



ENERGY AND ENVIRONMENT

Water Security Under Climate Risks: A Philippine Climate Change Adaptation Strategy for the Agriculture Sector

BACKGROUND

Droughts, floods and typhoons adversely affect the agriculture and services from water resources systems. Drought can result in irrigation water scarcity, while direct losses are experienced by farmers during floods and typhoon season. Climate change is expected to increase incidence of these natural hazards. Of more than 70 provinces in the Philippines, all six provinces of the Bicol region are listed in the top 20 provinces at risk to typhoons. Between 1970 and 2004, Bicol experienced 70 tropical cyclone occurrences, ranking it 5th among 16 regions (NDCC). Between 1974 and 2006, 29 strong typhoons were recorded to have hit Bicol Region. Twelve (12) of these had wind speed between 185km/hr and 320 km/hr, causing widespread damage. Among the Bicol provinces, Albay is the most vulnerable to typhoons, while Camarines Sur is seriously affected by floods.

GOAL

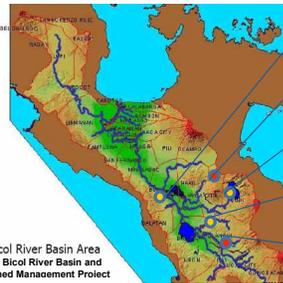
The project's goal is to attain water security and climate resilient agricultural development by effectively and sustainably minimizing agricultural damages in select Bicol River Basin areas frequented by climate-related hazards. Interventions will work across multiple levels of policy, planning and action. Community, inter and intra-local government adaptation planning and strategies will promote these climate risk management goals. Building capacity for water management among communities and governance entities in a watershed scale may be challenging, but it is critical and will be addressed by this project.

Project Duration: September 7, 2012 – September 6, 2017

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keywords: water security, agriculture, climate risk management

SITES



- Municipality of Nabua, Camarines Sur
- Buhi-Buric Watershed Reservation
- Municipality of Buhi, Camarines Sur
- Municipality of Polangui, Albay
- Quinale A Watershed

The Bicol River Basin Area
Source: Bicol River Basin and Watershed Management Project

ACTIVITIES

Introduce climate risk management techniques at the farm level

The project will conduct Climate Field Schools (CFS) in three municipalities in Quinale A watershed involving about 12 barangays with about 30 farmers per barangay. These schools will teach farmers about climate science, water resource and climate risk management topics as applied to rice farming. The CFS is experiential learning and increases farmer's awareness on managing climate risks in a communal way.

Downscale decision support tools at the watershed (or sub-basin) scale

The project will develop, test, validate and apply decision support tools for water use and allocation at the Lake Buhi using participatory approach, which can guide decisions in water allocation and adaptation planning. The project will also develop knowledge sharing portals e.g., map rooms, with linked models for climate prediction at the seasonal, inter-annual to climate change scales, which can be linked with decision support tools operating at the basin to farm scale. These shall be used for evaluating proposed adaptation options and sharing them with stakeholders (e.g., Lake Buhi Management Council, watershed management council of Quinale A, local government partners, National Irrigation Administration, Bureau of Soils and Water Management) for consideration in their decision making process.

Build capacity of local governments for effective water governance

The project will strengthen/build capacities for: flood and drought management in two provinces; good water governance at the watershed scale (Quinale A watershed); rainfall water collection by the 100 Irrigators' Associations across the watershed; and, integrate Climate Risk Management in Municipal Development Plan of three municipalities.

Support integration of climate risk management strategies into irrigation policy and planning

Through roundtable discussions at various governance levels, the project will promote the integration of climate risk management strategies into irrigation water management at the local level. Our ground level experience will be shared with the national irrigation sector towards the end of the project life.

Program Partners: Columbia University, Department of Agriculture-Region 5, Central Bicol State University of Agriculture, Bicol University, Provincial Governments of Albay and Camarines Sur, PAGASA Region 5, Irrigators' Associations in Quinale A Watershed