



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 24-Jul-2020 | Report No: PIDC30073

**BASIC INFORMATION****A. Basic Project Data**

Country Philippines	Project ID P174137	Parent Project ID (if any)	Project Name Fisheries and Coastal Resiliency Project (P174137)
Region EAST ASIA AND PACIFIC	Estimated Appraisal Date Mar 16, 2021	Estimated Board Date Jul 30, 2021	Practice Area (Lead) Environment, Natural Resources & the Blue Economy
Financing Instrument Investment Project Financing	Borrower(s) Department of Finance	Implementing Agency Department of Agriculture - Bureau of Fisheries and Aquatic Resources	

Proposed Development Objective(s)

The proposed development objective of the project is to improve management of coastal fishery resources, enhance the value of fisheries production and increase fisheries-derived incomes within coastal communities, in selected Fishery Management Areas (FMAs).

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	220.00
Total Financing	220.00
of which IBRD/IDA	200.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	200.00
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Non-World Bank Group Financing

Counterpart Funding	20.00
Borrower/Recipient	20.00



Environmental and Social Risk Classification

Substantial

Concept Review Decision

Track II-The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

- 1. The Philippines is currently one of Asia's fastest-growing economies.** Categorized as a newly industrialized country, it is transitioning from one based on agriculture to one based more on services and manufacturing. Since 2010, the Philippines registered its strongest and longest stretch of growth acceleration, becoming one of the best growth performers in the region: growth averaged 6.3 percent in 2010-18, second only to China, among large economies in the East Asia and Pacific region. The Philippines has been poised to cross the threshold from lower-middle income country (LMIC) status to upper-MIC status within the next three years. Rapid growth has contributed to poverty reduction, with poverty incidence falling from 26.6 percent in 2006 to 16.6 percent in 2018. During the same period, growth has also been pro-poor. Income growth of households in the bottom 40 percent of the population increased by 2.9 percent compared to the average per capita income, which only rose by 1.6 percent.
- 2. The Philippines has a population of 107 million and is spread across more than 7,000 islands.** These diverse tropical islands are grouped into three geographic areas: Luzon, the Visayas and the large southern island of Mindanao. The population has an annual growth rate of 1.4 percent and 47 percent live in urban areas. The population is relatively young, with a 2018 estimate that only 5 percent of the population is aged 65 years and older. Adult literacy is high (98% in 2015) and the average life expectancy in 2018 was estimated at 71 years. However, current trends reveal mixed human capital outcomes that undermine the wellbeing and productivity of current and future generations. The Philippines ranked 84th out of 157 countries in the WBG Human Capital Index (HCI), which captures the impact of human capital on future growth prospects. The national HCI for the Philippines (0.55) indicates that the future productivity of a child born today in the Philippines will be 45 percent below what could have been achieved with complete education and full health.
- 3. Income inequality, although declining, remains stubbornly high and one of the highest in the region.** Despite the rapid economic growth, the average real wage has been stagnant since 2000, partly driven by a lack of market competition. Geographic and demographic diversity are reflected in inequitable income and access to social services across and within the islands. The geography of poverty reflects the strong nexus between poverty and vulnerability, both to conflict and to the impacts of natural hazards and climate change. The latest Global Terrorism Index ranked the Philippines as one of the top 10 countries affected by fatal terrorist attacks. Poverty rates increase with distance from Metro Manila. While under 5 percent of the population in Metro Manila falls below the national poverty line, the highest poverty rates, exceeding 50 percent of the population, are in two areas: (i) conflict-affected areas of



western Mindanao and islands of the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) and (ii) disaster-prone provinces in the Eastern Visayas region.

4. **Natural capital makes a significant contribution to the Philippines' wealth, but underperformance of related sectors leaves considerable unrealized potential for increasing its economic contribution.** Natural capital accounts for 18 percent of the country's total capital without including coastal and marine natural resources. While this percentage is lower than neighbors with rich fossil fuel reserves, such as Vietnam and Indonesia (34 percent and 20 percent respectively), it is higher than the average of developing countries in East Asia and the Pacific (EAP) – 15 percent¹. The agriculture, forestry, fisheries and tourism sectors perform significantly below their potentials. Agriculture's share of GDP in 2017 was 9 percent and its annual growth rate lags behind that of other Southeast Asian countries. Forestry production is only a fraction of former output in the wake of widespread deforestation and depletion of remaining timber stocks that occurred in the second half of the 20th century². Fisheries and tourism have lost market share in comparison to regional competitors.
5. **The Philippines is extremely vulnerable to natural hazards, with a particularly acute nexus of environmental, climate and disaster impacts in coastal areas.** Philippines was identified as one of the 15 countries which form over 90% of the world's most vulnerable population at the low-elevation coastal zone (LECZ)³. Around three quarters of Filipinos are vulnerable to natural disasters, which have killed 33,000 people and cumulatively affected 120 million in the last 30 years. The economic cost is significant – expected annual asset losses amount to PHP 233 billion from typhoons (75 percent) and earthquakes. As the poor and near-poor are more likely to be engaged in livelihoods which are vulnerable to disasters and they invest less for emergency preparedness. Hence, they tend to be disproportionately impacted by natural hazards. It is estimated that adverse climate change impacts have cumulatively reduced economic growth by 25 percent to date; projections suggest that future climatic impacts on the country's economy could be even more dire without adequate adaptation and mitigation measures⁴. Approximately 16.7 percent of the population resides in low-lying coastal zones that are often subject to a variety of mutually-reinforcing hazards. Coastal ecosystems, which provide valuable services including coastal defense, have been significantly degraded with less than 3 percent of coral reefs being in pristine condition and over 50 percent of mangroves having been lost since 1918⁵. Pollution is a severe problem in many sheltered coastal waters. Climate change is expected to increase the frequency and intensity of typhoons and storm surges, while at the same time jeopardizing remaining coastal ecosystems. Projections suggest a potential reduction of coastal GDP by up to 52.3 percent due to intensified storm surges by 2100 and 45% of wetland will be at risk⁶.
6. **The Philippines has underinvested in infrastructure, resulting in a large infrastructure deficit particularly in coastal areas.** Among the 141 countries included in the World Economic Forum's 2019 Global Competitiveness Index, the Philippines ranks 96th with respect to the overall quality of infrastructure – the worst among the East Asian peers⁷. Expenditures related to coastal infrastructure accounted for only 0.55 percent and 1.7 percent of the total budget of the Department of Public Works and Highways (DPWH) in 2017 and 2018 respectively. Grey infrastructure is prevalent along coastlines in the Philippines in areas such as the Eastern Visayas (Samar and Leyte islands) with seawalls and

¹ Lange, Glenn-Marie, Quentin Wodon, and Kevin Carey, eds. (2018) *The Changing Wealth of Nations 2018: Building a Sustainable Future*. Washington, DC: World Bank. doi:10.1596/978-1-4648-1046-6.

² World Bank (2019) Systematic Country Diagnostic of the Philippines: Realizing the Filipino Dream for 2040.

³ World Bank. 2015. Climate Change Impacts on Rural Poverty in Low-Elevation Coastal Zones. Policy Research Working Paper 7475.

⁴ World Bank (2019) *Ibid*.

⁵ World Bank (2014) Philippine Rural Development Project – Project Appraisal Document; United Nations Environment Programme (UNEP) (2014) The Importance of Mangroves to People: A Call to Action.

⁶ World Bank. 2015. Climate Change Impacts on Rural Poverty in Low-Elevation Coastal Zones. Policy Research Working Paper 7475.

⁷ World Economic Forum (2019) The Global Competitiveness Report 2019



groins being used extensively for protection from erosion, storm surges and coastal flooding. However, efficacy and effectiveness of the coastal protection measures currently used is uncertain as many of the observed investments are of small scale and lack continuity along the coastline. In terms of natural coastal-protection services, it is estimated that mangroves provide coastal protection services valued at USD 1 billion per year.⁸

7. **The COVID-19 pandemic now presents further challenges for the country, although the Philippines moved aggressively to mitigate the impacts at an early stage, when confirmed cases were still at a low level.** A slowdown in trade, investment, tourism, and remittances are all to be expected. While too early to determine the full impact, the upward trend in real wages and household incomes, especially for those from the lower income groups, will undoubtedly be hampered by the impact of the COVID-19 restrictions on business activity. Fiscal constraints are also anticipated, with most government agencies expecting considerable budget cuts. Nevertheless, economic growth is expected to rebound gradually in 2021-2022 as global conditions improve, and with more robust domestic activity bolstered by the public investment momentum and an expected boost from 2022 election-related spending. In March 2020, Congress passed the Bayanihan We Recover As One Act (Republic Act No. 11469) which declared a national emergency and authorized the Executive branch to reallocate and realign savings from the national budget, as well as from government corporations. A multi-sectoral response plan was developed encompassing clusters responsible for (i) Health; (ii) Governance; (iii) Law and Order; (iv) Economy; (v) Logistics; (vi) International Humanitarian Assistance and Inter-Governmental Relations; (vii) Crisis Communication; (viii) Management of the Dead; and (ix) Food and Non-Food Items. Key Government initiatives promoted included the “Build, Build, Build” program supporting public investment for poverty reduction, economic growth and reduced congestion, as well as the Alpas COVID “Plant, Plant Plant” program, to enhance food security. Urgent food security measures focused on: (i) keeping the supply lines for food open (from domestic sources and imports); (ii) ensure that farmers and fishers continue to have access to inputs and services needed to prepare for the next harvest and catch; and (iii) prevent primary producers and workers all along the value chain from suffering devastating income and job losses due to COVID control measures.

Sectoral and Institutional Context

8. **The Philippines’ fisheries sector contributes significantly to the national economy, food security, nutrition, employment and livelihoods.** The fisheries sector comprises (a) aquaculture (including marine, brackish and freshwater farming); (b) municipal capture fisheries (within 15km of the shoreline) where vessels are limited to 3 tons (gross); and (c) commercial capture fisheries in the 24 fishing grounds of the Philippines outside municipal waters. As of 2018, the total annual production from capture fisheries and aquaculture stands at 2 million and 2.3 million metric tons, producing a total economic value of PHP 155 billion and PHP 110 billion, respectively⁹. Although the share has been shrinking in recent years, the fisheries sector accounts for 1.3 percent of GDP¹⁰ and is ranked 8th globally in terms of volume of production, including the 3rd largest production of seaweed. The Philippines is a net exporter of fish with annual trade surplus of over \$1.2 billion in 2018¹¹. The fisheries sector provides approximately 1.6 million jobs (5 percent of labor force), including for low-income families engaged in subsistence fishing in municipal waters, and contributes to food security through the provision of over 50 percent of animal protein for human consumption. A much higher poverty incidence is observed amongst fishers – approximately 40 percent compared to the national average of 22%.¹².

⁸ Mangroves provide annual benefits greater than US \$1 billion in averted property damages from flooding. World Bank, 2017. The Coastal Protection Services of Mangroves in the Philippines. Technical Report for Philippines WAVES.

⁹ Philippine Statics Authority (2019) Fisheries Statistics of the Philippines 2016-2018.

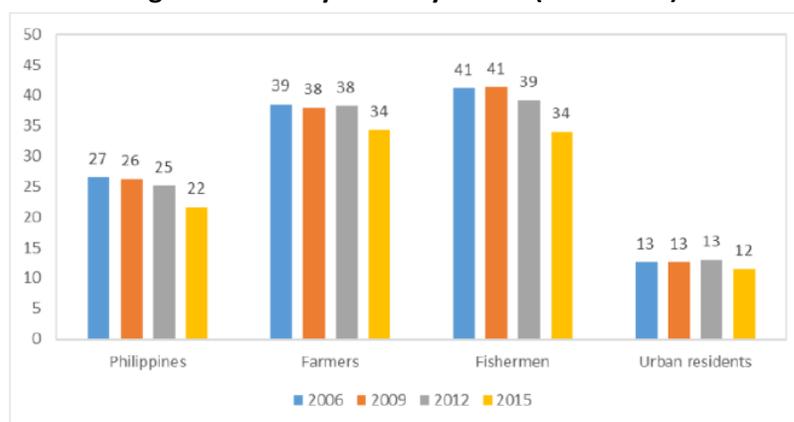
¹⁰ BFAR. 2020. Fisheries Statistics. <https://www.bfar.da.gov.ph/profile?id=18#post>

¹¹ BFAR. 2020. Fisheries Statistics. <https://www.bfar.da.gov.ph/profile?id=4#post>

¹² International Fund for Agricultural Development (IFAD) (2015) Fisheries, Coastal Resources and Livelihood Project (FishCORAL) Design completion report.



Figure 1: Poverty Rates by Sector (2006-2015)



[Source: Philippine Statistics Authority]

9. **Marine fish stocks have been declining, leading to a drop in capture fisheries production of about 20% over the last decade.** The key issue is the effectively open-access nature of Philippines' fisheries¹³. Fishing effort expanded by more than 3.4 times between 1960 and 2010¹⁴, whilst Catch Per Unit of Effort (CPUE) declined from 3.0 metric tons per horsepower to less than 0.3 metric tons per horsepower from 1950 to 2000. Additionally, illegal, unreported and unregulated (IUU) fishing further impacts stocks. Intrusion of commercial fishing boats is one of the main issues in municipal waters (within 15 km of shore), but use of dynamite (12% of fishers are suspected to use blast fishing) and cyanide are also still rampant. The first official publication of the National Stock Assessment Program (NSAP) data at the national level was released only in 2017. Although the government's approach to fisheries management has progressively moved from production-maximization to conservation, protection and sustainable use, and some stock assessment data have only just started to be used to design management interventions, mostly focused on establishment of closed seasons for some fisheries. Although some efforts may have been made to limit licenses granted for commercial offshore fisheries, no catch quotas have been established, and there are no effective limits on fishing effort in municipal waters¹⁵. Degradation of coastal ecosystems, from over-exploitation, pollution and increasingly the impacts of climate change, are also impacting the productivity of fisheries. Less than 3 percent of coral reefs are reported to be in pristine condition, and over 50 % of mangroves have been lost since 1918. While more than 1,800 Marine Protected Areas (MPAs) have been established, most of them are small (90% <1 sq. km) and cover less than 1 percent of the country's territorial waters.
10. **The Philippines has a large potential for aquaculture development, but production has fallen by around 10% over the last decade.** Aquaculture production grew until the mid-2000's and has stagnated or fallen for different commodities since. The majority of production remains in milkfish, tilapia and seaweed produced by clustered small family-run farms targeting local markets. This contrasts with neighboring countries that have continued aquaculture growth, embraced new technology and targeted export markets. The major causes for the slow growth and decline in

¹³ Israel, D. C., M. Lunod-Carinan, and V.B. Paque. 2016. Reducing the Unintended Consequence of Overfishing Due to Open Access: Learning from the Zamboanga Experience. Philippine Institute for Development Studies. Discussion Paper Series, 44.

¹⁴ Selgrath, J.C., S.E. Gergel, and A.C.J. Vincent. 2018. Shifting gears: Diversification, intensification, and effort increases in small-scale fisheries (1950-2010). PLoS ONE 13(3): e0190232. <https://doi.org/10.1371/journal.pone.0190232>

¹⁵ Armada, N. B., Bacalso, R. T. M., Rosales, R. M. P., & Lazarte, A. T. (2018). Right-sizing as a strategy for allocating fishing effort in a defined marine ecosystem: A Philippines case study. *Ocean & Coastal Management*, 165, 167–184.



Philippines aquaculture industry varies by farming species. For example, for seaweed, it was because of unavailability of seed, ice-ice disease and pollution from chemicals from washed-out rice fields¹⁶. Spatial aquaculture zoning has not been conducted at the national level with carrying capacity and strategic environment assessments. Many disease outbreaks have spread due to poor farm management practices, poor biosecurity and poorly coordinated disease response and treatment.

11. **Global demand for high quality and sustainable seafood continues to grow, but given the exhaustion of fish stocks, the Philippines will need to capture more value from its existing production to benefit.** Changing consumer preferences, in favor of easy-to-prepare meals and in response to greater consciousness of nutrition and sustainability, have increased the demand for both greater diversity and quality of processed and unprocessed fish products. Initial investigations show favorable financial returns for value-added fishery products that are not currently being supplied through the domestic market. Value addition for low value species could also assist in improving their use for direct human consumption, reduce the discarding by-catch, and contribute towards a more sustainable use of resources.¹⁷
12. **About 20-40 percent of total fish caught and farmed is lost annually, with additional loss of quality and nutritional value, due to poor post-harvest practices often associated with inadequate infrastructure for ice supply, safe handling and cold storage and transport of seafood.** Export rejection is also an issue, usually caused by: (i) food quality issues including presence of filth and substandard end products; (ii) food safety issues such as the presence of microbial contaminants and chemical contaminants; (iii) non-compliance with regulatory requirements; and (iv) sanitary and phytosanitary measures¹⁸. There is an urgent need to effectively link production, processing and marketing from the sea to the table while ensuring quality, safety and sustainability of seafood. Barriers to reducing post-harvest losses include inappropriate handling onboard vessels, in fish landings, aquaculture farms, and fish-trading facilities; inappropriate marketing, transport and distribution facilities and infrastructure; non-compliance with regulatory or market requirements (quantity, quality, traceability); and inappropriate handling and preparation techniques among consumers. To achieve twin objectives of reducing post-harvest loss to 10% and increasing the volume and value of fishery products, a Comprehensive Post-Harvest, Marketing and Ancillary Industries Plan (2018-2022) recommends the provision of fish processing and handling infrastructure; competitive and modern support for inputs to fisheries production; harmonization of market information systems; enhancement of access to credit and insurance; and branding and promotion of Philippines' seafood.
13. **The fisheries sector is also particularly prone to frequent and devastating impacts of typhoons and other adverse climate conditions.** Damage to boats, fishing gear, fishery pens and cages, and landing sites are common during the typhoon and monsoon seasons and may increase as typhoon intensity is projected to increase in the future. The vulnerability of fisherfolk is increased by low levels of resilience planning, infrastructure designed without appropriate climate risk information, lack of protective structures for boats and equipment, and challenges with early warning systems (i.e. low capacity among some coastal communities to address and understand hazard alerts when provided, and lack of awareness of actions to take after receiving hazards alerts). Increasing sea temperature, along with associated acidification and hypoxia, is resulting in: migration of some fish species (expected to result in a 24 percent

¹⁶ Patrick G. White, Nelson A. Lopez and Alfredo Mahar F. A. Lagmay. Spatial Technology for Disaster Assessment and Emergency Response for Inland and Coastal Aquaculture in the Philippines.

¹⁷ Report of the Workshop on Financing Value-added Production and Marketing of Fishery Products in Asia and the Pacific, Kuala Lumpur, Malaysia, 26-30 May 1997, FAO Rome 1999; <http://www.fao.org/3/w9250e/w9250e00.htm>

¹⁸ Comprehensive Post-Harvest, Marketing and Ancillary Industries Plan (2018-2022).
<https://www.bfar.da.gov.ph/files/img/photos/CPHMAIP20182022.pdf>



drop in potential catches from marine fisheries by 2050); food web changes, slower growth and decreasing fish size¹⁹; loss of coral reefs with negative consequences on fish habitats and storm surge protection services valued at US\$4 billion per year; and damage to aquaculture. High sea temperatures associated with El Niño in 2016 caused seaweed production to drop by 16 percent due to increased diseases and epiphytes, and a 3.4 percent decrease in fish farm harvests as a result of high mortality and slow growth.

14. All aspects of the fish supply chains are strongly affected by the COVID-19 pandemic, with jobs, incomes and food security at risk. Disruption to domestic and international trade, and changes in consumption are affecting the Philippines and will continue to be the case as the crisis persists. Export to China of seaweed and shrimp have been disrupted since March 2020 because of COVID-19. Changes in consumption as a result of closure of restaurants, cancellation of both public and private events, and declines in domestic and international tourism have resulted in significantly reduced demand for certain fish products, particularly high-end products, such as lobsters, oysters, bluefin tuna, and mahi-mahi.²⁰ Fisheries and aquaculture production together dropped by 3.2% for the first quarter of 2020 compared to the first quarter in 2019²¹. Innovative solutions will be required to make social distancing logistically possible in the short and medium term, particularly in fish processing facilities which generally have a large number of workers in a confined space. Health and sanitation standards, which are on average low in the Philippines' fisheries sector, will need to be improved significantly. Increased reliance on online/ digital transactions for food commodities is expected to continue even in the post-COVID 19 quarantine period and will require scale-up of ecommerce solutions.²²

15. Institutionally, the Department of Agriculture through its Bureau of Fisheries and Aquatic Resources (BFAR) is responsible for the development, improvement, management and conservation of the Philippine fisheries and aquatic resources. BFAR has responsibility for the management of the country's fishing grounds. However, jurisdiction over municipal waters (for the most part up to 15 km from shore) is the responsibility of local government units (LGUs). While many LGUs are proactive in managing their shorelines and near coastal areas, approaches, priorities and capacities of LGU administrations vary across time and space, while the irregular configuration of the Philippine's 33,900 km of coastline and indistinct boundaries between some municipalities has resulted in unclear administrative mandates in some waters. In addition, the DENR has responsibility for establishing, administering and managing 1800 Marine Protected Areas, 28 Marine Sanctuaries and 94 Protected Seascapes. The lack of effective mechanisms for coordination has led to largely unstructured and inefficient coastal zone and fishery resources management.

16. An updated 2016-2020 plan under the Comprehensive National Fisheries Industry Development Plan outlines BFAR's approach to the new opportunities and challenges in the sector including ASEAN integration and markets, climate change, persistent high poverty incidence, fish stock depletion and habitat degradation. It espoused a paradigm shift from production-oriented fisheries management with only limited controls on fishing seasons and gear,

¹⁹ Based on habitat suitability models informed with local catch data, moderate climate change scenario could result in a 15% to 30% reduction in habitat suitability driven mainly by the projected increase in sea surface temperatures (Geronimo 2018). Geronimo, RC (2018). Projected Climate Change Impacts on Philippine Marine Fish Distributions. Department of Agriculture – Bureau of Fisheries and Aquatic Resources. viii+76 pages.

Cheung, W.W.L., Bruggeman, J. & Butenschön, M. (2018). Projected changes in global and national potential marine fisheries catch under climate change scenarios in the twenty-first century. In: Impacts of climate change on fisheries and aquaculture Synthesis of current knowledge, adaptation and mitigation options (eds. Barange, M., Bahri, T., Beveridge, M.C.M., Cochrane, K.L., Funge-Smith, S. & Poulain, F.). Food and Agriculture Organization of the United Nations, Rome, pp. 63–85.

²⁰ OECD. 2020. Fisheries, aquaculture and COVID-19: Issues and Policy Responses.

²¹ Philippine Statistics Authority, 2020. Fisheries Situation Report January to Mar 2020.

²² From "We Recover as One" strategy of the Philippine government for post COVID-19 recovery.



to scientific, sustainable, ecosystem-based fisheries management, supported by the 2015 amendments to the 1998 Philippine Fisheries Code which mandated that the issuance of licenses and permits be tied to harvest control mechanisms including monitoring, control and surveillance. BFAR has established 12 Fishery Management Areas (FMAs) as a basis for developing these new management structures for EAFM through a participatory governance framework for collaboration among national and regional agencies, LGUs (provincial and municipal), civil society organizations, research institutions, private sector entities, local fisherfolk/producer groups and other local stakeholders. As of June 2020, the FMAs are still in the process of forming their respective management boards and scientific advisory groups. EAFM planning is in its early stages with the COVID-19 precautionary measures postponing the necessary large-scale consultations for this process. However, National Fisheries Research and Development Institute (NFRDI) and National Stock Assessment Program (NSAP) teams are working to consolidate data and generate reference points for major fish species that will be used to develop harvest control rules. Annex 1 provides further details on the FMA approach in the Philippines.

17. **COVID response in the fisheries sector is guided by the Food Security Framework and strategy for the “new normal”; anchored upon the goals of a “food secure and resilient Philippines with prosperous farmers and fisherfolk.”** Socio-economic recovery and resiliency are at the heart of this Framework’s strategy to “survive, reboot, and regrow”. More specifically, the strategy calls for emphasis to be given to farm consolidation, modernization, industrialization, export promotion, and infrastructure development’, and for this to be promoted through farmers and fisherfolk clustering and partnering with big businesses and cooperatives. This strategy, which builds on a solid platform of international experience, is now being actively pursued by the Department of Agriculture and is central to the design of the proposed project.
18. **Modernization of the fisheries sector in the Philippines requires both (i) the establishment of science-based and ecologically sound stock management systems, and, since the productive potential of wild stocks is limited, (ii) the expansion of sustainable aquaculture production and enhancement of value retention and addition across the sector.** The FMAs will provide the platform for developing fisheries management in a form that integrates offshore fishing grounds, municipal waters and coastal habitats with LGU planning processes. Development of fisheries and aquaculture enterprises to take advantage of new market opportunities will require linking finance, production and marketing, and clustering, to overcome the scale and technical capacity constraints on existing micro- and small-scale enterprises. Modernizing the sector would provide a critical contribution to COVID response, through both safeguarding an important component of food security and enhancing the livelihoods of poor households dependent on an impacted sector. Mainstreaming climate resilience within the approach is also indispensable given the acute vulnerability of large parts of the coast to typhoons, and the chronic impacts that all marine ecosystems are face.

Relationship to CPF

19. **The proposed project is closely aligned with Objective 10 of the CPF (July 2019-December 2023), Focus Area 1 (Investing in Filipinos), through its direct support for “Increased resilience to natural disasters and climate change”.** The proposed project would directly address and contribute to this CPF objective through its support for enhanced management of natural resources (mangrove, coral reefs and seagrass), coupled with support for more climate-resilient aquaculture and related infrastructure. As such, it would directly address constraints to economic growth, both through enhanced resiliency to the country’s high exposure to natural hazards as well as its support for improved productivity of the fisheries sector. Furthermore, by promoting sustainable use of fisheries resources, which constitute an important source of protein in Filipino diet, the project would contribute to the country’s nutrition agenda,



complementing WB's existing nutrition programs aligned with CPF Objective #2 "Improved access to affordable health services."

20. **The Project is also closely aligned with the CPF Focus Area #2: Competitiveness and Economic Opportunity for Job Creation.** This seeks to "to promote "inequality-reducing transformation" that will expand economic opportunities across sectors; from agriculture, forestry and fisheries to industry and services". The proposed project is directly supportive of Objective #7 of Focus Area 2 on "improved income opportunities in agriculture", through support for development of climate-resilient fisheries and aquaculture enterprises encompassing all aspects of the fishery and seafood value chains. It would also contribute to job creation, enhanced employment opportunities and the leveraging of resources through partnership arrangements (PPPs and PPCPs).
21. **The project would also contribute to the cross-cutting themes of the CPF in regard to "Governance" and "Promoting Digital Transformation".** Specifically, the governance goal of strengthening implementation capacity, particularly at the local level, would be supported through the project's focus on operationalizing the new inclusive ecosystem approach to managing fish stocks and coastal ecosystems through FMAs. In terms of the CPF goal of "Promoting digital transformation", the project would contribute to building skills and the wider adoption of digital technologies through the expanded use of online trading/marketing platforms for seafood/fishery products, as well as through the wider use of digital technologies for monitoring fishing vessel movements and traceability of fish catches.

C. Proposed Development Objective(s)

22. The proposed development objective of the project is to improve management of coastal fishery resources, enhance the value of fisheries production and increase fisheries-derived incomes within coastal communities, in selected Fishery Management Areas (FMAs).

Key Results (From PCN)

23. **The following are the proposed PDO results indicators:**
 - Improved management of fish stocks and coastal ecosystems. This would be measured through a composite index (to be developed during preparation), which could include indices such as, among others: (i) enforcement of science-informed catch / effort limits for fish stocks; and (ii) the area of key marine habitats effectively protected.
 - Increase in value for selected fishery value chains in the selected FMAs. This would be estimated through customized surveys (at baseline, midterm and end of the project) for selected fishery value chains, in both control and intervention areas.
 - Increased income of fisherfolk households derived from aquaculture, capture fisheries and fisheries-related livelihood and enterprise incomes. This would be estimated through customized surveys (at baseline, midterm and end of the project) for selected fishery value chains, in both control and intervention areas.

D. Concept Description

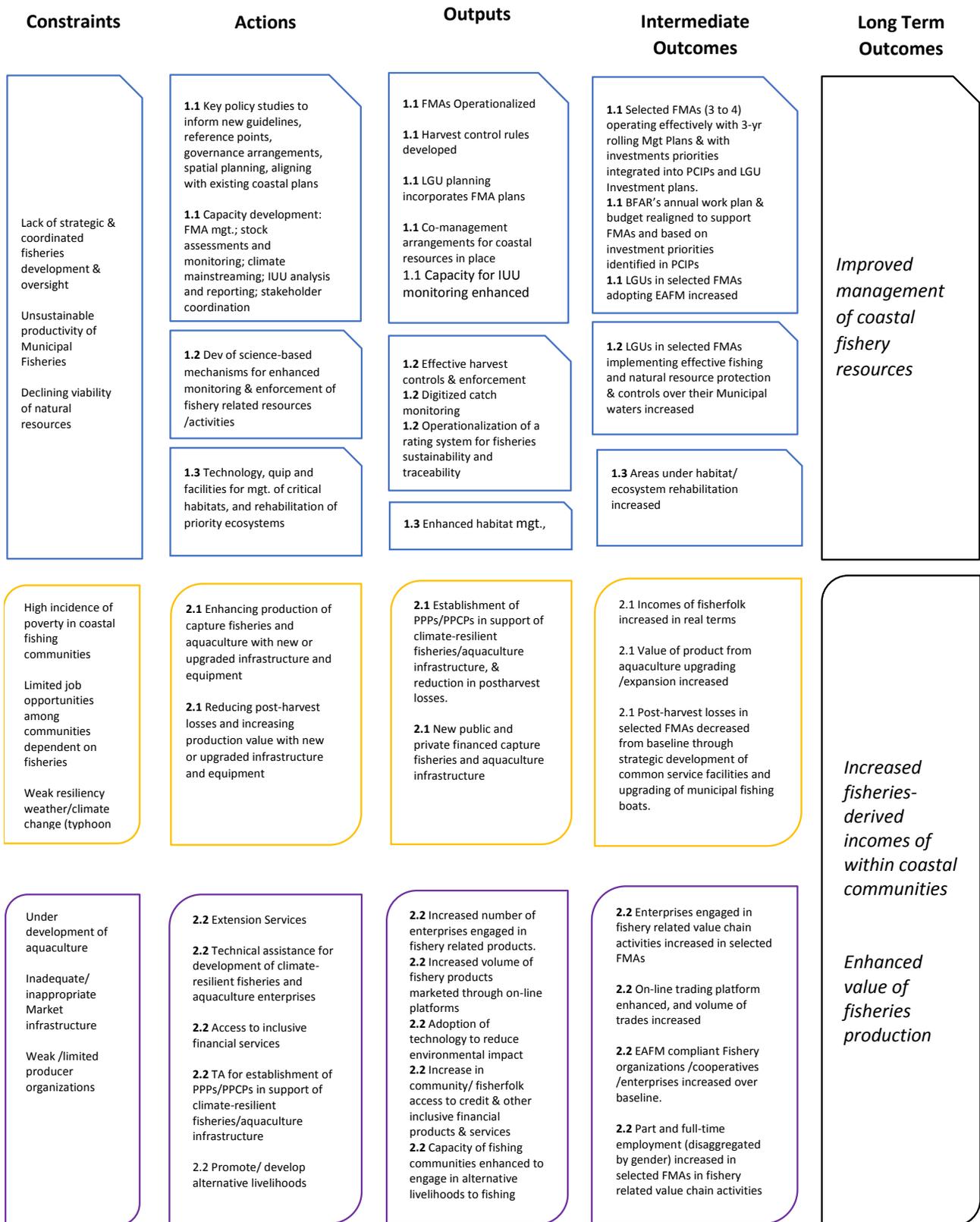


Figure 2: Theory of Change for the Project



24. A draft Theory of Change for the project is included as Figure 1 above. This relies on the assumption that a combination of an ecosystem and science-based approach to managing fisheries resources, upgrading and hardening of critical fisheries infrastructure, and addressing capacity and coordination constraints to the upscaling and modernization of fisheries-related enterprises, is needed to address the intertwined problems of depleting fish stocks, and inefficient and uncompetitive fisheries enterprises.

Project Area

25. The project area would cover 3-4 selected FMAs from among the twelve FMAs (Figure 1) established through Fishery Administrative Order (FAO) 263 (January 2019). Screening of the 12 FMAs is underway using agreed criteria that includes vulnerability to threats; access to opportunities and investments on resiliency and sustainability; contribution of the fisheries sector to the economy; status of the fisheries resource; and institutional and governance capacity which would be key for project implementation.²³ The final selection of the priority FMAs would be done through a consultative process involving NEDA, DENR, DILG, CCC and the Bank. The process is expected to be completed by July 2020. The final FMAs selected should account for a significant proportion of the FMA area and fish stocks to bring about impact at scale, should include FMAs that have potential to deliver strong outcomes with respect to job creation and poverty reduction, and should be FMAs where there is sufficient institutional capacity to implement the project within the project timeframe.

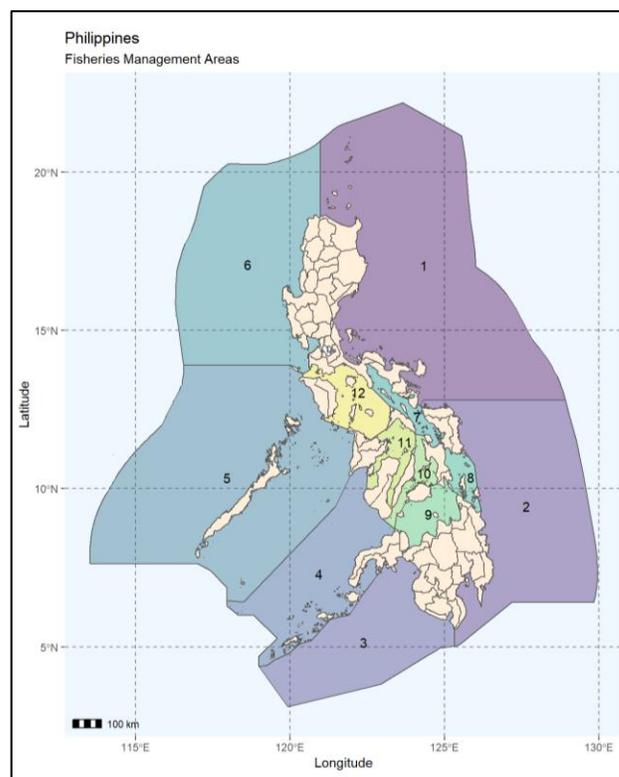


Figure 3: Fishery Management Areas in the Philippines

Project Components

26. The project is expected to be supported by a World Bank IBRD loan of US\$200 million, with an implementation period of seven years. Detailed Project costs will be determined during preparation as part of the BFAR Feasibility Study, as well as the budget allocation across the three components. Components 1 and 2 cover improved management of fisheries resources and development of supportive infrastructure and fisheries enterprises, respectively. These would be coordinated and are interdependent because improved management of the fishery resources provides the basis for a sustainable fisheries industry, in the absence of which, investment in productive capacity typically threatens, rather than enhances the long-term value of fisheries output. Where built upon a foundation of robust resources management, however, enhancement of the value generated from fisheries helps to both justify the expense of

²³ Criteria were discussed and agreed during the Identification Mission for the project. The agreed FMA prioritization criteria and weights are the following: i) Level of vulnerability to threats: 25% (Natural: 15; Man-made: 10), ii) Level of access to opportunities and investments on resiliency and sustainability 15%, iii) Contribution of the fisheries sector to the economy 15%, iv) Status of the fisheries resource (overfishing/unsustainable fishing practices/IUU) 20%, and v) Institutional capacity or governance 25%. Vulnerable areas identified under the Government’s Risk Resiliency Program (RRP) would also be considered in the selection criteria for FMAs to be supported under the project.



tighter harvesting controls as well as mitigate their short-term impact through the provision of alternative livelihoods and sustainable enterprises. Furthermore, conditional support for fisheries enterprise development can provide an incentive for community compliance with resource management systems.

Component 1: Fisheries and Coastal Resilient Resource Planning & Management (FishCRRM)

27. The component would place significant focus on developing the enabling regulatory framework for sustainable fisheries management of FMAs, improving monitoring and enforcement of fishery policies/regulations, better protecting coastal ecosystems and habitats, and activities to enhance the overall resilience of fisheries in the FMAs to climate and other shocks. The goal is to reduce overfishing and IUU, improve transparency and traceability and ability to export. Activities would be undertaken through three sub-components:

Subcomponent 1.1. FMA Planning and Capacity Development

28. This subcomponent will help develop more strategic oversight and coordination of fisheries development in the target FMAs. Under this subcomponent, the project will help develop and implement FMA plans, support law enforcement, conduct spatial planning for aquaculture and coastal resilience, harmonize national standards/guidelines for post-harvest and processing, and support co-management. It will include:

- (a) Undertaking key studies on: EAFM and fish stocks assessment and analysis to help develop harvest control rules (HCRs)²⁴; spatial planning of coastal areas in the targeted FMAs with focus on aquaculture site selection and climate resilience; convergence of FMA and existing resource management plans²⁵; economic instruments to support FMA management; streamlining of permit/license procedures for aquaculture farm; carrying capacity assessment for selected aquaculture site; strategic environmental assessment to reduce potential conflicts, environmental and social impacts; health/sanitation/biosecurity protocol development and early warning system set up for disease control; and co-management of coastal resources; harmonization of business requirements of Local Government Units (LGUs); guideline development for landing site operation, laboratories, etc.
- (b) Capacity development on: targeted FMA management; research and development to support better fishing, farming, and post-harvest technology as well as their adoption; systematic data collection and analysis on fisheries, aquaculture, post-harvest and integration of climate change data and information in management plans; data collection and analysis of IUU incidents; training materials and production handbooks for key commodity cultured species and culture systems; co-management capacity building; support fisherfolks associations (fishermen, fish processors, fish farmers and traders, especially women groups); and stakeholder coordination.

Sub-component 1.2: Fishery Management:

29. This subcomponent will finance the enforcement of laws/policies/regulations to help improve compliance, reduce IUU and improve transparency. This subcomponent will support: (i) establishment of an integrated monitoring control and surveillance (MCS) system with investments in equipment, facilities and human capacity including MCS control centers, technologies such as vessel monitoring systems (VMS), automatic identification systems (AIS), communications, remote sensing, and equipment for electronic catch documentation; (ii) development and implementation of protocols for dealing with offenders; regional collaboration on combatting IUU; and (iv) co-management processes, including community surveillance or volunteer groups.

²⁴ Harvest control rules (HCRs) are developed for each fish stock and are pre-agreed guidelines that determine how much fishing is allowed (catch or effort-related limits) based on indicators of the targeted stock's status.

²⁵ Convergence will focus on coherence and consistency of development objectives, resource use, tenurial and management instruments being applied in the geographic scope.



Sub-component 1.3: Coastal Ecosystem Services Improvement

30. This subcomponent will help to address the key issues of declining ecosystems to support fisheries and resilience. This subcomponent will finance: (i) technology, equipment and facilities for critical habitats management including MPAs; and (iii) rehabilitation of priority ecosystems including fish sanctuaries, coral and artificial reefs, wetland, and mangroves.

Component 2: Modern and Resilient Livelihood Investments (MARLIN)

31. This component would support the expansion of modern and resilient fishery and fishery-related enterprises, inclusive of financing and ICT-enabled technology and infrastructure investments along the value chain. Targeting of value chains, enterprises and community groups will be based on analysis of critical opportunities and needs at the FMA level (under component 1, and refined as needed under component 2), and make use of BFAR's registry of fishers. BFAR would provide the facilitating role in the provision of technical assistance and coordination of local initiatives and programs, as well as financing for catalytic types of infrastructure and enterprise investments involving green and resilient technologies for nascent value chains in the selected FMAs. It is envisioned that a significant portion of the costs of infrastructure and enterprises upgrading will be shared by LGUs, the private sector and communities through Public, Private, and Community Partnerships (PPPs and PPCPs), including enhanced access to national and local development funds and private finance²⁶. Activities would be undertaken through two sub-components:

Subcomponent 2.1: Climate resilient infrastructure.

32. This subcomponent will support the provision and/or upgrading of infrastructure for:

- (a) Enhancing production of capture fisheries and aquaculture: (i) critical fish landing sites, ice plants, cold storage; (ii) quarantine facilities and fish disposal facilities; (iii) proper ice boxes and safety measures for municipal vessels; (iv) new brood stock centers establishment and hatchery/nursery facility improvement; and (v) development of early warning systems, storm shelters, and sheltered harbors.
- (b) Reducing post-harvest losses and increasing production value: (i) fish processing including common service facilities and equipment; (ii) cold chain facilities, warehouse, trading center; (iii) replacement of fish stalls; and (vi) scale-up of seaweed solar dryers.

33. The project would support identification, planning, and design for a variety of public and private infrastructure, including in some cases basic public infrastructure (roads, power, water supply; internet coverage) to enable private investment. The role of the project in direct financing of infrastructure will be limited, however, based on the strength of the public benefit, overlap with the direct mandate of BFAR, and (lack of) availability of alternate financing sources. Wherever possible, the project will play a catalytic role, drawing on complementary public and private sources of financing.

²⁶ Several programs of the DA, BFAR, PFDA, DAR, DENR, DILG, DOST, DSWD, and DTI could finance critical public fisheries infrastructure and common service facilities, or fishery enterprises through credit financing, insurance and guarantee facilities from government financial institutions, rural banks and locally active microfinance institutions. Examples of financing facilities and services include the DA-ACPC's Production Loan Easy Access (PLEA) Program; Survival and Recovery (SURE) Assistance Program; Capital Loan Easy Access; Agricultural and Fisheries Machineries and Equipment Loan Program; and Agrarian Production Credit Program (APCP). Under the Land Bank of the Philippines, credit programs include the Agricultural Competitiveness Enhancement Fund (ACEF); Sustainable Aquaculture Lending Program (SALP); ISDA Program (Integrated Support for the Development of Aquaculture) which is a growership program for the fisheries sector anchored on the institutional buyers or processors linked with small fisherfolk, individuals and SME growers; and Seaweed Financing program which is a credit assistance program for coops, fisher associations, SMEs and large agribusiness enterprises, for the promotion of seaweed production, harvesting and marketing as a means of livelihood business opportunity. Under the DBP, there is the Sustainable Agribusiness Financing Program. Under the Philippine Crop Insurance Corporation, there is a Fisheries Insurance Program. The Land Bank also manages the Agricultural Guarantee Fund Program for farmers and fisherfolk.



Subcomponent 2.2: Fisheries and Aquaculture Enterprise Development.

34. This subcomponent will finance:

- (a) Extension services. Development of training centers with demonstration sites for sustainable fishing technology, farming technology (including new species) and post-harvest processing technology; disease management for aquaculture like early warning systems, and veterinary services; establishment of standardized testing and diagnostic laboratories (e.g. services) in priority regional fish ports and landing centers; health and sanitary protocols training; ancillary machinery and equipment development
- (b) Technical assistance for development of climate-resilient fisheries and aquaculture enterprises. Upskilling and developing new skills of fishery industry stakeholders on business services, organizational skills, post-harvest and business management, product and market development; assist formulation of commodity based product standards (BAFS), improvement on registration, certification, and accreditation policies to mandate compliance to existing standards like Hazard Analysis Critical Control Point (HACCP); facilitating more enterprises to get certified to meet more stringent food safety and hygiene standards; establishment of an online trading/marketing platform for fisheries products and promotion of e-commerce; and developing nascent (underdeveloped but promising) fishery-related value chains.
- (c) Access to inclusive financial services. Technical assistance to fishers and fisherfolk groups to be able to access existing credit and grant windows for their micro and small fishery enterprises in GFIs as well as microfinance institutions. TA would include: preparation of business plans and related documents; support for economic viability assessment for micro, small and medium enterprises (MSME); financial literacy; and access to inclusive financial products and services to fisherfolk (for example, microloans, microinsurance and guarantee coverage).
- (d) Integration for commercial scale-up. Support the scale up and replicate the PPP/PPCP²⁷ approaches developed under previous BFAR projects, particularly on climate-resilient fisheries/aquaculture infrastructure. The project will also promote ecommerce and scale-up of innovative solutions already in place like the Seafood Commodity Order Form that will help to ensure the movement and trade of fishery products even during COVID-19 related travel restrictions.²⁸
- (e) Alternative livelihood. Support more alternative livelihood training/demonstration programs; support competition for fishery byproduct, tourism product, and other product development and marketing.

Component 3: Project management, coordination and M&E

35. This would support the overall management, staffing and implementation of the project, including establishment and operationalization of digitized Management Information System (MIS), that links multiple data sources beyond BFAR's and incorporates dynamic monitoring, evaluation, and learning systems. Adaptive management is a key principle in EAFM and this depends on availability of information at the right time and in the right form that could be used by decision-makers. A web-based M&E system as well as the use of geo-tagging and geo-mapping of investments would be done. This would be integrated in a web- and SMS-based citizen feedback loop for complaints, suggestions and opportunities for fishers and coastal communities to exchange best practices. It would also include the conduct of baseline, mid-term and end-line surveys, as well as case studies in selected areas in the Project FMAs. A project communication strategy will be developed and communication materials (in various audience-appropriate formats) will be generated through various online platforms. A publicly accessible web-based platform ("Geo-Stories") will also

²⁷ Including private investment in infrastructure and facilities for Community Fish Landing Centers, and partnerships between producer cooperatives with large enterprises to provide support on fish hatcheries, farming and/or processing, or on alternative livelihood development.

²⁸ BFAR has devised a Seafood Commodity Order Form as part of its Seafood KADIWA ni Ani at Kita Strategic Plan, which consists of readily available fishery commodities (e.g. fresh and value-added) from nearby regions with pick up and/or delivered price, volume of minimum order per delivery, wherein payment will be Cash on Delivery (COD), as required by the participating supplier in this marketing platform.



be developed to convert data of the project into interesting stories as part of the M&E and communication efforts.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	TBD
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

CONTACT POINT

World Bank

Stephen Ling, Carolina V. Figueroa-Geron, Maurice Andres Rawlins
Lead Environmental Specialist

Borrower/Client/Recipient

Department of Finance

Implementing Agencies

Department of Agriculture - Bureau of Fisheries and Aquatic Resources
Eduardo Gongona
Under Secretary
nqjedgonics@yahoo.com



FOR MORE INFORMATION CONTACT

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: <http://www.worldbank.org/projects>

APPROVAL

Task Team Leader(s):	Stephen Ling, Carolina V. Figueroa-Geron, Maurice Andres Rawlins
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Approved By

Environmental and Social Standards Advisor:		
Practice Manager/Manager:		
Country Director:	Achim Fock	24-Jul-2020