

PHILIPPINE NATIONAL CLIMATE TRAINING SUMMARY REPORT

August 11-15, 2008

Hotel Dominique, Tagaytay City, Philippines

Background

The National Climate Training (NCT) in the Philippines is a part of the broader effort to build the capacity of institutions to help buffer societies against climate-related shocks under the **Climate Forecast Applications (CFA) for Disaster Mitigation** program. The CFA program is a collaborative undertaking of the Asian Disaster Preparedness Center, Philippine Atmospheric Geophysical and Astronomic Services Administration (PAGASA), international and local partners with support from the United States Agency for International Development Office of Foreign Disaster Assistance (USAID-OFDA).

The NCT is intended for professionals working with government agencies, non-government organizations, and private organizations in the Philippines tasked with planning and development, environment, agriculture, fisheries, water resources, health, and disaster risk reduction.

Objectives and outputs

Training objectives	Outputs
Enhance the current understanding of professionals on the impacts of climate variability, change, & extremes and the corresponding adaptation mechanisms for various sectors	35 professionals trained/capacitated
Form a pool of professionals who have the capacity to understand & make use of climate information for decision making in various sectors	35 professionals trained/capacitated
Form a pool of professionals who can advocate for the institutionalization/enhancement of institutionalization of climate information applications in various sectors	Individual/group plans for advancing efforts to enhance institutionalization of climate information applications system

Profile of the participants

The participants are diverse in their professional and academic backgrounds but the common ground is their involvement and interest in the application of climate information products and services for planning and decision-making in their respective offices. ADPC and PAGASA selected these participants in terms of their regular or frequent participation in PAGASA's quarterly climate forum. A total of 35 participants have attended the NCT.

The breakdown of the participants in terms of organization they are representing is as follows:

- 15 professionals from the government sector involved in planning and development, water resources, agriculture, energy, statistics,
- 2 professionals from the non-government organizations (Philippine Red Cross and Center for Disaster Preparedness)
- 10 professionals from local government units (provincial and municipal levels) from planning, environment and natural resources, agriculture and water resources.
- 4 professionals from private entities: micro insurance company and domestic water providers/concessionaires.
- 4 staff from USAID Philippines who sit in for 1 to 2 days.



Training participants

Training Modules/Key Topics

The NCT curriculum is anchored on the argument that climate risks can be best managed by connecting science, institutions, and society. It consists of science/theoretical component of climate system and the practical application of climate information from national to local level and ultimately to the concerned communities. The science part consists of two modules; 1) understanding the local climate system and; 2) current and emerging climate forecasting and prediction. The application part consists of four modules which includes: 1) sectoral impacts and current coping mechanisms; 2) application of climate information to decision-making to manage risk; 3) integrating climate-related risks in development planning and 4) enhancing the institutionalization of climate information.

Below are the specific topics for each module:

Module 1. The Climate System

- Local climate systems
- El Niño Southern Oscillation (ENSO) and its influence on local climate
- Climate change: scenarios and projections

Module 2. Current and emerging climate forecasting and prediction capacity

- Global operational weather and climate forecast products and skill of prediction

- National climate forecast & prediction productions/services & skill of prediction

Module 3. Sectoral impacts and current coping mechanisms

- Water resources
- Agriculture and food security
- Public health
- Coastal areas and fisheries

Module 4. Application of climate information to decision-making in managing risks and opportunities

- Translating weather and climate information products into response options and impacts outlook
- Community-friendly climate communication utilization and response
- Case Study 1: Mitigating the impacts of extreme hydrologic events: Angat Dam
- Case Study 2: Flood early warning system in Dumangas: Science at work at the community level

Module 5. Integrating climate-related risks in development planning

- Enabling environment for integration (legal, policies, legislation, and institutional arrangement)
- Developing adaptation strategies: approaches, methods, and tools

Module 6. Enhancing institutionalization of climate information application systems

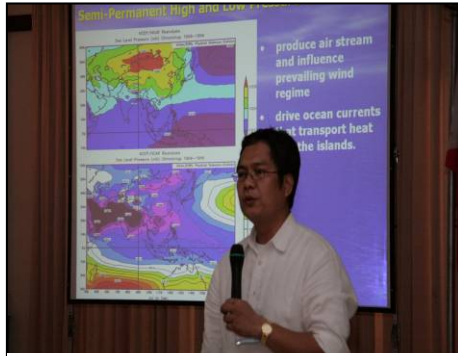
- Strengthening and harmonizing national and local climate information system: Proactive tool to reduce climate change risks
- Economic value of using climate information: Case of Tanay Hillylands
- Agriculture insurance

Highlights from the discussions:

Each presentation by the resource person was followed by questions, clarifications, and comments from the participants.

Module 1 and 2: The Climate System and Current and emerging climate forecasting and prediction capacity

For the science part of the presentations, questions raised were related to tropical cyclones, El Niño Southern Oscillation (ENSO), manifestations of climate change in the country, share of anthropogenic sources to climate change, how to translate depth of rainfall to reservoir inflow, how meaningful is 50 mm or any depth of rainfall to flood occurrence. Participants also asked if PAGASA can predict the amount of rainfall by merely assessing the cloud formation. And the usual queries such as how reliable are PAGASA's forecasts and if they already established pattern for El Niño and La Niña locally.



Mr. Nathaniel Cruz, Chief, PAGASA Weather Services Branch at PAGASA explains the weather systems that influence the Philippine climate (left). Ms. Rosalina de Guzman, Chief, Climate Information Monitoring & Prediction, Climatology and Agrometeorology Branch, explained global climate change and how it is manifesting in the Philippines (right).



Dr. Flaviana Hilario, Chief, PAGASA Climatology and Agrometeorology Branch, explains the current & emerging forecasting capacity in the Philippines and in the SE Asia region

Module 3: Sectoral impacts and current coping mechanisms

For the sectoral impacts and coping mechanisms, questions on water resources were centered on the cost-effectiveness of government's interventions such as cloud-seeding operation for dams/reservoirs and agricultural areas. On agriculture and food security, participants asked whether the current rice crisis is climate-related and if it possible to dissect the impact between human-induced activities and natural sources to climate change. For the impacts on coastal areas and fisheries, discussions were focused on the current challenges and how these could be addressed with the existing technologies and strategies. Climate impacts on health require closer monitoring and coordination with the local level for benchmarking of data and information about the occurrence and frequency of diseases and illnesses that coincides with climate extremes. While there is no new disease associated with climate, it is anticipated that with climate change and without proper protection and information dissemination, occurrence of already existing disease may be triggered. Hence, information dissemination through fora and seminars are being conducted by the Department of Health (DOH) in cooperation with other concerned agencies such as PAGASA.



Dr. Romeo Recide, Director, Bureau of Agricultural Statistics, discussed the impacts of climate on agriculture and food security (left). Mr. Ma. Lorenzo Tan, Executive Director, World Wildlife Fund, discussed the impacts of climate on fisheries and coastal areas (right).

Module 4. Application of climate information to decision-making in managing risks and opportunities

With regard to the topic on the application of climate information to decision-making in order to manage risks, it was stressed that climate forecast is useful to the recipient when what it predicts is relevant and timely in relation to the actions that the recipients can take to improve outcomes. One of the tools being used by the Department of Agriculture in estimating palay (rice) damage during extreme climate events (drought and submergence) received appreciation by participants from local government units (LGUs) and they expressed their interest to replicate the same methodology in their area. Comments on the concept of risk and vulnerability to climate extremes were also raised.

In communicating climate information, it was emphasized that the signal and means of communication should be clear to both parties (deliverer and recipient); otherwise, it will lead to disaster. One of the major issues is how to communicate the technical language of climate change. Several options were discussed but the bottom line is that one should be creative enough to reach the audience and let them feel the message. There are a thousand and one means by which an event caused by climate variability can be demonstrated in a way that will capture one's interest.

During the presentation of Angat Dam case study, members of the Technical Working Group composed of water sector agencies (National Water Resources Board, National Irrigation Administration, Metropolitan Waterways and Sewerage Service, National Power Corporation, and the two water concessionaires Maynilad and Manila Water) that are involved in planning and decision-making for water allocation of Angat Dam especially during drought periods argued that the current rule curve should be revised due to the additional water input from Umiray dam and the decreasing area for irrigation in Bulacan province due to land use conversion. Moreover, there is also an issue of flooding in



Dr. Prisco Nilo, Director, PAGASA discussed the flood early warning system in Dumangas, Iloilo. The presentation generated a lot of interest from representatives of local government units who requested technical assistance in establishing a similar system in their areas.

the downstream portion in case of withdrawal of excess water from the dam. But the most important issue is whether the hydrologic model being used or the climate information from PAGASA is an important input to the model.

The second case study which presented the community-based flood early warning system (CBFEWS) in Dumangas, Iloilo was well appreciated and in fact, other LGU participants were interested to have their own CBFFWS and they are willing to shoulder part of the cost of the project. They asked the total cost of the project and how much would be the counterpart of the LGU. Participant from Dumangas shared their institutional approaches and strategies in order to save money by utilizing available local materials for staff gages that measure water level of the river. Rain gage fabricated locally is also cheaper.

Module 5. Integrating climate-related risks in development planning

This module tackled the relationships among disaster risk reduction (DRR), climate change (CC) and development agenda; how the common agenda of DRR and CC are mainstreamed into development process; the framework and methodology for risk assessment; and mainstreaming results into development planning. The importance of the policy planning framework, the physical plan and the LGU Comprehensive Land Use Plan was stressed. Some of the questions raised relate to mining industry: where does mining come into the development planning system and would it be tolerated where in fact it could aggravate the impacts of climate change. There was an also an observation that planning and budgeting processes of national and LGU are not synchronized that is why there are problems in the timely implementation of projects. It was also asked to what extent are policymakers in the Philippines receptive in incorporating climate change scenarios in development planning. It was positively replied that the spirit is there and the government is receptive except that many things are happening at the same time and the focus may be difficult to maintain/sustain.

The highlight of Module 5 is a workshop where participants prepared a project proposal that would advance the mainstreaming of climate information application into their current mandates, program and projects (see module 5). The proposal required should be short term (preferably implementable within 2 years); with the integration of adaptation strategies that would lead to institutionalization or mainstreaming in their respective agencies and of course with proposed funding source. The participants were grouped according to four sectors namely: 1) agriculture, 2) water resources, 3) coastal area and fisheries, and 4) health.



Group workshops on integrating climate information applications into institutional approaches, programs, and operations in order to mitigate climate risks.

Module 6. Enhancing institutionalization of climate information application systems

This presentation recognized that there are gaps in the national and local climate information. The current climate information is primarily with no regional (meaning administrative regions of the Philippines) information that can make adjustments in terms of time and location risks. The climate information system at national level is relatively weak because investments on building institutional capacity of primary agencies for climate risk management are limited. There are



emerging climate information systems at the local level as illustrated by the Dumangas, Iloilo (a demonstration site under the CFA program) but this system has to be replicated nationally. The resource person advocated for the harmonization of downscaling of climate information system to the LGUs, with focus on risk areas. A framework for national climate information generations and transfer was presented. This framework included other sources of climate information and other important information such as geo-physical condition.

Dr. Rogelio Concepcion argues for the institutionalization of climate information applications system from national to local level.

The resource person spoke of the need to encourage local communities and LGUs to become co-generators of climate and climate change information. He recommended for capacity development of local executives and their technical staff for climate monitoring, climate risk identification and risk reduction implementation. He said climate footprint (example: the flood corridors in Iloilo, the areas impacted by disasters) will have to be identified and mapped for inclusion in the Comprehensive Land Use Plan. The municipalities located within the same ecosystem will have to develop one common risk reduction management plan which will be incorporated into their CLUP. Again, the case of Dumangas and Iloilo, was cited as an illustration. The resource person mentioned the important role of the Department of Environment and Natural Resources (DENR) in these activities. He pointed out the need for the DOH and the DA to work together in the management of risk associated with water borne diseases.

The presentation of the economic value of climate information featured the case of hilly land in Tanay. The study showcased the effect of increased temperature on the taste and marketability of lettuce and ultimately to the income of subsistence farmers. This presentation has gained interest of the participants especially from the LGUs because of their areas have hilly lands and poor farmers. One LGU participant asked whether that result from the study would be applicable in their area with the same physical environment. It was responded that this study has to be tested first locally to determine its applicability.

The lecture on agricultural insurance expounded on agricultural insurance as a financial instrument for effective adaptation or coping mechanism for extreme weather events and climate change. Several agricultural insurance products were discussed. These were: crop insurance including high value commercial crop, crop credit insurance, forestry insurance, and livestock insurance. However, the fisheries and aquaculture sector commented the non-existence of similar insurance for them. It was noted that during a food summit forum, the Secretary of DA recommended a study on other insurance products, including aquaculture.

The non-traditional insurances such as index insurance and crop-revenue insurance were also discussed. The concept of reinsurance was also explained. It was asked whether the government's policy is shifting towards more index-based or is it still doing the traditional insurance. It was replied that the government is shifting from multi-peril to more index-based because the government wants to offer more (choices) to the insurance takers.

Learning outcomes

To determine the learning outcomes of the participants, an evaluation was made after the course. In the final course evaluation, the participants were asked to rate their knowledge and understanding *before* and *after* the course for each resource person using low, average, and high as benchmarks. The result of the evaluation is as follows below.

Module/Resource Person	Percent of participants who improved/enhanced their understanding on the module/specific topic		
	Low to High	Low to Average	Average to High
Module 1			
Nathaniel Cruz	4	7	42
Rosalina de Guzman	4	7	38
Module 2			
Dr. Flaviana Hilario	5	5	36
Module 3			
Engr. Samuel Contreras	8	6	33
De. Romeo Recide	9	6	35
Dr. Cecile Magturo	4	6	38
Mr. Jose Ma. Lorenzo Tan	9	8	36
Module 4			
Ms. Bess Lim	4	4	57
Dr. Emmanuel Luna	5	3	64
Dr. Susan Espinueva	0	7	36
Dr. Prisco Nilo	5	5	36
Module 5			
Dir. Susan Rachel Jose	4	11	22
Dir. Susan Rachel Jose	4	10	35
Module 6			
Dr. Rogelio Concepcion	22	3	44
Dr. Edna Samar	15	5	55
Mr. Norman Cajucom	5	7	35

It can be noted from the results that majority of the participants have average knowledge and understanding about the modules of the course before and they were able to improve/enhance their knowledge to high level after the training.

As to how much the participants have learned from the training, 79% percent responded that they learned more than they expected, 17% same as expected and 4% less than expected. As to the usefulness, 96% of the participants responded that the course is very useful and 4% rated as useful.

Another reflection of the knowledge they gained was the output from the workshop where the participants were tasked to prepare a project proposal that would help advance the mainstreaming of climate information application into their current mandates, program and projects (see above the discussion of module 5 highlights). Within a very short span of time

(1.5 hrs) the four (4) groups were able to prepare very feasible and sound proposals. The outputs from this exercise clearly manifest the learning they gained from the course.