fair
- Poor

**Comments/examples:**

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent
- Very good
- Good
- Fair
- Poor

**Comments/examples:**

If this workshop were to be done all over again, what aspects of it would you change?

- I would not change anything
- I would change the following:



CityLinks

ICMA  
Leaders at the Core of Better Communities



CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

[Empty rectangular box for providing feedback]

**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

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(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent     Very good     Good     Fair     Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Field exercises     Case studies     Team huddles     Networking     Guided exercises     Other

If "other," please specify:



CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

After the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

After the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

After the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

After the Workshop     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

E. Have the ability to address climate change adaptation challenges in your community, overall?



## CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

### Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

**Comments/examples:**

We share, brainstorm our idea together, between the activities.

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

**Comments/examples:**

With the concurrent session, we have chance to talk, share and learn with other teams.

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

**Comments/examples:**

### Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: “Prioritizing Adaptation in Urban Infrastructure Planning,” with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: “Using ICMA’s Knowledge Network,” with Laura Hagg  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: “Regional, National and International Collaboration for Urban Adaptation,” with Phong Tran, Tharee Kamuang and Trung Viet Nguyen  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – “Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact,” with Lee Feldman  
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 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful





## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, Program Development Specialist, USAID / RDMA
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying & Managing Urban Climate Risk.

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Leveraging Private, Government, and International Funds to Adapt

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: How the ACCCRN is helping Advance Adaptation.

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Leveraging Funding from other Environmental Initiative to Fund Adaptation Activities.

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?
- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
 Very good    
 Good    
 Fair    
 Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
 Very good    
 Good    
 Fair    
 Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

*[Faint handwritten text, mostly illegible]*

*workshop.*

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CLIMATE LEADERSHIP ACADEMY

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(Optional Information)

Name \_\_\_\_\_

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
  Very good
  Good
  Fair
  Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
  Very well
  Somewhat well
  Less well
  Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Panel discussions
  Case studies
  Team huddles
  Networking
  Guided exercises
  Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  Yes  No

Please specify:

### Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?
- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?
- Extremely well  Very well  Somewhat well  Less well  Not at all well

Comments/examples:

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

Before the Workshop  ~~Extremely Confident~~  ~~Very Confident~~  ~~Somewhat Confident~~  ~~Less Confident~~  ~~Not at all Confident~~

After the Workshop  ~~Extremely Confident~~  ~~Very Confident~~  ~~Somewhat Confident~~  ~~Less Confident~~  ~~Not at all Confident~~

B. Can identify peers from other locations working on initiatives similar to yours?

Before the Workshop  ~~Extremely Confident~~  ~~Very Confident~~  ~~Somewhat Confident~~  ~~Less Confident~~  ~~Not at all Confident~~

After the Workshop  ~~Extremely Confident~~  ~~Very Confident~~  ~~Somewhat Confident~~  ~~Less Confident~~  ~~Not at all Confident~~

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

Before the Workshop  ~~Extremely Confident~~  ~~Very Confident~~  ~~Somewhat Confident~~  ~~Less Confident~~  ~~Not at all Confident~~

After the Workshop  ~~Extremely Confident~~  ~~Very Confident~~  ~~Somewhat Confident~~  ~~Less Confident~~  ~~Not at all Confident~~

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

Before the Workshop  ~~Extremely Confident~~  ~~Very Confident~~  ~~Somewhat Confident~~  ~~Less Confident~~  ~~Not at all Confident~~

After the Workshop  ~~Extremely Confident~~  ~~Very Confident~~  ~~Somewhat Confident~~  ~~Less Confident~~  ~~Not at all Confident~~

E. Have the ability to address climate change adaptation challenges in your community, overall?



### CLIMATE LEADERSHIP ACADEMY

Before the Workshop	<input type="checkbox"/> Extremely Confident	<input type="checkbox"/> Very Confident	<input checked="" type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident
After the Workshop	<input type="checkbox"/> Extremely Confident	<input checked="" type="checkbox"/> Very Confident	<input type="checkbox"/> Somewhat Confident	<input type="checkbox"/> Less Confident	<input type="checkbox"/> Not at all Confident

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

2. How well did the workshop assist you in collaborating with other teams?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

3. How well did the workshop promote or facilitate your team cohesion?  
 Extremely well     Very well     Somewhat well     Less well     Not at all well

Comments/examples:

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

1. Panel Discussion 1: "Prioritizing Adaptation in Urban Infrastructure Planning," with Joseph Fiksel, Hendricus Andy Simarmata and Cedric Daep

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

2. Lunch Presentation 1: "Using ICMA's Knowledge Network," with Laura Hagg

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

3. Panel Discussion 2: "Regional, National and International Collaboration for Urban Adaptation," with Phong Tran, Tharee Kamuang and Trung Viet Nguyen

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

4. Closing Keynote – "Inter-jurisdictional Collaboration through the Southeast Florida Climate Compact," with Lee Feldman

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5. Panel Discussion 3: "Adaptive Urban Ecosystem Services," with Robert Mather, Dato' Haji Zulkifli, Wannobon Khuan and Sengdara Douangmyxay

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## CLIMATE LEADERSHIP ACADEMY

8. Keynote – “Working with Peer Cities to Advance Adaptation: the Next Steps,” with Saengraoj Srisawaskraisorn, *Program Development Specialist, USAID / RDMA*
- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: A. Advancing Adaptation

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: 1. Green Infrastructure

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: 1. Lessons from Townsville

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: 4. Leveraging Sustainability

Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent    
  Very good    
  Good    
  Fair    
  Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

I would not change anything

I would change the following:

More Good Practices, proper local action on CC Adaptation should be presented on panel







**CLIMATE LEADERSHIP ACADEMY**

4. Would you recommend this workshop to others?  
 **Yes**  **No**

**Please specify:**

## Learning Experience

1. How well did the workshop assist you in learning from counterparts from other communities?  
 **Extremely well**  **Very well**  **Somewhat well**  **Less well**  **Not at all well**

**Comments/examples:**

2. How well did the workshop assist you in learning from experts in the field (e.g. resource team members)?  
 **Extremely well**  **Very well**  **Somewhat well**  **Less well**  **Not at all well**

**Comments/examples:**

3. Please check the response that best represents your confidence *now*, having taken part in the workshop, and confidence prior to your participation.

How confident are you that you...

A. Know about successful tools and models related to adaptive urban infrastructure?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

B. Can identify peers from other locations working on initiatives similar to yours?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

C. Know how to collaborate within your team to advance your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

*After the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

D. Know how to collaborate with entities outside your team (e.g., similar organizations or teams, experts and leading organizations) to implement your community's climate change adaptation initiatives?

*Before the Workshop*     ~~Extremely Confident~~     ~~Very Confident~~     ~~Somewhat Confident~~     ~~Less Confident~~     ~~Not at all Confident~~

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E. Have the ability to address climate change adaptation challenges in your community, overall?

**CLIMATE LEADERSHIP ACADEMY**

<i>Before the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input type="checkbox"/> <b>Very Confident</b>	<input checked="" type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>
<i>After the Workshop</i>	<input type="checkbox"/> <b>Extremely Confident</b>	<input checked="" type="checkbox"/> <b>Very Confident</b>	<input type="checkbox"/> <b>Somewhat Confident</b>	<input type="checkbox"/> <b>Less Confident</b>	<input type="checkbox"/> <b>Not at all Confident</b>

## Team Experience

1. How well did the workshop assist you in collaborating with your team members?
- Extremely well**     **Very well**     **Somewhat well**     **Less well**     **Not at all well**

**Comments/examples:**

2. How well did the workshop assist you in collaborating with other teams?
- Extremely well**     **Very well**     **Somewhat well**     **Less well**     **Not at all well**

**Comments/examples:**

3. How well did the workshop promote or facilitate your team cohesion?
- Extremely well**     **Very well**     **Somewhat well**     **Less well**     **Not at all well**

**Comments/examples:**

## Agenda Elements

Please mark the response that best reflects your opinion about the following workshop components. At the end please use the text box provided to share comments, ideas, examples, and suggestions about the workshop content, speakers, and presentation format.



## CLIMATE LEADERSHIP ACADEMY

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## CLIMATE LEADERSHIP ACADEMY

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 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

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- Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: \_\_\_\_\_

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13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

## Resource Guide and Logistics

1. Did you have the chance to read the Resource Guide?

- Yes     No



## CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful    
  Very useful    
  Somewhat useful    
  Of limited use    
  Not at all useful

Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

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Comments/examples:

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Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

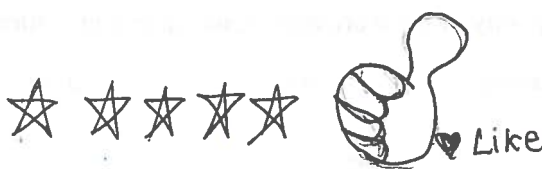
- I would not change anything  
 I would change the following:

thinking approach



# CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs



**Thank you for taking the time to fill out this evaluation form, and for your energy, engagement and outstanding contributions at the CityLinks Urban Adaptation Climate Leadership Academy!**



# CLIMATE LEADERSHIP ACADEMY

## FEEDBACK FORM

Thank you for your participation in the CityLinks Climate Leadership Academy on Urban Adaptation. Your feedback on the event will help us design future workshops, as well as other types of support for your community and others globally. **We ask that you please return this form to us before you leave.** Alternatively, you may send via email to [acasey@iscvt.org](mailto:acasey@iscvt.org).

(Optional Information)

Name Mr. Anurak Phalumpet

### Workshop Experience

1. Overall, how would you rate the quality of the workshop?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

2. How well did the workshop help you address the challenges your community faces?

- Extremely well
- Very well
- Somewhat well
- Less well
- Not at all well

Comments/examples:

3. Which type of workshop activity would you like to see more in future workshops? (multiple responses allowed)

- Field
- Lecture
- Team huddles
- Networking
- Guided exercises
- Other

If "other," please specify:



## CLIMATE LEADERSHIP ACADEMY

4. Would you recommend this workshop to others?  
 Yes  No

Please specify:

### Learning Experience

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 Extremely well  Very well  Somewhat well  Less well  Not at all well

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E. Have the ability to address climate change adaptation challenges in your community, overall?



## CLIMATE LEADERSHIP ACADEMY

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Comments/examples:

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Comments/examples:

## Agenda Elements

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 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

9. Concurrent Session 1. Please indicate which session you attended and rate below.

Session name: Identifying and managing Urban Climate Risks.  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

10. Concurrent Session 2. Please indicate which session you attended and rate below.

Session name: Green Infrastructure Strategies to Adapt + Flood.  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

11. Concurrent Session 3. Please indicate which session you attended and rate below.

Session name: Lessons from Townsville city  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

12. Concurrent Session 4. Please indicate which session you attended and rate below.

Session name: Rainwater Capture and Reuse  
 Extremely useful     Very useful     Somewhat useful     Of limited use     Not at all useful

13. Please provide any comments on the agenda content, speaker(s), and presentation(s) with specific suggestions and/or examples.

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1. Did you have the chance to read the Resource Guide?  
 Yes     No



# CLIMATE LEADERSHIP ACADEMY

2. How useful will the Resource Guide be to your work?

- Extremely useful
- Very useful
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- Of limited use
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Comments/examples:

3. What was the overall quality of support you received from CityLinks staff during the workshop?

- Excellent
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- Fair
- Poor

Comments/examples:

4. What was the overall quality of the workshop venue, accommodation, and food?

- Excellent
- Very good
- Good
- Fair
- Poor

Comments/examples:

If this workshop were to be done all over again, what aspects of it would you change?

- I would not change anything
- I would change the following:



## CLIMATE LEADERSHIP ACADEMY

Please use this space to share any other thoughts/comments you wish to share with the CityLinks team. We would be particularly interested to hear about how the workshop has been useful to your work, how you expect the experience will impact your urban adaptation efforts back home, and how we can improve the design and delivery of our programs.

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