

PHILIPPINES
Briefing note on the National Status of Climate Change
Adaptation and Mitigation for the Fisheries and Aquaculture Sector
Country Collaborative Paper

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The Philippines, an archipelagic nation of 100 million people, now faces threats from more intense tropical cyclones, drastic changes in rainfall patterns, sea level rise, and increasing temperatures all throughout the country. All these factors contribute to serious impacts on the country's natural ecosystems – terrestrial, coastal and marine ecosystems. Climate change also poses profound threats to biological diversity. These cascade into impacts on food security, fisheries, water resources, human health, infrastructure, energy, human settlements, and ultimately the local and national economy. It is becoming ever clearer that climate change will have dire implications on the Philippines' efforts to address poverty and realize sustainable development.

Akin to most developing countries, the Philippine economy is intricately intertwined with the natural resource base, of which the fisheries sector is a significant part. The fisheries sector provides millions of livelihood, food supply and significant foreign currency flows.

In 2006, the Philippines ranked 8th top fish producing countries in the world, 10th in aquaculture production and 2nd largest producer of aquatic plants (seaweeds, etc) (BFAR 2007). By fisheries sector, the aquaculture and municipal fisheries production has shown remarkable growth rate in the last 10 years (Figure 1). The growth in aquaculture is mainly triggered by the upsurge of seaweed culture and high value marine fishes culture which export market value are significantly high. While the growth in the municipal fisheries sector despite the overfished condition of most of the coastal fishing grounds in the whole country is mainly attributed to the continuing increase of fishing effort and the significant increase of the municipal waters. The increase of the municipal waters from 7 km to 15 km from the shoreline did not necessarily increased production, there was only a shift or transfer of production to the municipal sector from the commercial sector which production reflect downward trends coinciding from the municipal's upward production trend.

The economic contribution of fisheries in 2007, accounts for 2.2% (PhP143.4 billion) & 3.3% (PhP58.6 Billion) of GDP at current and constant prices, respectively. The exports of these products in 2007 earns as much as USD569.79 Million (BFAR 2007) foreign exchange.

The Philippines responds to climate change through a comprehensive set of policies and programs. In 2009, the Climate Change Act (Republic Act 9729) was enacted into law, thereby creating the Climate Change Commission whose mandate is to mainstream climate change into all planning processes and in programming of all government instrumentalities. The Commission set out to craft a National Framework Strategy on Climate Change (NFSCC) which was then adopted in April 2010. The NFSCC serves as the basis for planning and programming for government agencies and it is committed towards ensuring and strengthening adaptation of natural ecosystems and human communities to climate change while also guiding the country in charting a cleaner development path by highlighting the mutually beneficial relationship between climate change adaptation and mitigation. As a matter of principle, the NFSCC aggressively highlights the critical aspect of climate change

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adaptation and mitigation meant to be translated to all levels of governance alongside coordinating national efforts towards ecosystem-based management which are aimed at building the resilience across all sectors.

The Philippines has also embarked on a process to formulate its National Climate Change Action Plan (NCCAP) for the period 2011-2028. The aim of this national process is to build a roadmap that will serve as the basis for a national program on climate change and establish an agenda upon which the Philippines dynamically pursues a process of empowering local communities in responding to climate change.

The National Climate Change Action Plan revolves around seven strategic priorities: 1) Food Security; 2) Water Sufficiency; 3) Human Security; 4) Environmental and Ecological Stability; 5) Sustainable Energy; 6) Climate-Smart Industries and Services; and 7) Climate Change Knowledge and Capacity Development. All of these are geared towards the ultimate goal of building the adaptive capacity of communities, increase the resilience of natural ecosystems, and optimize mitigation opportunities towards sustainable development.

The means of implementation to the the strategic priorities are financing, valuation of natural resources, multi-stakeholder partnerships, and capacity-building.

The NCCAP includes the assessment of the national impact of climate change; identification of the most vulnerable communities/areas, including ecosystems, to the impacts of climate change; identification of differential impacts on men, women, and children; assessment and management of risks and vulnerability; identification of GHG mitigation potentials; and the identification of options, prioritization of appropriate adaptation measures.

The legislative framework for the fisheries sector is largely within the Fisheries Code of 1998 (Republic Act 8550), Agricultural and Fisheries Modernization Act of 1997 (AFMA) and the Local Government Code of 1991 (Republic Act 7162).

The Philippines Fisheries Code of 1998, the legal framework for fisheries, categorizes the fisheries sector as aquaculture, marine municipal and marine commercial. Republic Act 8550 defines the marine municipal sectors as those fishing activities using fishing vessels of not more than 3 GT and relegate the area for marine municipal sector as within the 15km radius from the highest tide level in the shoreline. Fishing vessels of more than 3GT are considered commercial and should never conduct fishing within the municipal waters but is free to fish beyond the 15km radius. Beyond the 15km distance from the shore belongs to the national waters that include areas accessible to commercial (industrial) fishing sector.

The Department of Agriculture's Bureau of Fisheries and Aquatic Resources (DA-BFAR) is the government institution primarily responsible for the management and regulation of the country's fisheries resources. The BFAR is still the primary managing agency which responsibility includes but not limited to, the management of straddling and migratory fish stocks, maintenance of monitoring, control and surveillance system, development and implementation of industry plans and provisions of extension services on fish technology, marketing and development of value-added fisheries products (ADB et al. 2003). Such an arrangement, while it decentralized a lot of administrative functions and gave responsibility to the local governments, has spawned also challenges that made fisheries management highly compartmentalized. (Ingles and Flores, 2010)

The NCCAP Strategic Priority for Food Security includes both terrestrial agriculture and fisheries. Under the Food Security strategic priority, the identified ntermediate outcome is to ensure availability, stability, accessibility, affordability, safe and healthy food amidst climate change. Immediate outcomes were formulated as 1) Enhanced climate change resilience of agriculture and fisheries production and distribution systems; and 2) Enhanced

resilience of agricultural and fishing communities from climate change. Output areas and corresponding indicators were formulated as follows:

1) Enhanced knowledge on the vulnerability of agriculture and fisheries to the impacts of climate change; Indicators: a) Provincial level agriculture and fishery sector vulnerability and risk assessment conducted nationwide; b) National and provincial agriculture and fisheries climate information and database established; c) Research on agriculture and fisheries adaptation measures and technologies developed; d) Appropriate climate change adaptation technologies identified and implemented; Activities: risk assessments, studies and simulation models; R&D agenda development; research on best practices in fisheries and coastal climate change adaptation, technologies, tools; establish knowledge management on climate change information for fisheries; establish resource network; Information and education campaigns to promote best practices

2) Climate-sensitive agriculture and fisheries policies, plans and programs formulated; Indicators: a) Fisheries policies, plans, and budgets responsive to climate change; b) Climate change adaptation – Disaster Risk Reduction Performance monitoring indicators developed and implemented; c) risk transfer and social protection mechanisms developed. Activities: Integration of CCA-DRR in national and local fisheries policies and plans, including the Philippine Development Plan; enactment of national land use law; climate-proofing and gender-sensitizing the Comprehensive National Fisheries Industry Development Plan

3) Enhanced capacity for CCA and DRR of government, farming, and fishing communities and industry; Indicators: a) Farming and Fisherfolk communities trained on adaptation best practices and DRR; b) Formal curricula and non-formal training programs developed and implemented for agriculture and fisheries

4) Enhanced social protection for farming and fishing communities; Indicators: a) establishment of weather-based insurance in farming and fishing communities; b) increase of farmers and fisherfolk who are credit-worthy; Activities: policy studies on risk transfer mechanisms, risk transfer and social protection mechanisms, innovative financing mechanisms, training and organizing of farmers and fisherfolk on organizational development and fund management.

The DA-BFAR, in close collaboration with the CCC and taking guidance from the NFSCC and the NCCAP, has set out a medium-term action plan, which forms part of the NCCAP. Consistent with the NFSCC, the Fisheries sector action plan pursues the objective of enhancing adaptive capacity of the fisheries and aquaculture sector to the impacts of climate change. The specific actions identified in the Fisheries Sector action plan are as follows: 1) Maintenance and operation of mariculture parks, 2) Cage for livelihood program; 3) Promotion of saline tilapia culture in saltwater-intruded farms; 4) Conduct survey/assessment on saltwater-intruded farms; 5) Establishment of hatcheries for high value fish species; 6) Experimentation on better feeding management/ regime; 7) Promotion of organic fish-farming; 8) Conduct research on potentials of other indigenous fish species to broaden aquaculture base; 9) Continuous study on value-adding of fish and fishery products; 10) Marketing support; 11) Tap fishing communities in reporting/ documenting observed changes in coastal areas; 12) Set up early warning systems; 13) Organization and strengthening of Fisheries and Aquatic Resource Management Councils; 14) Vulnerability assessments; 15) Rehabilitation/climate proofing of BFAR facilities; 16) establishment of fishports, ice plants and cold storages, and other PH facilities; 17) Strengthen the National Stock Assessment Program (NSAP); 18) Rehabilitation of important coastal habitats: Mangrove planting, Deployment of artificial reefs (Coral gardens), Conduct experiments on coral transplantation, Establishment of fish sanctuaries and fish refugia.