

TRAINING WORKSHOP FOR NATIONAL AND LOCAL GOVERNMENTS IN SOUTHEAST AND SOUTH ASIA ON CLIMATE CHANGE ADAPTATION AND MITIGATION Proceedings



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Proceedings of Training Workshop for National and Local Governments in Southeast and South Asia on Climate Change Adaptation and Mitigation

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BACKGROUND AND RATIONALE

The impacts of climate change are already being felt in Asia and the rest of the world. This is evidenced by the increasing frequency and intensity of storms, droughts and rising sea level. In Southeast Asia, whether induced by climate change or other factors, a hydro-meteorological hazard has caused tremendous destruction, Thailand and the Philippines being the latest countries affected by severe flooding. Projected future impacts of climate change in the region are staggering. A 40 cm sea level rise by 2080 could displace as many as 55 Million people in South Asia and 21 million people in Southeast Asia (IPCC 2001). The impacts of sea level rise shows that a mere 1 meter sea level rise could displace 60 million people in many of the 84 coastal developing countries, according to a World Bank study (Daglupta, et al 2007). In Vietnam alone, 11 percent of the population will be affected. The depressing fact remains that the impacts of past and current emissions of greenhouse gases are unavoidable; we need to cope with them through appropriate adaptation measures while mitigation efforts continue.

However, the fact still remains that most national governments and Local Governments remains complacent and unaffected by the impacts brought about by climate change due to inadequate capacity and resources. In many countries, public debate and dialogue among official representatives of all levels have to be intensified in order to increase awareness and willingness of the national governments to agree to, and actively implement, global climate regimes. However, many local governments in developing countries are not familiar with the available mechanism for mitigation of, and adaptation to climate change. This capacity building exercise will help them to develop their knowledge and engage in dialogues with their national government and peers in other countries to stir local action on climate.

Goal:

Enhance the understanding of national and local governments on climate issues in the context of local, national and global level as well as improve their capacity in adaptation and mitigation planning for climate change.

Objectives:

- Provide concepts on impacts of climate change, vulnerabilities and risk assessment, climate change adaptation and mitigation.
- Introduce different dimensions and approaches of climate change adaptation at regional, national levels and local level.
- Introduce different measures and examples to reduce greenhouse gas emission in key sectors such as energy, industry, household sector, agriculture etc.
- Provide examples on adaptation in priority vulnerable sectors with emphasis to agriculture,

water, and coastal zones including benefits and challenges of adaptation options.

- Introduce different mainstreaming approaches and integrating adaptation and mitigation into national planning processes for the different sectors.

Expected Results:

1. Initiate dialogue between national and local governments on how to best address climate change in their own respective spheres.
2. Agreements on how to both national and local governments can support each other in Climate Change Adaptation and Mitigation.
3. Transfer knowledge on the different approaches and tools on Climate Change Adaptation and Mitigation and improve use of information and enhance ability to choose appropriate methods and tools to assess, plan, evaluate and decide on the best policies, measures and strategies to reduce vulnerability and increase adaptation to climate change and variability.
4. Showcase best practices on Climate Change Adaptation specifically on services that are impacted by climate change.
5. Impart different financing options and mechanisms to the participants.
6. Reduce dependency of developing countries on Northern expertise.
7. Increase South-South cooperation and exchange of expertise to increase participation and knowledge of developing country representatives in the international climate negotiations and to do follow up of national policies linked to climate change and natural disasters.

EXECUTIVE SUMMARY

Delegates of the national and local governments from Southeast Asia and South Asia participated in the two-day training workshop on climate change mitigation and adaptation hosted by the Asia Pacific Adaptation Network (APAN), United Nations Environment Programme (UNEP), and ICLEI-Local Governments for Sustainability. The training workshop was divided into four sessions. For the first training day, the first two sessions include an introduction to climate change adaptation and mitigation, and a discussion on the approaches on climate change adaptation and mitigation.

The first session covered the technical and policy perspectives on climate change mitigation and adaptation. Mr. Mozaharul Alam, Regional Climate Change Coordinator of UNEP ROAP, led the session. This was followed by Mr. Steve Gawler's discussion on framing climate change mitigation and adaptation in Asia. Mr. Gawler is the director of the international programs of ICLEI Oceania. After the session on framing, Graciano P. Yumul, Undersecretary of the Department of Science and Technology, shared his insights on climate change impacts on urban systems in Asia. A breakout session was held before proceeding with the last part of the first session. The breakout session sought the participants to assess the climate change impacts and measures in their respective countries. Finally, Mr. Mariño Deocariza discussed the integration of climate change in development planning.

The second session focused on the approaches to climate change mitigation and adaptation. The session began with Mr. Gawler's presentation on vulnerability and risk assessment tools. A breakout session on the same topic immediately followed. After the breakout session, the next presentation touched on Harmonized Emission Analysis Tool or HEAT+. Mr. Raji Ranjan Guru gave the presentation. He is the manager for the energy and climate department of the South Asia Secretariat of ICLEI Local Governments for Sustainability. The last part of the second session covered the topic of integrated climate impact assessment analysis tool for policy makers and planners. Mr. Jitendra Jitu Shah, adviser of the Regional and Sustainable Development department of the Asian Development Bank, gave his presentation on the topic.

The second day of the training workshop highlighted four of the cases of best practices in the Philippines. The session began with Mr. Vladimir Mata's presentation on Dagupan City's community-based disaster risk reduction management. Mr. Mata is the city administrator of Dagupan City. Mayor Ronaldo Golez of Dumangas, Iloilo gave the next presentation which was about the Climate Field School of Dumangas. The province of Albay's adaptation planning was the highlight of the succeeding presentation given by Governor Jose Clemente Salceda of Albay. The fourth and last case of best practice in the Philippines focused on the adaptation planning of the

city of Sorsogon. General Ireneo Manaois, the city administrator of Sorsogon City, delivered the presentation.

For the final session, financing options for climate change was the main topic. The first part of the session was a presentation on the access to international climate finance. Ms. Adeline Dontenville, the Project Officer of AFD – French Development Agency, delivered the presentation for the topic. Mr. Michael Lindfield from ADB and who is the program manager of the Cities Development Initiatives for Asia led the succeeding discussion on regional financing arrangements in Asia. Governor Salceda also presented on how local governments should mobilize finance. After the end of the last session, the final breakout session focused on the topic of dialogue between national and local governments in addressing climate change.

Questions and clarificatory statements were solicited from among the participants in the training workshop. The presenters for the four main sessions succinctly responded to the questions and statements and offered new insights on how to possibly resolve some of the problems that typically beset local institutions.

Agenda

DAY 1: 10 th February	
08:30 – 09:00	Registration
09:00 – 09:30	Preliminaries: Opening Remarks - Objectives and expected outputs of the training workshop <i>Mr. MozaharulAlam, Regional Climate Change Coordinator, UNEP ROAP</i> Self-Introduction of Participants
09:30 – 10:00	Introduction of the Keynote Speaker <i>Dr. Puja Sawhney, Coordinator of the Regional Hub for Asia Pacific Climate Change Adaptation (APAN), IGES</i> KEYNOTE ADDRESS <i>Senator Loren Legarda, Chairperson, Senate Committee on Climate Change, Senate of the Philippines</i>
Session 1: Introduction to Climate Change Adaptation and Mitigation	
10:00 – 10:20	1.1 Technical and Policy Perspective on Climate Change Mitigation and Adaptation <i>Mr. MozaharulAlam, Regional Climate Change Coordinator, UNEP ROAP</i>
10:20 – 10:35	Tea Break
10:35 – 10:55	1.2 Framing Climate Mitigation and Adaptation in Asia <i>Mr. Steve Gawler, Director, International Programs, ICLEI Oceania</i>
10:55 – 11:15	1.3 Climate Change Impacts on Urban Systems in Asia <i>UnderSecretaryGraciano P. Yumul, Department of Science and Technology</i>
11:15 – 12:30	Break Out Session: Climate Change Impacts and Measures
12:30 – 13:30	Lunch Break
13:30 – 14:00	1.4 Integration of Climate Change in Development Planning <i>Mr. MariñoDeocariza</i>
Session 2: Approaches on Climate Change Adaptation and Mitigation	
14:00 – 14:45	2.1 Vulnerability and Risk Assessment Tools <i>Mr. Steve Gawler, Director, International Programs, ICLEI Oceania</i>
14:45 – 15:00	Tea Break
15:00 – 16:00	Break Out Session: <i>Vulnerability and Risk Assessment Tools</i>
16:00 – 16:30	2.2 Harmonized Emission Analysis Tool (HEAT+) <i>Mr. Ravi Ranjan Guru</i> <i>Manager, Energy & Climate, ICLEI Local Governments for Sustainability, South Asia Secretariat</i>
16:30 – 17:00	2.3 Integrated Climate Impact Assessment Analysis Tool For Policy Makers and Planners <i>Mr. JitendraJitu Shah</i> <i>Adviser, Regional and Sustainable Development, ADB</i>
DAY 2: 11 th February	
09:00 – 09:15	Recap of Day 1
Session 3 – Best Practices: Cases from the Philippines	
09:15 – 09:35	3.1 Community-based Disaster Risk Reduction Management – Dagupan City <i>Mr. Vladimir Mata, City Administrator, Dagupan City</i>
09:35 – 09:55	3.2 Climate Field School - Dumangas <i>Mayor Ronaldo Golez, Dumangas, Iloilo</i>
09:55 – 10:15	3.3 Adaptation Planning: The Case of Albay <i>Gov. Jose Clemente Salceda, Albay</i>
10:15 – 10:30	Tea Break
10:30 – 10:50	3.4 Adaptation Planning: Case of Sorsogon <i>Mayor LeovicDioneda / Gen. IreneoManaois, City Administrator, Sorsogon City</i>
10:50 – 11:10	Q&A

11:10 – 12:00	Breakout Session: Poster Presentations
12:00 – 13:00	<i>Lunch</i>
	Session 4: Financing Options for Climate Change
13:00 – 13:30	4.1 Overview and Access to International Climate Finance <i>Adeline Dontenville, Project Officer, AFD – French Development Agency</i>
13:30 – 14:00	4.2 Regional Financing Arrangements in Asia <i>Mr. Michael Lindfield, ADB, Cities Development Initiatives for Asia Program Manager</i>
14:00 – 14:30	4.3 Local Governments Mobilizing Finance <i>Gov. Jose Clemente Salceda, Albay</i>
14:30 – 14:50	Q&A
14:50 – 15:05	Tea Break
15:05 – 16:35	Breakout Session: <i>Dialogue Between National and Local Governments in Addressing Climate Change</i>
16:35 – 16:45	Closing Remarks <i>Mr. Mozaharul Alam, Regional Climate Change Coordinator, UNEP ROAP</i>

OPENING REMARKS

Mr. Mozaharul Alam

*Regional Climate Change Coordinator,
UNEP ROAP*

The training workshop began with Mr. Mozaharul Alam's opening remarks. Mr. Alam initially



recognized the new participants in the training workshop especially those from South Asia. He laid down the objectives of the two-day training workshop. These include the sharing of experiences among the participants so that others can learn new insights on common challenges and applicable adaptation and mitigation efforts.

According to Mr. Alam, although each country may have its own unique set of climate change impacts and the corresponding mitigation and adaptation efforts specifically designed to address them, each country still have the option to make the necessary changes to those efforts so that they may be able to apply those in their country. Mr. Alam also mentioned the expected outcomes of the training workshop such as the better understanding of insights and tools and the sharing of experiences among the attendees. Given the need to share experiences, Mr. Alam emphasized the need to create a network which will allow the Asian countries to share information and possibly formulate collective solutions to similar problems.

INTRODUCTION TO THE KEYNOTE SPEAKER

Dr. Puja Sawhney

*Coordinator of the Regional Hub for Asia Pacific Climate Change Adaptation (APAN),
IGES*

Following Mr. Alam's opening remarks, Dr. Puja Sawhney introduced Senator Loren Legarda, keynote speaker for the training workshop.

As a Philippine legislator, Senator Legarda actively called for the passage of environmental bills such as the Ecological Solid Waste Management Act and the Philippine Clean Air Act. During her incumbency, she fervently pushed for clean up of toxic wastes in the military bases in Clark and Subic and co-authored legislations that focus on environmental protection and awareness. These include RA 8978 that declared Mt. Kitanglad range as a protected area, RA 8991 that declared the

Batanes Group of Islands as another protected area, and RA 9147 or the Conservation and Protection of Wildlife Resources Act. In 2009, the senator pushed for the passage of the Climate Change Law which is considered landmark legislation in the country.

At present, the senator serves as the chairwoman of the Climate Change Oversight Committee. As chairwoman, she strives to maintain climate change adaptation and disaster risk reduction not only as chief priorities in the national level but also as cornerstones of the government's policy-making and development planning. The senator has likewise had several publications on climate change, the most recent of which are Disaster Preparedness and First Aid Handbook, and Climate Change — Message of Our Times.

KEYNOTE ADDRESS



Senator Loren Legarda

*Chairperson, Senate Committee on Climate Change,
Senate of the Philippines*

I am pleased to be part of this Training Workshop for National and Local Governments in Southeast Asia and South Asia on Climate Change Mitigation and Adaptation.

ICLEI is a laudable organization of local governments. It is a trailblazer in its efforts to make environmental sustainability a central part of the development process. And allow me to congratulate you for successfully organizing this important initiative.

National and local leaders across the globe increasingly realize that development practices have been sustainable, adaptable and disaster-resilient.

It is critical that the increased attention, interest and sense of urgency in addressing the challenges posed by climate change and disaster risks are translated into national and local actions that effectively reduce disaster vulnerability.

In different parts of the world, like the Philippines and the Asia Pacific Region, climate change has already ushered unprecedented disasters, among the more recent was the flooding in the Southern Region in the Philippines last December that has left more than a thousand people and ten million other struggling to rebuild their lives.

Also in 2011, Cambodia, Thailand and Bangladesh went through devastating floods, which are among the worst in their history; Pakistan suffered from severe inundation in 2010 and 2011. These extreme weather events are certainly bound to recur, perhaps with even worse outcomes if we are not prepared.

We in the Asia-Pacific region have more reasons to double our efforts on disaster risk reduction and climate change adaptation. A 2010 United Nations report revealed that: "People in the Asia-Pacific region are four times more likely to be affected by natural disasters than those in Africa; and 25 times than those in in Europe or North America."

Given this grim scenario, how much of the costly humanitarian responses can world governments afford in the future? How many more precious lives will be lost before we act decisively to prevent them?

During the 17th Session of the Conference of the Parties of the UN Framework Convention on Climate Change in Durban, South Africa, we had hoped that strong and clear policies commensurate to the needs of nations to reduce risks and adapt to the changing climate would come out.

Governments agreed to adopt a universal legal agreement on climate change and approved a second commitment period of the Kyoto Protocol from January 1, 2013. However, this second commitment period is said to cover less than 15% of global emissions, which could warm the world to the tune of 3.5 degrees, dangerously way above the 2 degrees acceptable limit.

It is clear injustice to witness the devastating impact of climate change being borne by the poorest groups with least responsibility for having caused it and least capacity to adapt. For the developed nations to compensate for this inequality, the operationalization of the Green Climate Fund, which is expected to provide \$100 billion per year for climate change adaptation by 2020, must be at full speed. We gladly take note that in the Durban outcome, this fund will become fully operational this year.

While we await concrete global action, our respective nation must sustain efforts in addressing climate impacts.

Allow me to share the legislative initiatives of the Philippine Senate. In 2009, we adopted the Climate Change Act. This legislative milestone mandates the mainstreaming of climate change into

policy formulation and poverty reduction strategies. The law places the local governments in the frontline of the formulation, planning and implementation of climate change action plans in their respective areas.

We also have passed in May 2010 the Disaster Risk Reduction and Management Act, a law that strengthens our institutional mechanisms for disaster risk reduction and management and lends great importance to disaster prevention and mitigation.

These two landmark law give the Philippines and our people pride as they are now considered legislative models by the UNISDR and the Inter-Parliamentary Union for the other nations to emulate.

However, while these laws are adopted, their implementation remains an enormous challenge. We need to sustain and intensify our initiatives at national and local levels that have taken roots in pioneering communities.

The role of the local leaders to drive and push these initiatives into greater success and benefits to the communities is crucial.

The tasks before national and local leaders are straightforward: We have to make our communities safer, more resilient, and even more ready to act when disaster strikes.

Committing to make our countries disaster-resilient means increasing our investments in disaster risk reduction, conducting and sharing risk assessments, establishing effective and efficient early warning systems, and protecting our ecosystems, among other actions.

We must link disaster risk reduction and climate change adaptation to national and local development planning.

We must build homes, schools, and hospitals that are safe and secure amidst natural hazards.

We must design and construct roads, bridges and other infrastructure that helps spur economic growth with disaster risk reduction mind.

We must recover and rebuild from any disaster impacts with building-back-better-and-greener as objective.

As leaders, we have to make right choice for our people and their future.

We have the mandate to introduce change and to ensure that it happens; and the local government leaders, being closest to the people, have the privilege to translate national policies, plans and programs into concrete and visible actions for people.

In a global context where economic performance and people's wellbeing do not go hand in hand, where progress against poverty has slowed down, where the unequal distribution of the benefits and prosperity prevails and worsens, and where losses to disaster are increasing faster than wealth is being created, we should come to rethink that perhaps our old, consumptive, and extractive development model has not worked. And, it is unresponsive and irresponsible to continue failing development models to address the complex problems of our contemporary society.

Now is the time to redefine development – to change our way of thinking and our way of doing. Now is the time to pursue the kind of development that is founded on good governance, sustainable and equitable socio-economic development, ecosystems protection, cultural renaissance and disaster resilience.

Now is the time to give nothing less than our wholehearted commitment to a safer world, a more resilient human society for many generations to come.

Thank you very much.



SESSION 1: INTRODUCTION TO CLIMATE CHANGE ADAPTATION AND MITIGATION

FRAMING CLIMATE MITIGATION AND ADAPTATION IN ASIA

Mr. Steve Gawler

*Director, International Programs,
ICLEI Oceania*

The first session of the training workshop focused on the introduction to climate change adaptation and mitigation. Mr. Steve Gawler gave the first presentation that zeroed-in on the topic of framing climate mitigation and adaptation in Asia. He began by defining the concept of framing and reciting its different aspects: social, political, conceptual, and operational dimensions.

According to him, social framing focuses on understanding the impacts and responses from the local areas, with

special emphasis on families and communities. Thus, defining climate change in that localized context has to touch on the need to understand local systems, particularly on how people think and respond to climate change. Also,



social framing should involve both authorities and associations at the local level. Local governments must act as regulators by imposing the appropriate penalties and incentives. That way, local governments can change behaviors. As regards political framing, Mr. Gawler stated that the pertinent questions must dwell on several important tasks, such as classifying climate change as either a problem or an opportunity, identifying who among governments and scientists really know what is going on, determining who should drive the relevant policies and programs, and activating public support. For conceptual framing, Mr. Gawler briefly discussed definitions concerning framing adaptation since part of framing is to arrive at definitions.

Mr. Gawler also talked about addressing adaptation through four different lenses. The first lens includes hazards and disaster risk reduction. Vulnerability is the second lens whereas risks and climate risk assessment comprise the third lens. The fourth lens covers resilience, specifically climate-resilient urban planning. According to him, any one of the four lenses shall determine the

architecture of the applicable risk methodology.

He also discussed the difference between adaptation as a process and adaptation as an outcome. He said that the former is a type of continual learning and restructuring and that it is built into systems. On the other hand, the latter follows the scheme where the problem is identified and fixed, and where the work done is checked.

Mr. Gawler then shared his notes on urban climate resilience, particularly on managing change and on the benefits of undertaking climate change resilience planning. At the end of his presentation, Mr. Gawler proposed that mitigation and adaptation must be interlinked as a single lens. Climate change, he said, must be woven into city or urban planning systems.

Q&A

Several questions were entertained after Mr. Gawler's presentation. One question sought to identify the challenges faced by ICLEI at the local level. Mr. Gawler responded by stating that efforts from the local level stop as soon as ICLEI leaves the communities. To solve this problem, Mr. Gawler said that ICLEI has decided to enter into memorandum of understanding with either local governments or communities before ICLEI begins its work.

As regards the question of whether ICLEI's actions are made to depend on global circumstances, Mr. Gawler stressed that the organization should still conduct its activities regardless of what happens internationally. On the question of what benefits can be derived from an integrated climate action planning, he stated that it helps cities become more resilient in terms of sanitation, waste water management, and reduction of emissions, among others. He then reiterated his suggestion that adaptation and mitigation must be used as an integrated filter. Mr. Gawler likewise noted the suggestion for ICLEI to simplify the language used in discussing climate change with the communities.

Dr. Graciano P. Yumul

*UnderSecretary, Department of Science and Technology
Philippines*

After the fifteen-minute tea break, the training workshop continued with the session on climate change impacts on urban systems in Asia. Undersecretary Graciano Yumul gave his presentation on the topic. He began with a discussion on some of the major challenges in convincing the public about climate change in general.



According to Dr. Yumul, it is difficult to convince people that global warming in particular and climate change in general are real, and that natural variables are the cause. Of equal difficulty is the task of persuading people that global warming is anthropogenic. He cited reports indicating an increase in natural disasters from 1900 to 2010 and reports showing lesser fatalities even with an increase in population and natural disasters during the same time span. He then stressed that the impacts are magnitudes higher in low income countries.

Dr. Yumul continued his presentation with a succinct discussion on hazards, risks and impacts. He differentiated a hazard from a risk by citing several examples. For instance, he stated that flooding is a hazard. It is only when flooding happens in a heavily populated urban area and actually affects the same area that it becomes a risk. He said that there appears to be the same hazards, risks and impacts among different countries and that, in general, agriculture and food security are always affected. He further noted that what is happening in one country will have effects in peripheral countries. With the socioeconomic costs of restructuring and rebuilding damaged infrastructures after every disaster, sustainable development can hardly be attained.

Dr. Yumul then discussed several solutions and adaptation measures. He stated three response options: non-structural or soft measures, structural or hard measures, and cost-benefit measures. He reminded the participants in the training workshop that a place can be hazardous but not necessarily risky, and that a risk is not necessarily disastrous. Some of the possible solutions he offered include: reduction of disaster instead of prevention, understanding adaptation in terms of increased resilience, treating adaptive capacity as transformative, and risk spreading and risk insurance. As a final note, Dr. Yumul stated that disaster risk reduction management, an economic issue, is about “now” while climate change adaptation, a sociopolitical issue, is about “tomorrow.” According to him, one cannot exist independently of the other. In other words, both are actually and should be fused together.

Q&A

During the question and answer portion, Dr. Yumul stated several key points. One key point he made is that there is nothing that should stop communities and local governments from making sure that their actions are for the future since things continue to change. By way of example, he stated that relocation may not only be an effort for disaster risk reduction and management as it may also be an effort for climate change adaptation.

As regards risk insurance, Dr. Yumul noted that, in the Philippines, there are risk insurance provisions on the individual level such as car insurance that cover acts of God. He observed that people with risk insurance were able to recover faster. In the matter of the “hazard x vulnerability x exposure” formula, he stated that disaster risk is minimized if one is able to minimize vulnerability and exposure since hazards are usually already given. He said that the implementation of the local programs culled from that approach must be ensured.

For his final point, Dr. Yumul reiterated that although the main driving forces today are disaster risk reduction and management and climate change adaptation, efforts can also be made simultaneous with sustainable development.

BREAK OUT SESSION: Climate Change Impacts and Measures

For the breakout session on climate change impacts and measures, the participants were divided into three groups. Each group was tasked to list and collate the climate change impacts, events, and measures from the countries they represent. The first group was composed of participants from Brunei, Malaysia, Indonesia, and the Philippines. Climate change impacts included the



following: flooding, landslide and erosions, rainstorms or monsoon rains, drought (El Niño), critical water level, sea level rise, and increase in rainfall intensity. For events, the group listed the following: damage to agriculture/infrastructure, impassable roads, forest fire, increase in pollutant standard index and respiratory diseases, damage to properties, increased funds needed for

rehabilitation, and serious soil erosion. Lastly, the group cited the following as measures: projects that will divert rivers, construction of dams, material recovery facilities, reforestation, early warning

systems, hotlines, natural disaster coordinating councils, media warnings, international collaboration for trans-boundary haze, identification risk and hazard areas, develop concrete walls and landslide slopes, laws and ordinances, and relocation programs.



The second group was composed of countries in the Himalayan region. For climate change impacts, the group listed increasing reports of dry water resources, unseasonal flash floods, cyclones, watershed construction — factors that were collated under the label water resources and energy. For events, the group listed decrease in water safe for human consumption as a result of the drying up of the water resources, decrease in farm harvest due to unseasonal flash floods and, therefore, decrease in the local food supply for a certain period, and the destruction of farm implements and private property. For measures, the Himalayan group cited strategic farming practices that will ensure harvest before cyclones hit the region, and disaster management and preparedness not only for the farmers but also for the residents.

The third group was composed of countries in the Mekong region. For climate change impacts, the group cited storms and storm surges, flash floods especially along the regions close to water systems such as rivers and seashores, heavy rains and strong winds, extreme heat and drought. For events, the group listed destruction of private and public properties such as houses and institutions that provide basic social services, damage to roads, loss of crops and animals, drastic decrease in food and potable water supply, and increase in the incidence of diseases and other sickness. For measures, the group cited further



training of people for disaster preparedness, reformulating policies on disaster risk management on both local and national levels, strengthening strategies on climate change adaptation and mitigation and creating the needed action plans based on these adaptation and mitigation strategies.

INTEGRATION OF CLIMATE CHANGE IN DEVELOPMENT PLANNING



Mr. Mariño Deocariza

The next part of the session focused on the integration of climate change in development planning.

Mr. Mariño Deocariza started his presentation on the topic by providing an outline of development planning in the Philippines. He said that it involves two core aspects: physical plan and development plan. These plans are further classified according to certain levels, such as the national, regional, provincial, and

city or municipal levels. In general, it takes six months to one year to develop a plan.

For the local level plans, Mr. Deocariza stated that the Comprehensive Land Use Plan or CLUP is a long-term plan while the Comprehensive Development Plan or CDP is an immediate-term plan. Both CLUP and CDP are fed with information from the development sectors, including the environmental, social, economic, infrastructure, and institutional sectors. Mr. Deocariza then discussed mainstreaming as the inclusion or integration of a concept or principle into existing entry points such as structures, processes, plans and systems.

He also discussed climate change adaptation strategies in CLUP, such as the green growth and smart growth strategies where environmental factors and green technologies are integrated with the plans. As regards the implementation of the plans, he noted that financing is the most difficult part as it has been the case with the CLUP of Tabaco City in Albay. Before he concluded his presentation, Mr. Deocariza gave several key points. One is that climate change adaptation is a global concern requiring localized actions. He also observed that development planning is an effective entry point and that it calls for the integration of disaster risk reduction and climate change adaptation approach. He urged the participants in the training workshop to adopt, if not modify, the best practices in other cities, especially since limited financial resources hamper the implementation of either CLUP or CDP.

Q&A

Several points were noted during the question and answer portion. One point is that the delineation between the national disaster risk reduction management plan and the climate change adaptation plan is usually an issue of “turf” among the agencies. Although there is a need to integrate the two plans, plans for disaster risk reduction may or may not be integrated with either CLUP or CDP.



Another point made is that local governments are usually compelled by their financial concerns to enter into partnerships in order to implement their plans. Thus, it cannot be denied that the private sector has a significant role to fill in the implementation of plans in the local level. Finally, it was noted that there is a need to create awareness on how to execute new plans.

SESSION 2: APPROACHES ON CLIMATE CHANGE ADAPTATION AND MITIGATION

VULNERABILITY AND RISK ASSESSMENT TOOLS

Mr. Steve Gawler

*Director, International Programs,
ICLEI Oceania*



For the next session, Mr. Steve Gawler gave another presentation. This time, he focused on vulnerability and risk assessment tools. As starting point, he provided an illustration of the hierarchy of terms where global warming is at the topmost level, followed in seriatim by direct or primary climate impacts, indirect or secondary impacts, climate vulnerabilities, and climate risk assessment as a way of prioritizing the vulnerabilities. For ICLEI, the generic climate resilience planning process is said to start with the engagement stage, followed by climate research or impacts assessment, vulnerabilities assessment, resilience strategy, implementation, monitoring and review, and then back to the engagement stage. Mr. Gawler then proceeded to discuss the finer points in the steps.

According to him, the first step is to analyze the climate change hazards. It includes the identification of the assessment points as regards the direct and indirect impacts of climate change. What follows is the assessment of the impacts of climate change hazards on city systems. It is where the sensitivity of city systems is identified and where their level of climate resilience is determined. In this stage, there is a need to establish the flexibility of the city systems and the interaction of the actors involved in these systems. The next step is to identify the vulnerabilities not only of the systems but also of the people and the areas. Mr. Gawler stated that vulnerability

can be measured in terms of exposure and sensitivity, whether in quantitative or qualitative terms. He stressed that the salient task in this stage is to identify what is vulnerable to what and why that is the case. The final step is to assess the relative risks. According to Mr. Gawler, fragile urban systems must be prioritized and the temporal or spatial scope of the risk assessment process must be determined. Finally, risk assessment must be used at any point in the process where there is a need to prioritize in order to show the greatest risk.

Q&A

During the brief open forum session, the participants shared their insights. It was stated that it takes time to acquire the support of communities and that permits must be secured first before the concepts can be made operational at the local level. Programs designed for long-term implementation are said to face the risk of being washed away, so to speak, by a single event.

BREAK OUT SESSION: Vulnerability and Risk Assessment Tools

Following Mr. Gawler's presentation, the participants were asked to list pertinent information for the climate vulnerability snapshot during the breakout session. With respect to four climate change phenomena — temperature rise, rainfall patterns, sea-level rise, and extreme weather — the objective was to write the corresponding climate change impacts, impact on urban systems, vulnerabilities, sensitivity, adaptive capacity, and priority.

The group from Petaling Jaya, Malaysia listed more heatwaves and humidity as the particular climate change impacts of temperature rise. The corresponding impact on urban systems is higher energy demand although the risk is low. As a result, disruption in services becomes a vulnerability. It was noted that Petaling Jaya has low sensitivity and medium adaptive capacity to more heatwaves and humidity. The higher intensity of rainfall patterns was also listed as climate change impact that threatens the infrastructure capacity of urban systems at a low level. Services disruption was identified as a vulnerability. Sensitivity to increased rainfall patterns, however, was low. Moreover, Petaling Jaya has a high adaptive capacity due to its quick response teams, rainwater harvesting measures, retention ponds, and green cover. Nevertheless, the city treats rainfall as the vulnerability with the greatest priority.

For the group from Laputta, Myanmar, heatwave, diseases and water stress were the city's exposures to temperature rise. Heatwaves and diseases have a medium impact on urban systems while water stress was given a high rating. The people of Laputta were considered as vulnerable to all three exposures. Services were posted as vulnerable to both diseases and water stress, and functions were placed under water stress vulnerability. The city has high sensitivity and medium adaptive capacity to water stress, medium sensitivity and low adaptive capacity to diseases, and

low sensitivity and adaptive capacity to heat waves. Water stress was the priority vulnerability for temperature rise.

Laputta also cited diseases, floods and erosion as climate change impacts of rainfall patterns. All three exposures have a medium impact on urban systems. The people have low sensitivity to diseases and medium sensitivity to floods while geographic areas have medium sensitivity to flood and erosion. Functions also had medium sensitivity to floods. Laputta's urban system has low adaptive capacity diseases, medium adaptive capacity to floods, and high adaptive capacity to erosion. In all, flooding was the priority vulnerability.

Saltwater intrusion and storm surge were listed as climate change impacts of sea-level rise. Both exposures have a high impact on urban systems where people and geographic areas are most vulnerable. People and geographic areas have medium sensitivity and the urban system has medium adaptive capacity to saltwater intrusion. As for storm surges, both vulnerabilities have high sensitivity whereas the urban system has a low adaptive capacity. Storm surge was identified as the priority vulnerability of the city.

As regards extreme weather, drought, flood and storm were listed as climate change impacts. Concerning their impacts on urban systems, drought was a low risk, flood was a medium risk, and storm was a high risk. The people were considered vulnerable to all three climate change impacts, having low sensitivity for drought, medium for flooding, and high for storms. The urban system is said to have medium adaptive capacity to drought and flood and low adaptive capacity to storms, the last having been cited as the priority exposure.



The group from Jaleshwar, Nepal listed the increase in the demand for fresh water and in the number of pests, as well as the city's energy consumption as impacts of temperature rise. These impacts are said to cause a high incidence rating of diseases. People and services were vulnerable and have a high sensitivity to the risks. Jaleshwar's urban systems

have low adaptive capacity and are thus highly vulnerable. Flood and drought were also noted as climate change impacts of rainfall patterns, both of which threaten water sources by way of pollution. People and services were vulnerable and have a high sensitivity. The urban system is likewise rated as "low" in its adaptive capacity as far as floods and droughts are concerned.

The group from the Philippines consisting of participants from Quezon City, Makati City, and Mandaluyong City listed heat stroke and diseases such as malaria and dengue as impacts of temperature rise/ Although low in terms of risk, heat stroke is said to put at risk senior citizens and other marginalized sectors that are low in sensitivity. The group indicated that there is a need for specialized treatment even if the urban systems have high adaptive capacity in addressing the high vulnerability of children and senior citizens. The call, according to the group, is for urban systems to still recognize the increase in the demand for health services.

Flooding was listed as one climate change impact of rainfall patterns. The urban systems were said to have medium adaptive capacity for damage to riverbanks and the highly sensitive informal or marginalized sector, high adaptive capacity for heavy traffic that affects the high-sensitive business sector and medium-sensitive transport sector.

The group from Thailand chose Bangkok for its climate vulnerability snapshot. The members indicated the following as impacts of temperature rise: two-degrees increase by the year 2050, longer summer, and four-degree difference in temperature in urban lowlands. Impacts on urban systems include higher energy consumption and water demand, thereby affecting the high-sensitive elderly and poor. With the system's low adaptive capacity, the priority is to revise its urban policy on climate change.

Higher rain intensity was cited as the impact of rainfall patterns, thus causing chronic flooding. Bangkok's urban flood prevention system has high sensitivity to higher rain intensity but low adaptive capacity. Based on the information, two priorities were listed: human adjustment to flood and stronger flood regulations.

With the rise of sea-level of up to thirty centimeters, there is a medium-risk to ground water, and high risk to roads, buildings, and arable lands. Vulnerabilities identified were property and communities in coastal areas, both of which have high sensitivity to sea-level rise. Bangkok's adaptive capacity in these concerns is low. Thus, the priority is not only to strengthen community awareness but also to restore and preserve mangrove areas in the coastline. Lastly, typical storms are said to be very likely with extreme weather. The urban population is vulnerable infrastructure damage with its medium sensitivity. Bangkok's adaptive capacity was rated as low.

The group representing Punalela, Bhutan listed the following as impacts of temperature rise: melting of snow and, thus, no snowfall, outbreak of diseases, drying of water sources, and rise in river level and siltation. The impacts on urban systems include low supply of water in hydro-power, shortages in water supply, and crisis in health sector. In general, the people are most vulnerable in these conditions, especially with their high sensitivity and Punalela's low adaptive capacity. The residents of the city were said to be the most vulnerable group.

As for rainfall patterns, the group indicated flood, flash floods and landslides as impacts. People

and services were said to be highly sensitive to water-borne diseases and damage to agriculture and infrastructure. Punalela's adaptive capacity is medium. As a result, the people living near the river and landslide-prone areas have to be prioritized.

The transboundary movement of cyclones was identified as an impact of extreme weather. As far as the urban systems are concerned, there is the risk of damage to agriculture and infrastructure, thus placing people and services, both having medium sensitivity, at risk. The adaptive capacity of the urban system is said to be medium.



For the Brunei-group that chose Tutong, temperature rise is said to cause forest fires and drought. With that, there is medium risk to transportation due to poor visibility and low risk to medical services. Functions were indicated as vulnerabilities having medium sensitivity to both forest fires and drought. It was noted that Tutong's adaptive capacity is high and that vulnerable functions have

to be prioritized.

The same group listed flooding and landslide as impacts of rainfall patterns. The corresponding impacts on urban systems cover transportation, education, medical, and water services — all at a high risk. Functions, people, services and geographic areas have high sensitivity to floodings and landslides. In general, Tutong's adaptive capacity for the vulnerabilities is rated as medium. People were placed as the highest priority. Lastly, under sea-level rise, the group noted that floods become a hazard and a risk.

The group for Sihanoukville, Cambodia wrote livelihood, tourism, and lack of water and energy supply as impacts of temperature rise, rainfall patterns, and sea-level rise. There is a medium risk to infrastructure and human health as a result of those exposures, thereby placing people and services at a vulnerable spot with their medium sensitivity to the climate impacts. For Sihanoukville's adaptive capacity, the rating is low for all vulnerabilities.

The Jaleasta, Indonesia group indicated flooding as the climate change impact of rainfall patterns. Urban systems are generally at a low risk to flooding. However, it was noted that the risk is high particularly to mobility in transportation systems. There is a medium to high sensitivity among the vulnerable sectors, including people, functions, services, and city centers. The urban city of

Jaleasta has low adaptive capacity to the vulnerabilities. Infrastructure was then listed as the priority concern.

The group from Lao PDR chose Vientiane as the city for its climate vulnerability snapshot. The climate change impacts of rainfall patterns included long dry season and short rainy season. These exposures were said to cause flooding and insufficient water supply in urban systems. Services and people were listed as vulnerabilities, and both have medium sensitivity to extended dry seasons and rainy seasons. In all these, Vientiane's adaptive capacity is low.

Observations were made regarding the information obtained from the breakout session. One observation is that **not all countries have the same capacities despite the existing measures already in place** in each country. Another general observation is that **laws are weakly implemented**. There is also a **need to determine the capacity gaps for each country**. Finally, it was observed that **events that can neither be prevented nor predicted leave institutions unable to respond even if proactive measures have already been adopted**. Nevertheless, it was stated that some events may still be prevented or predicted.

INTEGRATED CLIMATE IMPACT ASSESSMENT ANALYSIS TOOL FOR POLICY MAKERS AND PLANNERS

Mr. Jitendra Jitu Shah

*Adviser, Regional and Sustainable Development,
Asian Development Bank*

For the next session, Mr. Jitendra Jitu Shah gave his presentation on integrated climate impact assessment analysis tool for policy makers and planners. His presentation focused on the tool called Global Environment and National Information Evaluation System or GENIES for urban impact analysis. He stated that GENIES is a meta-analysis tool for mega projects. According to Mr. Shah, the motivation for developing GENIES is the need to separate development impact from climate change impact. Some of the objectives of GENIES include the development of “what if” scenarios and of local capacities and institutions that will address such scenarios. It also includes the drive to make policy-making bodies to be science-based. In general, the conceptual coverage of GENIES is to create an urban scale systems model by making the tool flexible and easy to understand for policy-makers.



Operating with the framework of reducing impact on people through risk assessment for intervention options, GENIES is to be adopted through partnerships with local and international institutions. The tool will also build on existing resources in the countries where it will be adopted. According to Mr. Shah, the pilot version of GENIES is to be implemented in Vietnam.

Mr. Shah further raised several important points during the question and answer portion after his presentation. For one, he clarified that GENIES is like a “dumb box” where data will be fed into the tool. Thus, supplying the necessary information for it to function is where the real work begins. He reiterated that GENIES does not do the analysis on its own. Rather, it is merely a system’s framework, at least at its current stage of development, where layers are built one on top of another. He also stated that the tool is a public good as it is being developed as open software. Once GENIES is complete, training for local institutions will necessarily follow. According to Mr. Shah, GENIES can help capital cities such as Bangkok in dealing with natural disasters especially in terms of disaster risk reduction. Once results have been obtained in Vietnam where the pilot version of GENIES is to be used, other Asian countries can share in the results. Mr. Shah admitted that GENIES will not be implemented in megacities at this point since they are very complicated.

HARMONIZED EMISSION ANALYSIS TOOL (HEAT+)

Mr. Ravi Ranjan Guru

Manager, Energy & Climate,

ICLEI Local Governments for Sustainability, South Asia Secretariat

For the last session during the first day of the training workshop, Mr. Ravi Ranjan Guru discussed ICLEI’s Harmonized Emission Analysis Tool plus (HEAT+). According to Mr. Guru, HEAT+ is not



simply a calculator. Rather, it is a user-friendly and complete planning tool for local governments, state governments, research communities, non-government organizations, planners, and practically anyone who wishes to translate energy data into an emissions estimate.

As part of ICLEI's mitigation initiative, HEAT+ — apart from Cities for Climate Protection (CCP) and International Local Government Greenhouse Gases Emissions Analysis Protocol (IEAP) — was designed to help cities manage their energy consumption and emissions. Mr. Guru also discussed the report on the application of HEAT+ in different countries. He stated that HEAT+ has five country-specific versions at present. Mr. Guru also explained in detail how HEAT+ works, especially in terms of the field data required for input, the calculations that the tool is able to perform, and the possible output.

After the presentation, Mr. Guru answered several questions from the participants. He clarified that HEAT+ is mainly for local governments in cities and not so much for agricultural areas. As regards getting the transport model for Manila, he stated that developing the appropriate calculation system remains a difficult task precisely because methods will vary from one country to another. It is also the reason why HEAT+ has several options for the particular methodology to be used.



The first day of the training workshop ended with a brief recap of the salient points discussed throughout the sessions. These include the role of understanding the climate change impacts in urban systems throughout Asia so that the proper adaptation and mitigation strategies will be identified. The challenge is to determine the strategy that is appropriate to the existing conditions in each urban system. For this reason, development planning plays a vital role in the formulation and application of adaptation and mitigation measures.

RECAP OF DAY 1

Before the start of the training workshop, a recap of the sessions during the first day was given. As a review, the first session focused on framing climate mitigation and adaptation within Asia. For a more specific assessment, the climate change impacts on the Asian urban systems were also discussed. The second half of the training workshop focused on the current tools used in climate vulnerability and risk assessment, and the ways in which they are integrated in local institutions.

TECHNICAL AND POLICY PERSPECTIVE ON CLIMATE CHANGE MITIGATION AND ADAPTATION



Mr. Mozaharul Alam
*Regional Climate Change Coordinator,
UNEP ROAP*

Thereafter, Mr. Mozaharul Alam gave the first presentation by leading the session on technical and policy perspectives on climate change mitigation and adaptation. He began by briefly explaining mitigation from a technical perspective, including mitigation from the global level — or those that concern future emissions and climate change — and the national level — or those that deal with greenhouse gas accounting and institutional capacity.

Mr. Alam stressed that carbon dioxide concentration will continue to increase even if emissions will be reduced in the future. With that in mind, a temperature target must be met even if the target will depend largely on cumulative emissions. From a policy perspective, mitigation is said to focus on making developed countries commit to reduction and supporting developing countries in terms of finance and technology. Mr. Alam emphasized that, for their part, developing countries must commit to NAMA. He also reviewed the salient points in the Copenhagen Accords of 2009, particularly those pertaining to mitigation pledges and potential, and the uncertainty of the international policy regime after 2050.

Mr. Alam continued his presentation by explaining adaptation from a technical perspective. According to him, adaptation from a technical perspective usually takes shape at the national level in the form of policy. Citing the relationship among impact, vulnerability and adaptation, Mr. Alam then stated that total impacts will depend on several factors, including adaptation capacity and the intensity of the impacts. More importantly, even the results for the concrete measures for climate change vary across levels, timeframes, and models. For example, the results for temperature and rainfall at the national level may be different from the results for the same indicators at the sub-regional level.

Given these discrepancies, Mr. Alam noted that it is not always the best option to form and adopt solutions for the national level if the solutions are based on the results obtained from the sub-regional or global level. He then proceeded to discuss the concept of adaptation from a policy perspective. According to him, at its most basic, adaptation from a policy perspective refers to translating the adaptation measures from the global level down to the national level. Not surprisingly, debates have been fertile at the sectoral and national levels where integration or mainstreaming was implemented. Mr. Alam ended his presentation with several suggestions on how mitigation and adaptation can be better integrated. One suggestion is to treat the two as interrelated. Another suggestion posited is to find suitable entry points since different countries have different policy-making mechanisms.

SESSION 3: BEST PRACTICES: CASES FROM THE PHILIPPINES

DAGUPAN CITY: COMMUNITY-BASED DISASTER RISK REDUCTION MANAGEMENT

Mr. Vladimir Mata

*City Administrator,
Dagupan City*

For the next session, Mr. Vladimir Mata gave his presentation on Dagupan City's community-based disaster risk reduction management. Mr. Mata introduced the principle of reciprocity as the very heart of the city's efforts at managing disaster risk reduction where shared responsibility is taught at the family level. He emphasized that their programs always emanate from and are directed toward families and the community. He then provided an account of the institutionalized competency of the city's personnel, the city's technical and logistical support, and its institutionalized legal mechanisms.

According to him, the city strives to maximize its resources and all technical and logistical support available. Following a list of some of the city's mitigation projects, he also highlighted the preparedness level of the city by citing how the local government trains people at the city level who will in turn train those at the family level.

As far as the local government of Dagupan City is concerned, its level of preparedness is basically anchored on training and capacity building. Mr. Mata also mentioned the USAID-sponsored Project Promise Timeline where eight communities have already benefited. In fact, some of the local communities have already earned several local and national citations even if their equipments are not sophisticated. Instead of depending on facilities, the local government actively pursues participatory capacity building measures such as quarterly simulation exercises. According to Mr. Mata, the success of these measures is weighed in terms of both quantifiable and non-quantifiable indicators.

Important pointers were discussed during the question and answer portion. Mr. Mata stated that involving the armed forces of the national government in disaster mitigation and preparedness has been a good practice in the Philippines, particularly in Dagupan City. Unfortunately, the same is not practiced in other Asian countries. Admitting that it is difficult to relocate people in the local communities in several parts of the Philippines, Mr. Mata nevertheless proffered that gradual relocation must still be taken as one main option. In pursuance of that option, every detail of transfer must be addressed. An economic plan for the people to be relocated must be formulated ahead of time.





Gov. Jose Clemente Salceda
Province of Albay

For the succeeding session, Governor Jose Salceda discussed the combined topics of the adaptation planning of the province of Albay and the local governments mobilizing finance. The Governor began with an overview of Albay's geography and the particular risks and hazards from geological and climatological sources that perennially threaten the province.

He shared that his administration's main concern is to talk to every community and to have a covenant with them. In particular, the covenant involves encouraging people living in less disaster prone areas to offer their houses to evacuees in times of natural calamities. According to him, one of the approaches of the provincial government under his leadership is to plan its budget at the start of the year right after a risk analysis has been made. He stressed that there is causality between climate change and poverty. Had it not been for the recurrent disasters that threaten Albay, he said that the province would have been rich. In other words, the provincial government views climate change as the principal obstacle to its Millennium Development Goals or MDG. Thus, according to the governor, his mindset has been to situate climate change as an obstacle to the MDG of the province. As a result, the province was able to reach a significant portion of its MDG for the past several years.

The governor also stated that two national laws were actually based on the model adopted by the province. More importantly, the governor emphasized that, apart from health, the priority of the provincial government is education since natural calamities, particularly volcano eruptions, "cannot destroy a diploma." As regards adaptation through agricultural means, he stated that the government has opted for sweet potato as substitute for rice, the latter having been insufficient in supply at some point in time. Toward the end of his presentation, the governor mentioned that adaptation is about building capacity since hazards and exposures are already given. The solution being cultural, he maintained that it should start early. Children, therefore, have to be trained early on.

Governor Salceda gave more insights during the question and answer portion of the session. He said that the way to get things done as far as disaster risk reduction and climate change adaptation are concerned is to make sure that people get the government that they deserve. Citing the experience of the province, the governor said that the programs in Albay are almost always based on local ordinances. The programs should nonetheless consider how much of the provincial budget

goes to climate change adaptation and disaster risk reduction. For him, it is also important to design the strategies for climate change adaptation and disaster risk reduction in such a way that they transform problems into potential advantages despite the risks and hazards.

He also stated that forecasting and planning should integrate the resources on-hand so that they can be rapidly deployed. Another point raised by the governor is that one way to make plans operational is to make institutional arrangements, keeping in mind that climate change adaptation and disaster risk reduction are for development.



As regards the mobilization of funds, he emphasized that local governments must begin with determining what is needed, followed by the identification of gaps. For instance, the local governments in Cambodia are allowed to approve foreign investments of up to ten million dollars without intervention from the national government. The governor stated that the Cambodian example is what the Philippines is trying to imitate. As a final note, the governor said that social justice in the context of climate change is essentially restitutive. The Copenhagen Accords of 2009 attest to that observation.

DUMANGAS' CLIMATE FIELD SCHOOL

Mayor Ronaldo Golez
Dumangas, Iloilo

After the coffee break, the training workshop continued with the session focusing on the Climate Field School or CFS of the town of Dumangas. Mayor Ronaldo Golez began the presentation by stating that the town's CFS is a pioneering effort in the country that has already been institutionalized and is the second in Asia.

According to Mayor Golez, flooding and drought are the two climate-related hazards that threaten Dumangas every year. Since the town is at the tail end of a river system, about sixty-five percent of

Dumangas suffers flooding annually. However, the mayor stated that this was reduced to fifteen percent after the construction of the mega-dike.

The local government of Dumangas also pushes its initiatives and strategies through trainings in the form of rescue olympics. Training workshops include not only the village police but also the health workers. Weather forecasts and announcements are posted on white boards installed at every village. In particular, Dumangas gives forecasts and advisories to farmers through the



Agro-Met station. The station is sustained by funds from the government and non-government organizations.

As regards the CFS, Mayor Golez stated that the school seeks to enhance the capacity of extension workers and farmers. It also aims to train those who will in turn conduct subsequent trainings in the communities. Lectures and training workshops are given during Saturdays since farmers cannot be taken away from the farmlands for a long time. The modules in the lectures and training workshops are designed in such a way that they are written in the local dialect considering that a majority of the farmers did not finish their high school education.

Further, Mayor Golez discussed the history of the implementation of CFS. The first batch completed the course on July 4, 2007. ADCP funded the first two batches while the succeeding two batches were funded by the local government. The mayor said that the farmers are not forced to apply what they have learned from the CFS although most graduates prefer to apply the lessons they were taught. He also discussed the socioeconomic impacts of the project and the major collaborators and partners of the CFS. As a final point, the mayor briefly explained the key implementation steps and the citations that the local government has received for its efforts in disaster management and adaptation, among others.

One major point was emphasized during the question and answer portion. It was stated that the main reason why CFS lessons are adopted by farmers in some cases and disregarded by other farmers in some other instances is that there are farmers that still largely rely on traditional farming techniques. It was also stated that even though the wives of farmers attend most of the CFS lectures, the farmers themselves attend the last three sessions.

Gen. Ireneo Manaois

City Administrator, Sorsogon City

For the next session, General Ireneo Manaois gave his presentation on the adaptation planning of the province of Sorsogon. He began his discussion on the climate change exposure of the province in terms of typhoons, storm surges and flooding, and on how the provincial government tries to address these exposures by entering into partnerships with organizations, by looking at the global



and national climate change findings, and by forming a Technical Working Group. He cited the current and projected vulnerabilities of the province especially in disaster-prone areas. Apart from having a city emission profile for mitigation, city hotspots were also identified. These hotspots were determined after an assessment of the existing and projected vulnerabilities. According to him, priorities are set through a participatory multi-sector approach. Proposition papers are shortlisted and likewise discussed at a multi-sectoral level.

He then proceeded to discuss the adaptation plans of the province which primarily consist of two segments, namely: demonstration projects and CLUP enhancements.

Demonstration projects are generally financed through the combination of local funds and funds from international organizations. These projects cover livelihood and economic development, environmental management, house retrofitting, shelter plans, climate risk reduction, and disaster risk reduction. CLUP visions and considerations were also explained, including the suggested policy zones based on risk, topography, and land use. General Manaois also discussed the strategies adopted that correspond to specific zones, and the provincial government's risk reduction objectives such as zero casualty, fast recovery, minimal damage to development, and future development in safer areas. Toward the end of his presentation, General Manaois pointed out the need to further communicate climate change issues to the public through proper education and information. According to him, more projects still need to be done.

OPEN FORUM

Several points were taken-up during the question and answer portion. As regards the question of whether proper procurement was observed in the acquisition of the Miracool product, General Manaois replied that the product was not yet actually purchased. He assured that proper bidding shall be strictly followed.

The next question was addressed to Mr. Vladimir Mata. He was asked as to how the shifting population size of Dagupan City makes it possible for the local government to let people — especially those who do not permanently reside in the city — have a sense of ownership over their property. Mr. Mata responded that the solution of the local government is to go to the institutions where the transients in the city belong to or work at.

Mayor Golez was asked whether there is any way to negotiate with upstream communities in reducing the volume of water that flows to downstream communities.

In response, Mayor Golez initially emphasized the need to collaborate with national agencies, apart from sharing the best practices on climate management with other local governments for possible replication. He recognized that the geographical situation of Dumangas is the biggest problem of the local government, and that the project proposal to build a dam upstream is not yet final. Worse, the town's flood control dike is already damaged. Nevertheless, the CFS led to improved rice production even if the town is at the tail-end of the river. He attributed the success of CFS to the active involvement of people at the village level and the support of the local government to farmers so that they may learn more.



SESSION 4: FINANCING OPTIONS FOR CLIMATE CHANGE

OVERVIEW AND ACCESS TO INTERNATIONAL CLIMATE FINANCE

Adeline Dontenville

Project Officer, AFD – French Development Agency

The next session in the training workshop touched on the overview and access to international climate finance. Ms. Adeline Dontenville began her presentation with a summary of the current architecture of climate finance. She noted that there has been an increase in climate change financing ever since the issue of climate change has gained momentum in the global public discourse.



Ms. Dontenville then reported some insights on the nature of climate finance. She underscored the need to allocate financial resources in mitigating climate change and in supporting adaptation programs. According to her, climate finance has several contentious issues. These include concerns over the flow of funds from the developed to the developing countries, the private and public distinction of the sources of funds and their instruments, the scope of activities, the advantages and disadvantages of choosing between incremental cost and investment capital, and the preference between climate-specific and climate-relevant finance. There is also the issue of building trust in the international community.

Ms. Dontenville continued with AFD's definition of climate mitigation and climate adaptation. She stated that AFD has its own tools for measuring emission impact and its own methodology based on sectoral and geographical vulnerability matrices. Apart from the horizontal and vertical dimensions of climate finance, Ms. Dontenville also pointed out its sources consisting primarily of public, private, and offset finance. According to her, private finance is thrice greater than public finance. This huge discrepancy is said to be most apparent in mitigation projects. In most instances of climate finance, public intermediaries such as multilateral development banks play a certain role.

She also reported that about ninety-five percent of climate finance began with mitigation projects and that the bulk of recent climate finance is primarily devoted to investment or ownership finance. Given the increased cost of transitioning to a climate-resilient future, she noted that private finance will certainly fill a significant role. With the need to improve access to climate finance becoming a more pressing concern, she stressed that cities must try to innovate by finding alternative sources of climate financing.

With the emergence of a new climate finance architecture, Ms. Dontenville strongly urged institutions to try to properly track the distribution of money. She also encouraged institutions to form standing committees that will make reports on climate finance flows and will identify gaps. At the end of her presentation, Ms. Dontenville provided both demand-side and supply-side solutions in improving access to climate finance. For example, one demand-side solution is to make adaptation and mitigation plans more comprehensive for they are more attractive to external donors. A suggested supply-side solution is the efficient use of available financial resources.

REGIONAL FINANCING ARRANGEMENTS IN ASIA

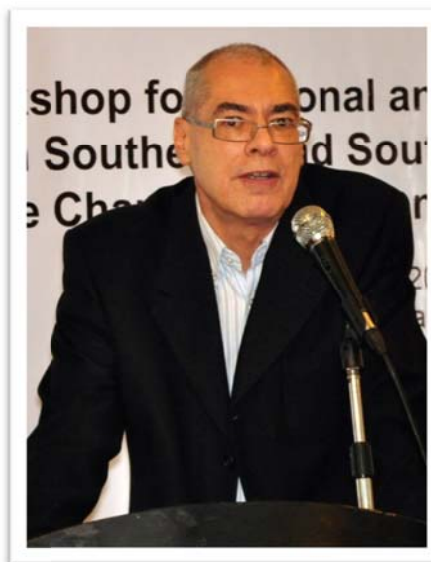
Mr. Michael Lindfield

ADB,

Cities Development Initiatives for Asia Program Manager

The last presentation focused on the topic of regional financing arrangements in Asia. Mr. Michael Lindfield specifically addressed financing environmental infrastructures in Asian cities. According to Mr. Lindfield, cities within Metro Manila are very vulnerable, notwithstanding the poor people residing in these cities. Nevertheless, he stated that there are opportunities that can be found in resources, innovation, and capacity. As regards environmental management, he stressed that laws concerning environmental pollution are not properly enforced as a result of financial constraints. Incentives for reducing, reusing and recycling are likewise not in place.

Mr. Lindfield then suggested three aspects that cities can focus on for a “planet positive growth.” These include local land use and transportation patterns, building construction and energy efficiency, and local economic activity. With respect to concerns over leveraging funds, he said that the problem is that not many people will transfer to Eco-cities since these cities are not sufficiently linked to neighboring major cities. As regards concerns over green finance, he stated that local government units have existing capacity on their own. They can collect property taxes, for instance, in order to maximize revenues. Local government units can also get resources from their rights that may be traded. Moreover, incentives can be given to local government personnel in order for them to resist bribes.



Mr. Lindfield also observed that Asia's capital markets have adequate financial resources but are hesitant to finance infrastructure or environmental projects. Another constraint to effective climate finance is that national governments rarely allow local governments to borrow on their own.

More crucial points were raised in the question and answer portion that followed. On a positive note, recent developments were pointed out. Marketing partners, for instance, are now able to do more concrete work on the ground level in urban areas. Some developed cities are also faring well in training key personnel, communities and private individuals. Lastly, the Asian Development Bank and World Bank are currently looking into the Tokyo-scheme although the possibility of its adoption is still a long way ahead. Unfortunately, local banks do not easily finance projects due to the insufficient efforts of local governments.

Projects from the private sector, on the other hand, have commercial tones and are relatively short-lived even if big investments are usually placed up front. Further, both borrowers and lenders tend to be risk-averse even if the Asian Development Bank enters the picture in order to soften the aversion. There is also the issue concerning project development especially with respect to ensuring that the project will work and will be sustained. For its part, the CDIA will try to increase its coverage in the coming years by creating linkages with private finance and by finding ways for local people to execute and sustain the programs on their own.

According to Ms. Dontenville, choosing the World Bank as interim trustee is not a popular decision among countries. A more pressing problem is that finding an alternative trustee is difficult, especially one that has the necessary resources and capabilities. Confidence issues between the trustee and the developed or developing country remain unresolved. Another unresolved issue pertains to how the green climate fund is supposed to relate to green finance. This includes parallel issues such as that of finding and securing funds, channeling these funds, and building confidence between the trustee and the donor agencies. Another point raised relates to the unique challenges, if any, of directly accessing green climate funds. It was stated that the key challenge is the creation of verification mechanisms and the corresponding costs to make them fully functional. As to whether local government units can directly access grants from the Asian Development Bank, it was stated that it is possible, except that not one has yet been successful in doing so. By far, only the city of Makati has almost been successful in directly accessing the grants.

BREAKOUT SESSION: Dialogue Between National and Local Governments in Addressing Climate Change

After the question and answer portion, a breakout session was conducted. The session focused on further improving the understanding of the participants on the dialogues between national and local governments in addressing climate change. The participants were divided into three groups. Each group had the task of posting their observations concerning six focal points:

- roles of the national government,
- support of the local government to the national government,
- initiatives of the local government,
- support from the national government, the issues involved, and
- the joint initiatives between the two levels of government.



The group composed of participants from Brunei, Malaysia, Indonesia and Philippines stated that the roles of the national government include policy-formulation, mainstreaming of climate change agenda, intermediary between the local and international community, and evaluation and monitoring of projects already implemented locally. For

Brunei and Malaysia, their local governments are not so autonomous unlike those in Indonesia and the Philippines. What they all have in common is that the resources are concentrated at the national level.

It was noted that the local government supports the national government in terms of data support, bridging the national level with the grassroots level, and ensuring human resource availability. Local government initiatives include monitoring and enforcement, development, preparation and implementation of plans, strong leadership, and feedback mechanism. For the part of the national government, it provides support through technical assistance, mentoring, advocacy, sociopolitical support, and finance. Joint efforts between national and local governments cover partnerships and common understanding, and strong political will and support. Lastly, several issues were listed. These include those concerning data collection, outdated data at the national level, slow implementation, incentives, and lack of continuity.

For the South Asian group, the roles of the national government cited were mentoring, capacity building, policy formulation, and food allocation. It was stated that the local government supports the national level through program implementation, maintaining a good database and information system, and helping identify target groups. For local government initiatives, points



mentioned were program implementation and monitoring, participation and support, and needs identification and prioritization. Several issues were also raised. These include the lack of information system and mapping vulnerability, resource allocation, and those involving the legal framework.



The third group was composed of countries from the Mekong region. The group noted that the national government creates policies and provides trainings. On the other hand, the local government takes care of the execution of the programs and policies.

CLOSING REMARKS

Mr. Mozaharul Alam
Regional Climate Change Coordinator,
UNEP ROAP

After the short presentation on the results of the breakout session, Mr. Mozaharul Alam ended the second day of the training session with his closing remarks. He reiterated the existing challenges among Asian countries in dealing with climate change impacts. These include the needed financing for the specific climate change adaptation and mitigation activities at the local and the sub-regional level. Another challenge is that of creating a network that will serve as a database of information for the Asian countries. According to Mr. Alam, the purpose is to allow the countries to replicate or modify some of the best practices in other Asian countries. It will also help institutions avoid repeating the mistakes of other institutions that handle a similar climate change impact.

ANNEX I: List of Participants

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