Project Information Document/ Identification/Concept Stage (PID)

Concept Stage | Date Prepared/Updated: 30-Jun-2017 | Report No: PIDC119591

BASIC INFORMATION

A. Basic Project Data

Project ID	Parent Project ID (if any)	Environmental Assessment Category	Project Name
P164257		B - Partial Assessment	Promoting Community-based Climate Resilience in the Fisheries Sector (P164257)
Region	**Country**	**Date PID Prepared**	**Estimated Date of Approval**
LATIN AMERICA AND CARIBBEAN	Jamaica	30-Jun-2017	
Financing Instrument	**Borrower(s)**	**Implementing Agency**	**Initiation Note Review Decision**
Investment Project Financing	Jamaica	Ministry of Industry, Commerce, Agriculture and Fisheries	The review did authorize the preparation to continue

PROJECT FINANCING DATA

FINANCING

FINANCING SOURCES

Select all that apply

[ ] Counterpart Funding [✓] Trust Funds [ ] Parallel Financing

SUMMARY (USD)

Total Project cost	**4,875,000**
Total Financing	**4,875,000**
Trust Funds	4,875,000
Financing Gap	**0**

DETAILS

Trust Funds

Source	Currency	Amount	USD Equivalent
Strategic Climate Fund Grant(CSCF)	USD-US Dollars	4,875,000	4,875,000

B. Introduction and Context

Country Context

1. **Jamaica is an Archipelagic Caribbean State with a population of 2.7 million people and gross national income per capita of US$5,050 (2015).** The economy is primarily based on services, which accounts for more than 70 percent of the GDP. The key sources of foreign exchange are tourism (1.5 million tourists each year), remittances, and bauxite mining. Approximately 75 percent of productive industries and the service sectors (contributing an estimated 90 percent to the GDP) are located within the coastal zone, and two-thirds of the population lives within 2 km of the 1,022 km long coastline.
2. **The country has strong Blue and Green economic potential as it is well endowed with natural resources.** The main island's irregular coastline is 795 km long and has diverse coastal features and ecosystems including harbours, bays, sandy beaches, rocky shores, estuaries, wetlands, mangrove swamps, seagrass beds and coral reefs. The majority of living marine resources are found on the main island shelf and nine oceanic banks, which cover an area of 4,170 km2. The main island shelf is much wider on the south coast with a maximum width of approximately 24 km.
3. **In recent years, Jamaica achieved commendable strides in fiscal consolidation and debt management, spurring positive signs of growth and a return of market confidence**. The primary fiscal surplus was brought up to 7.5 percent of GDP from 5.4 percent in FY2012/13. The debt/GDP ratio has been reduced by 25 percentage points over three years, including through successful debt market transactions. However, public debt remains high, and the Government still has substantial annual financing needs. The economy has recorded positive quarterly GDP growth for the past seven quarters, reaching 2.0 percent (in Q3, 2016) from 0.3 percent (Q1, 2015), with positive growth in employment since mid-2015. Inflation dropped to a record-low of 1.6 percent year-on-year (y/y) in November 2016, from 10.3 percent two years earlier. The current account has improved, registering a surplus of around 1.2 percent of GDP during the first half of 2016, compared to a deficit of 10 percent in 2013. Fiscal consolidation has also engendered confidence in capital markets, as evidenced by falling spreads over other emerging market sovereign bonds.
4. **The Jamaican economy is improving, but improvements fall short of expectations and poverty and unemployment are still high.** The estimated growth rate is 1.1 percent in FY2016/17. Employment is steadily improving but the unemployment rate remains high at 12.7 percent. The unemployment rate is 17.0 percent for both genders, 9.0 percent for men, 17.0 percent for women, and 31.2 percent for youth of ages 14-24 (STATIN 2017). It is estimated that in 2014 more than two-thirds of youth aged 18-20 in the poorest 40 percent of households were neither in school nor working, rendering this youth cohort especially vulnerable to risky and violent behavior. Jamaica is among the top countries worldwide by share of women in middle management positions. However, women continue to face challenges on several fronts. Although women entrepreneurs account for the majority of the MSME sector, they struggle the most with accessing finance and weak capacity. Female-headed households account for 58 percent of the poor. Domestic and gender-based violence in Jamaica are significant problems, with one in every five women experiencing physical or sexual violence by a partner in their lives.
5. **The medium-term growth outlook for Jamaica is encouraging, provided fiscal and structural policy reforms are maintained and the reform program continues to progress.** The IMF forecasts that GDP will grow modestly to 2.1 percent by FY17/18, rising to almost 3.0 percent by the end of the decade. Projections for debt reduction show that public debt could fall to below 100 percent of GDP by FY19/20 if the Government

maintains fiscal restraint. As a small and open economy, however, Jamaica's economic growth prospects remain vulnerable to external shocks such as interest rate and currency market shocks, and natural hazards, such as extreme weather events (which are expected to become more frequent and severe as a result of climate change).

Sectoral and Institutional Context

1. **In Jamaica, fisheries play an important social, economic and cultural role.** Fisheries provide multiple socio-economic contributions such as income generation, food and nutrition security, and livelihood diversification opportunities. The sector forms the backbone of the local economy in many coastal and inland communities across the island. Jamaica has one of the highest levels of fish consumption per capita in the Americas (30.6 kilograms per year), but has become highly dependent on imports, which account for about 79 percent of all fishery products consumed domestically in 2014. Additionally, fisheries form part of the cultural identity in these communities. Participation in fisheries has become a tradition, and the knowledge, practice, and way of life associated with fishing and fish farming have transcended many generations.

1. **The poor fisherfolk are particularly vulnerable to climate change impacts because the fisheries sector is heavily climate sensitive.** The social impact of the Jamaican fisheries industry is particularly evident in the fishing communities, which are mainly rural and have fairly high rates of poverty. Those in the fisheries sector are the poorest and most marginalized in society with little or no alternative economic activity available to them. It is important to note that many people from other sectors turn to fisheries seasonally, temporarily, or permanently when faced with periods of unemployment and poverty. Climate-related disasters and impacts will likely exacerbate existing vulnerabilities in such communities since they tend to lack capital assets buffers and access to credit.
2. **Marine capture and aquaculture are highly developed and economically significant while inland, freshwater capture operates at a smaller scale.** The marine capture fishery comprises of both artisanal and industrial operators and provides employment directly and indirectly to some 40,000 fisherfolk, whilst also contributing to the livelihoods of over 200,000 people. At the end of 2015, there were 23,631 registered fisherfolk and 7,133 registered boats operating from 187 fishing beaches and two cays (ESSJ, 2015). The marine fishery resource in Jamaica includes those within the territorial sea and archipelagic waters and is approximately 17,995 km2 and 22,000 km2. This implies that upwards of 50,000 individuals (registered and unregistered) may be engaged in some form of fishing activity in Jamaica's maritime space which is estimated at 274,000 km2. Aquaculture directly employs between 800 to 1000 people. Commercial aquaculture was first introduced to Jamaica in 1976. The main food fish produced in Jamaican aquaculture both for local consumption as well as for export is Tilapia. However, the aquaculture industry has expanded over the years to include mangrove oysters and ornamental aquatic flora and fauna species. Aquaculture in Jamaica peaked in 2006 producing up to 8,019 MT, but has declined to 646 MT in 2015. The recent decline has been attributed to several factors, among them were the continued scarcity of red tilapia seed stock which negatively impacted production, as well as the drought conditions during the recent years which affected pond operations (PIOJ, 2016).
3. **The fisheries in Jamaica are continuously faced with shrinking stocks due in part to unsustainable fishing practices (e.g., overfishing) and environmental pollution**. Most economically important species, including reef fish, pelagics, conch, lobster, and shrimp, are declining in number. In addition to overfishing, the demise of the fisheries resources also derives from severe pollution and consequent destruction of coral reefs, seagrass beds, and mangrove forests, all of which are important nursery areas for marine life. Not only the fisheries sector but

also tourism, a major source of the country's revenue, is largely affected by the deteriorating marine ecosystem services. Indeed, some 90 percent of the island's GDP is generated in coastal areas. Once the robustness of the ecosystem is reduced, it becomes highly susceptible to external shocks such as climate change impacts.

4. **Significant warming of the ocean around Jamaica has been observed.** Warming trends in Jamaica were found to be consistent with a warming pattern across the globe. Data from the airport stations indicate historical warming of 0.20 – 0.31 °C per decade, with greatest warming occurring between June and August. This trend is validated by recent analysis of sea surface temperatures (SST) around Jamaica where a statistically significant annual increase of +0.15°C/decade from 1980 to 2015 was observed (CCCCC, 2015). The seasonal trends offer a better indication of the degree to which the waters surrounding Jamaica are warming. The seasonal trends in SST show that warming is occurring at rate of +0.09°C/decade for January SST and +0.17°C /decade for August SST. The annual SST is expected to increase locally by 2°C, which would warm the waters surrounding Jamaica to an annual average of +28°C with summer averages exceeding 29°C (CCCCC, 2015).
5. **The warm waters will lead to large-scale changes to the marine ecosystems with far-reaching consequences for associated livelihood activities as well as for the coastal protection provided by healthy coral reefs**. The entire Caribbean region observed extremely warm sea temperatures in 2005 which caused the largest bleaching of coral reefs—an important fish nursery and habitat—in the region to date. This event wiped out as much as 70 percent of the reefs in some countries, causing the substantial decline of reef fisheries which led to appreciable losses to national economies. According to the *Turn Down the Heat III* report (World Bank, 2014), the Caribbean waters may experience declines in fish catch potential in the range of 5–50% due to warming of 2°C by 2050 and more frequent bleaching events. Also, this warming may cause a shift in the species composition of resident wild fish populations and fish species that are cultured. Changing water temperatures may necessitate the farming of other more heat tolerant species. The oxygen replenishment rate, or aeration, is also expected to decrease in response to projected decreases in rainfall. Reduced rainfall could also negatively impact the amount of fresh water discharged from the local river systems, which has a direct impact on water availability for aquaculture. In addition, the warming of both air and sea and dry spell could combine to produce saltier water (by about 1 psu). The potential of hydrogen (pH) is also expected to decrease dramatically along with lower concentrations of primary productivity, patterns of eutrophication and coral bleaching events. Not only does this result in the loss of fishery stock and biodiversity, but also in weakens natural barriers to hurricanes and thus increased storm surges, which caused significant loss of livelihoods of many coastal communities. Furthermore, ocean acidification aggravated by climate change is impacting on calciferous marine life and is a major concern for sustaining coral structures and the fisheries industry, as exemplified by the conch industry. It is also projected that more extreme weather will occur with increased SST. During hurricanes, fishermen lose a majority of their traps, resulting in a significant loss of assets and revenue and high cost of repairs. For instance, the Tropical Storm Gustav in 2008 alone destroyed 550,000 pounds of fish and fingerlings, leading to a loss of approximately US$0.89 million. There was an estimated US$1 million in damage to the fishing industry by Hurricane Sandy in 2012 (US$0.86 million for marine capture and US$0.15 million for aquaculture) (PIOJ, 2013).
6. Therefore, **establishing effective measures to protect marine and coastal ecosystems and build resilience to climate change in the fisheries sector would be an important input in sustaining the country's economic growth and rural livelihoods.** The proposed Project seeks to build the basis for long-term transformational change, focusing on the climate resilience of vulnerable populations in the fishery sector. This will be achieved by addressing climate-informed regulatory/policy framework to allow for adaptive management of the fisheries and the value chains; building capacity of fisherfolk to sustainably manage the fisheries to build resilience to climate impacts as well as to diversify their livelihoods; and increasing awareness and knowledge

on climate impacts on capture and culture fisheries.

Relationship to CPF

1. **The Project would contribute to achieving the World Bank's twin goals to end extreme poverty and promote shared prosperity** by directly supporting poor fishing and fish farming communities that are highly vulnerable to climate change impacts. The Project would also contribute to the Country Partnership Strategy (CPS) FY2014-2017 by supporting Pillar III Social and Climate Resilience which seeks to increase opportunities for poor and vulnerable communities (Outcome 7) and to improve institutional capacity to plan and respond to climate change events and natural disasters (Outcome 8). It is also aligned with the World Bank Group Climate Change Action Plan (WBG, 2016).

C. Project Development Objective(s)

Proposed Development Objective(s)

The PDO is to strengthen climate resilient practices among targeted fishing and fish farming communities of Jamaica

Key Results

1. Share of targeted fishing communities that adopt climate resilient fishing practices;
2. Share of targeted communities that adopt mari-culture;
3. Share of targeted fish farming communities that adopt climate resilient inland aquaculture practices; (Indicators 1-3 are aligned with *PPCR Core Indicator #5: Number of people supported by the PPCR to cope with the effects of climate change*); and
4. Marine and coastal areas under community-led sustainable fisheries management (aligned with *PPCR Core Indicator #3: Quality and extent to which climate responsive instruments/investment models are developed and tested*).

D. Preliminary Description

Activities/Components

1. **Component 1: Strengthening the Fisheries Policy and Regulatory Framework** (PPCR financing of US$0.573 million). Declining performance of the fisheries sector is directly related to its vulnerability to climate change impacts coupled with anthropogenic threats such as overfishing and pollution. One effective way to build resilience to climate change in this sector is to strengthen and improve the overall health of marine and coastal ecosystems. This component would support strengthening the enabling environment and measures to promote sustainable fisheries and aquaculture management. Specifically, this component would support (1.1) developing the policy and regulatory framework for climate resilient fisheries and aquaculture management, including developing a strategy and action for the draft national Fisheries and Aquaculture Policy, developing protocol and guidelines for the fisheries and aquaculture productions to incorporate climate considerations, and drafting regulations for community-led fisheries management including monitoring, control, and surveillance (MCS); and (1.2) strengthening the community-led fisheries management framework, including

establishing partnerships with community-based organizations for sustainable fisheries management and MCS, developing the management plans to this effect including water quality monitoring, and providing training and equipment for MCS.

2. **Component 2: Diversification and Fisheries-based Alternative Livelihoods** (PPCR financing of US$2.68 million). Given declining wild fish stocks due to anthropogenic and climate impacts and the rising demand for fish and fish products on the domestic and global markets, aquaculture, coastal mariculture/polyculture, and offshore pelagic fisheries have potential business opportunities that can be harnessed to meet those demands. Aquaculture and coastal mariculture/polyculture, in particular, are a means of reducing dependency on wild fish stocks and, hence, reducing their vulnerabilities to climate impacts. This component would support (2.1) promoting freshwater aquaculture and coastal mari-culture/poly-culture among fishing communities, including developing a demonstration aquaculture farm; developing climate-smart aquaculture sub-projects for new and existing fish farmers; developing a demonstration coastal mariculture/polyculture operation; developing climate-smart mari-culture/poly-culture and alternative livelihoods sub-projects; and refurbishing and upgrading the existing seed stock production and expanding local feed production; (2.2) exploring artisanal longline fishing[1] for offshore pelagics as fisheries-based alternative livelihood opportunity. This would include conducting a baseline stock assessment; developing the sustainable management strategy; and providing skill-based training and equipment.
3. **Component 3: Capacity Building and Awareness Raising** (PPCR financing of US$0.97 million). This component would support capacity building and awareness raising of the community-based organizations, fishery industries, and the relevant government personnel to promote climate considerations in fisheries and alternative livelihoods. The proposed activities include (3.1) expanding the knowledge base on climate change impacts on the fisheries sector to give stakeholders the information and skills needed to advance climate-smart livelihood activities, such as a targeted socio-economic assessment including gender and youth dynamics in the fisheries sector; climate projection for inland aquaculture, coastal mari-culture/poly-culture, and pelagics fisheries; and agro-meteorological information services for inland aquaculture and coastal mari-culture/poly-culture operations; (3.2) awareness building and behavior change, including a Knowledge Attitudes and Perceptions assessment, and development and implementation of a behavior change strategy; and (3.3) Capacity building and knowledge sharing for fisheries organizations and the Fisheries Division, including support for the formalization of selected informal community-based organizations and strengthening of existing community-based organizations; building capacity in technical skills and business management; implementing targeted community-to-community learning and knowledge exchange; developing the Fisheries Information Management System at the Fisheries Division; and strengthening capacity of the Fisheries Division personnel including extension officers to promote climate resilience in the capture and culture fisheries sector.
4. **Component 4: Project Management and Monitoring and Evaluation (M&E)** (PPCR financing of US$0.655 million). The Project would fulfill the monitoring and reporting requirements of the World Bank, as well as the PPCR in coordination with the PIOJ which acts as the PPCR Country Focal Point. The M&E would also incorporate targeted knowledge management activities aimed at capturing and sharing overall lessons within Jamaica and across countries under the PPCR Caribbean regional track. This component would support (4.1) project management including establishment of the Project Implementation Unit (PIU) and the Project Steering Committee (PSC); developing and implementing the annual work plans; providing fiduciary management including procurement, financial management, audits, and safeguards; managing implementation risks; and communication to key stakeholders on project implementation progress; and (4.2) monitoring and evaluation (M&E), including developing and implementing the M&E plan; and contributing to the preparation of the annual PPCR Core Indicators Monitoring and Reporting Scorecard.

[1] A drifting longline consists of a mainline kept near the surface or at a certain depth by means of regularly spaced floats with relatively long snoods with baited hooks evenly spaced on it. (FAO, 2017)

SAFEGUARDS

E. Safeguard Policies that Might Apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01	X		
Natural Habitats OP/BP 4.04	X		
Forests OP/BP 4.36		X	
Pest Management OP 4.09	X		
Physical Cultural Resources OP/BP 4.11	X		
Indigenous Peoples OP/BP 4.10		X	
Involuntary Resettlement OP/BP 4.12		X	
Safety of Dams OP/BP 4.37		X	
Projects on International Waterways OP/BP 7.50		X	
Projects in Disputed Areas OP/BP 7.60		X	

CONTACT POINT

World Bank

Contact : Keiko Ashida Tao
Title : Environmental Specialist
Telephone No : 473-1339
Email :

Borrower/Client/Recipient

Borrower : Jamaica
Contact : Andrea Allen
Title : Senior Project Analyst, Ministry of Finance
Telephone No : 876-932-5462
Email : andrea.allen@mof.gov.jm

Implementing Agencies

Implementing Agency :	Ministry of Industry, Commerce, Agriculture and Fisheries		
Contact :	Gilbert Kong	Title :	Director of Fisheries
Telephone No :	876-967-1601	Email :	gakong@micaf.gov.jm

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