



USAID
FROM THE AMERICAN PEOPLE



Be Secure Project
Water Security for Resilient Economic
Growth and Stability

Resilience of Water Utilities in Uncertain Climate Futures: A Training of PAWD's Community of Practice

Objectives of the Training

By the end of the training, the participants should be able to:

- use downscaled climate change projections and hazard maps in scenario building of future climate impacts on water utilities
- demonstrate understanding of disaster risk reduction, climate change adaptation and the four stage readiness framework in their planning for resilience
- produce a regional association disaster preparedness and resiliency plan

Module 1: Understanding Weather, Climate and Climate Change

The module will give the participants an overview of the basic science of climate change, downscaled climate change projections of their region, and most likely impacts of climate change specifically in water resources.

Topic 1: Weather and Weather Systems (40 min)

Participants will review the basic science on weather and weather in the tropics and deepen their understanding of extreme weather events. The resource person will also explain PAGASA's weather warning systems.

Topic 2: Climate and Extreme Climate Events (1 hour 20 min)

Understanding climate and climate systems is key to understanding the science of climate change. This topic will explain what climate is, the climate system of the region and extreme climate events (El Nino/La Nina). Explanation of the El Nino Forecast will end the session. Other climate forecasts issued by PAGASA will also be mentioned.

Topic 3: Climate Change: Causes, Projections, Impacts and Responses (2.5 hours)

The topic will begin with an exercise on how participants perceive our climate is changing and the impacts of these changes in their personal daily life. Using these experiences, the climate scientist will explain what climate change is and its causes, both natural and anthropogenic. Focus will also be given to its most likely impacts in water. The resource person will also present the downscaled climate change projections for the region prepared by PAGASA.

Topic 4: Responses to Climate Change (2 hours)

The responses to climate change – both mitigation and adaptation - will be explained by the resource person. This will be linked to the discussion of Climate Change Act and the National Climate Change Action Plan. The participants will identify the activities they need to implement as part of the NCCAP.

Module 2: The Streams to Resilience

The module will explain the concepts of vulnerability, hazards and risks in relation to disasters and review the most common terms used in climate change. Concrete application of these concepts will be applied in a workshop that focuses on climate related risks typical to water utilities. At the end of the module, the participants must know the two streams to building disaster resilience – disaster risk reduction and management and climate change adaptation to address climate risks.

Topic 5: Concepts and Common Terminology in Disaster Risk Reduction and Management and Climate Change Adaptation

This topic will explain the basic concepts most commonly used in disaster risk reduction – vulnerability, hazards, risks and disasters. A workshop on risk assessment and scenario building will be introduced as an initial step to local adaptation planning.

Topic 6: Resilience and Disaster Risk Reduction and Management

This topic will give the participants an overview of what resilience means in disaster risk reduction and the different disaster risk reduction phases and measures as identified in the national law. Management of disaster risks will be introduced in a workshop and will be used as a preliminary step to planning for local adaptation.

Topic 7: Legal Basis of DRRM - Policy, Institutional Arrangements and Plans

DRRM Act will be presented to the participants as well as the governance structure of DRRM. In a workshop, the water utilities should be able to identify its role in DRRM and activities that they need to do before, during and after a disaster.

Module 3: Planning

The third module will be devoted to planning for resilience. At the water utility level, there will be a plan to reduce/eliminate key vulnerabilities to the consequences of climate change identified in the scenario building. Another plan will be developed at the regional association level to enhance their regional DRRM cooperation.

Topic 8: Four Stage Readiness Framework and Local Adaptation Planning

A planning framework will be presented to the participants to guide them in their local climate change adaptation planning. The five steps to local adaptation planning will be used to develop the plans at the water utility level.

Topic 9: Local Adaptation Planning at the Water Utility Level

Using the five steps to planning, each water utility will develop a local plan to include short term actions to address present climate risks as well as long-term actions based on the scenarios they have developed.

Topic 10: Regional Association Planning for DRRM and Resilience Building

Using the regional scenario developed by the participants, the group will identify DRRM measures to enhance their resilience at the regional level. Common activities on resilience building will also be identified for their regional cooperation.

**Resilience of Water Utilities in Uncertain Climate Futures: A Training of
PAWD's Community of Practice**

Day 1

8:30 – 9:00	Arrival/Registration
9:00 – 9:30	Opening Ceremony <ul style="list-style-type: none">- National Anthem- Welcome Remarks
9:30 – 10:00	Introduction Formation of Learning Teams Objectives Setting Pre-test
10:00 – 10:15	Coffee Break
10:15 – 11:00	Topic 1: Weather and Weather Systems
11:00 – 12:00	Topic 2: Climate and Extreme Climate Events
12:00 – 1:00	Lunch
1:00 – 3:15	Topic 3: Climate Change: Causes, Projections, Impacts and Responses
3:15 - 3:30	Coffee Break
3:30 – 5:00	Topic 4: Responses to Climate Change Workshop 1: Activities of Water Utilities in NCCAP
5:00 – 5:15	Learning Teams Reflection

Day 2

8:30 – 8:45	Reporting of Learning Teams
8:45 - 10:00	Topic 5: Concepts and Common Terminology in Disaster Risk Reduction and Management Workshop 2: Risk Assessment and Scenario Building
10:00 – 10:15	Coffee Break
10:15 - 12:00	Topic 6: Resilience and Disaster Risk Reduction and Management Workshop 3: Management of Risks
12:00 – 1:00	Lunch
1:00 - 2:00	Plenary: Management of Risks
2:00 – 3:15	Topic 7: Legal Basis of DRRM - Policy, Institutional Arrangements and Plans Workshop 4: Role and activities on Water Utilities in DRRM
3:15 - 3:30	Coffee Break
3:30 – 4:00	Plenary: Role and activities on Water Utilities in DRRM
4:00 – 5:00	Community of Practice on Climate Change Review: Climate Resilient Water Utility
5:00 – 5:15	Learning Teams Reflection

Day 3

8:30 – 8:45	Reporting of Learning Teams
8:45 – 9:30	Topic 8: Four Stage Readiness Framework and Local Adaptation Planning
9:30 – 10:00	Topic 9: Local Adaptation Planning at the Water Utility Level Workshop 5: Local Adaptation Planning – Water Utility Level

10:00 – 10:15	Coffee Break
10:15 – 11:00	Continuation: Workshop 5: Local Adaptation Planning
11:00 – 11:45	Topic 10: Regional Association Planning for DRRM and Resilience Building
11:45 – 12:00	Post Test, Evaluation
12:00 – 12:20	Closing Ceremony Distribution of Certificates