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## Climate Change Adaptation in Coastal Communities

Due to its archipelagic nature and exposed position in the Pacific Ocean, the Philippines is considered as one of the most vulnerable countries to natural disasters such as typhoons and earthquakes. This condition is aggravated by the adverse impacts of climate change such as sea level rise, increased typhoon intensity and frequency, droughts, and floods. In addition to the damages brought about by these events, climate change also threatens the country's agricultural, coastal, and marine resources, which directly affect the livelihood of the people who depend on them.

The Philippines, through its National Plan of Action (NPOA), has committed to contribute to the Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security. One of the goals of the NPOA is to achieve climate change adaptation measures through the development and implementation of a region-wide early action for climate change adaptation (CCA) plan for the near-shore marine and coastal environment and small island ecosystems. To realize this, Conservation International Philippines, through the Coral Triangle Support Partnership (CTSP), has tapped the assistance of marine scientists, researchers, and coastal resources management practitioners for various climate change adaptation programs in the Verde Island Passage (VIP). These activities include provincial CCA planning in the Verde Island Passage, vulnerability assessment tool development and testing, VIP-wide mangrove mapping, and mangrove rehabilitation and community development.



### Enabling local adaptation

To increase the adaptive capacity of the provinces in the VIP to impacts of climate change, it is necessary for these provinces to develop their CCA plans. This requires a vulnerability assessment of the area as well as the creation of various adaptation strategies. For this purpose, CTSP has facilitated the development and testing of a vulnerability assessment toolkit, which is intended to enable data gathering on the vulnerability of coastal systems down to the barangay level. This will help the local governments determine adaptation measures that they can implement in their area. In addition, results from the VIP-wide mangrove mapping are also a source of information on the present extent of mangroves in the area and the degradation of mangrove forests due to conversion to fish ponds. This information can be used for identifying potential mangrove rehabilitation areas and other areas are in need of protection.

As one of the countries that are most vulnerable to climate change, climate change adaptation is a priority need that should be answered down to the local community level. Through informed adaptation initiatives, active community participation and strong local leadership, coastal communities can enjoy enhanced resilience of their natural ecosystems, reduced cost and magnitude of climate change impacts, and sustainable local development.

## Climate Change Adaptation Initiatives in Calatagan

The vulnerability assessment of the Verde Island Passage highlighted mangrove reforestation and management as a climate change adaptation strategy. In Calatagan, Batangas, the local government unit, with support from the CTSP, started to thicken and widen its mangrove areas to serve as buffer of the coastal communities against storm surges and as an efficient sediment trap to battle coastal erosion and improve coastal integrity against inundation.

Enhancing the Calatagan mangrove belt under CTSP started in Balibago village with a three-hectare rehabilitation, protection and management project undertaken by 11 fisher families. To convince more barangays and advance the mangrove trail, local people's organization Calatagan Mangrove Development Alliance (CALMADA) established a mangrove nursery with capacity for 10,000 seedlings as a potential source of various species of mangrove seedlings. The seedlings are sold at P15.00 each and are used for mangrove rehabilitation efforts in the nearby barangays.

As a showcase of mangrove diversity and robustness, a mangrove island locally known as *Ang Pulo* (The Island) was developed as an ecotourism site. *Ang Pulo* is managed by the PALITAKAN, a group of various stakeholders in Quilitisan village composed of local community members (fishers, farmers, women) who have been convinced to join hands to sustainably manage and protect the mangrove areas in their barangay.

To understand the impacts of the mangrove rehabilitation program, a monitoring and evaluation system is being installed in the municipality by building the capacity of PALITAKAN and CALMADA. Through capacity building activities like mangrove assessment and monitoring, financial management, and tour guiding techniques, the local mangrove stewards of the municipality are better able to manage the influx of visitors and further develop the ecotourism potential of their mangrove resources. Communities are starting to benefit from their ecotourism and mangrove rehabilitation efforts, while also answering the need for climate change adaptation.



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