

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: PIDA62456

Project Name	Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project (P153544)
Region	EAST ASIA AND PACIFIC
Country	Vietnam
Sector(s)	General agriculture, fishing and forestry sector (40%), General water, sanitation and flood protection sector (40%), Public administration- Water, sanitation and flood protection (20%)
Theme(s)	Climate change (40%), Water resource management (25%), Rural services and infrastructure (10%), Environmental policies and institutions (15%), Natural disaster management (10%)
Lending Instrument	Investment Project Financing
Project ID	P153544
Borrower(s)	State Bank of Viet Nam
Implementing Agency	Ministry of Agriculture and Rural Development, Ministry of Planning and Investment, Ministry of Natural Resources and Environment, Vietnam
Environmental Category	A-Full Assessment
Date PID Prepared/Updated	25-Apr-2016
Date PID Approved/Disclosed	28-Apr-2016
Estimated Date of Appraisal Completion	
Estimated Date of Board Approval	10-Jun-2016
Appraisal Review Decision (from Decision Note)	The review did authorize the team to appraise and negotiate

I. Project Context

Country Context

Over the past two decades, Vietnam has experienced rapid economic growth. Political and economic reforms (Doi Moi) launched in 1986 have transformed Vietnam from one of the poorest countries in the world, with per capita income below \$100, to a lower middle income country within a quarter of a century with per capita income of \$1,960 by the end of 2013. The percentage of people living in poverty dropped from almost 60 percent in the 1990s to under 10 percent by 2013. Over the same period, the mean income for the bottom 40 percent of the Vietnamese population increased by an annual average of 9 percent.

Development of the agriculture sector, particularly in the Mekong Delta, has contributed

significantly to the development of Vietnam. Vietnam's annual rice exports of \$4 billion accounts for more than a fifth of the global total. Rice is cultivated on 82 percent of the arable land. It provides 80 percent of the carbohydrate and 40 percent of the protein intake of the average Vietnamese. The Mekong Delta alone contributes 50 percent of Vietnam's rice (90 percent for export), 70 percent of its aquaculture products and a third of Vietnam's GDP.

The Mekong Delta is densely populated. It is home to 22 percent of Vietnam's population, most of which live in coastal rural areas and are highly dependent upon rice or shrimp farming for their livelihoods. Many of these Delta households are 'near poor' and are still vulnerable to external shocks that can push them back under the poverty line. In recent decades, the push to increase agricultural and aquaculture production, greater liberalization and diversification of rural markets, and urban development in the Delta have improved opportunities for poor people. Yet, the new economic processes also highlight many environmental and social problems facing vulnerable groups.

The pace of change is rapid and challenged by climate change impacts. In addition to increased pressures from the unsustainable use of land and water resources, economic growth of the Mekong Delta is challenged by climate change impacts, with increased saline intrusion in coastal areas, greater coast erosion and higher levels of flooding from the combination of land subsidence and sea level rise in the southern part of Ca Mau Peninsula. Upstream hydropower development in the Mekong Basin will also reduce sediment load down to the Delta as well as impede fish migratory routes. Intensification of agriculture (i.e. moving from 2 to 3 rice crops per year) and increased water use also threaten the water resources quality and quantity. Construction of protection dikes for intensive rice farming in recent years also reduced the water retention capacity in the upper part of the Delta, resulting in more serious seasonal flooding for downstream provinces.

Climate change impacts are impeding the Mekong Delta's inclusive growth and poverty reduction efforts as poor and marginalized groups will incur the greatest burden. With these uncertainties, the government will be challenged to ensure that growth is environmentally sustainable and inclusive. Investment planning and management in the water, agriculture and climate adaptation realm will have profound impacts, both positive and negative, on the development trajectory of Vietnam.

Sectoral and institutional Context

Sectoral context

Development success of the Mekong Delta can be attributed to two important factors. First, the natural supply of freshwater and nutrient-laden sediments by the Mekong River annually transforms the Delta, providing the vital ingredients for productivity. Large amount of sediments are transported downstream with the floods into the Mekong Delta, some of which are deposited on the Delta's flood plains and the remainder transported into the marine environment. This annual deposition of sediment in the Delta and along the coastline contributes to important Delta building processes. Annual flood pulse also drives the high levels of aquatic and terrestrial biodiversity and system productivity that is a defining feature of the Delta.

Second, the Government of Vietnam has since the late 1960s supported ambitious master planning efforts with the guiding mandate being the control of the Delta's freshwater hydrology to enable multiple rice crops each year. These planning initiatives, which emphasized the role of water

control infrastructure, began to take effect in the 1980s and accelerated in the post Doi Moi era of the 1990s. They had a tremendous impact on increasing rice production in the Mekong Delta but adverse effects on the Delta's ecological connectivity and on the wide array of fresh, brackish and marine habitats which had previously covered the Delta and which were responsible for the Delta's former high biodiversity. Today some 75 percent of the Vietnamese Mekong Delta is agriculture land (mainly multiple rice cropping paddies), and at least 13,000km of dikes and 42,000 km of primary and secondary canals have been constructed.

Lessons have pointed to an urgent need for cross-sectoral, integrated spatial planning for infrastructure development. While Doi Moi reforms directly contributed to the development of the Mekong Delta, over the past 20 years the implications of a single-focus development agenda have become better understood as lessons point to the need to break from business-as-usual development planning, and move towards cross-sectoral, integrated spatial planning and investments. The lessons include:

- Highly controlled multi-crop farming systems have depleted soil fertility and cut off agricultural areas from natural fertilization processes of the Mekong River: The widespread isolation of the Mekong's freshwater flood plain from fluvial processes to open up opportunities for triple and double crop rice farming has resulted in reduced fertility and reduced productivity of triple cropped areas. In An Giang province, total yield from some triple cropped areas are actually lower than yield from neighboring double-crop areas which are still partially connected to the annual flood cycles.
- The shrinking Mekong floodplain area has exacerbated flooding in unprotected areas: The loss of floodplain has increased flood levels in unprotected areas and concentrated flood discharge in the Mekong River channels and distributaries. Worsened flood conditions have also lead to transboundary issues between Vietnam and Cambodia, and channelized flood flows have led to increasing issues of riverbank and coastal erosion.
- Draining of wetland depressions in the Delta for agricultural expansion have led to increasing acidification of surface water environments with knock-on effects for ecosystems (especially fisheries) and water supply. Deterioration of these provisioning services has disproportionately impacted poor communities of the Delta who rely on these services for their livelihood.
- Dry season agriculture is shifting the Delta's balance between fresh and marine environments. Increased freshwater demand to support dry season agriculture has depleted groundwater sources, strengthened the penetration of saline intrusion, increasing the salinity of water sources and accelerating rates of land subsidence in the Delta.
- Centralized water control initiatives such as the saline control structures in the coastal areas of the Delta often limit the livelihood and economic opportunities for farmers seeking to take advantage of market driven opportunities. The market driven conflict between shrimp and rice farming in the early 2000s revealed the inflexibility and low levels of adaptive capacity of an infrastructure-driven approach to controlling the Delta environment and conflict between government targets for rice production and individual farmers wanting to optimize the economic returns for their farming effort.

Growing investments within the delta are placing development pressures on the resources, and resulting in implications on floods, salinity and tidal influxes. From an environmental perspective, the Mekong Delta and its wetlands play an important role in water regulation (hydrological flows) and groundwater recharge/discharge. It also allows dispersion of sediments and nutrients over a very wide area contributing to the fertility and agricultural productivity. Temporary storage of flood

waters in floodplains and wetlands provides significant regulation of floodwaters and protection against high floods, and provide strong local influence on the basin's climate. Dry season exposure of in-channel wetland areas provides increased primary productivity and sink capacity for greenhouse gas emissions. Changes in the hydrological cycles due to increased and fragmented infrastructure investments poses risks to the existing ecological functions.

In addition, from an economic perspective, it is important to note that there is currently an excess supply of rice in Vietnam, with an estimated 6-7 million tons exported per year. Furthermore, rice farmers are facing greater difficulties in marketing their low quality rice, with resulting declines in profits (i.e. rice farmers with less than 1 ha of land cannot make their living on rice income). In addition, rice cropping requires a lot of freshwater, and production declines are occurring in areas increasingly affected by saline intrusion. Given these new development pressures, the Mekong Delta needs to explore a more diversified agriculture away from rice.

Upstream developments in the Mekong Basin are impacting water resources, as well as sediment flows and fish migration. Hydropower development in the mainstream and tributaries upstream of the Delta provide additional water storage which should on average increase dry season flows. These reservoirs, however, may capture and store sediments reducing the flow of nutrient rich sediments to the Mekong Delta and into coastal water, and potentially increase river bank and coastal erosion. Hydropower development, particularly on the mainstream, may also block important fish migratory routes resulting in decreased capture fisheries and loss of biodiversity. Upstream irrigation projects may also reduce dry season flows into the Delta.

The Mekong Delta has been identified as one of the most vulnerable to the impacts of climate change. Agriculture and aquaculture are increasingly affected by changes in freshwater supply due to salinity intrusion, flooding, increasing tropical cyclone intensity, and increasing temperatures. Domestic freshwater supply is expected to become less reliable due to erratic rainfall and salinity intrusion into groundwater resources. Marine fisheries, particularly coral reef fisheries, are expected to be impacted by sea-level rise, warmer oceans, and ocean acidification associated with rising atmospheric and ocean CO₂ concentrations. Coastal infrastructures are exposed to increased tropical storm intensity, long-term sea-level rise, and sudden-onset fluvial and coastal flooding.

Already, Vietnam is experiencing wetter wet seasons, drier dry seasons, higher intensity rainfall, flash flooding and increased frequency of tropical cyclones. Average annual temperatures and wet season precipitation are expected to increase significantly. Increases in wet precipitation will be coupled with increased peak daily precipitation events and drier dry seasons, compounding water availability issues. Rice yields in the Mekong Delta are also expected to decline from 6–12 percent due to resulting inundation and salinity intrusion, while aquaculture production will also be affected.

The Government of Vietnam recognizes the threats and has started to develop a more holistic and spatially integrated vision to manage the current and future risks and opportunities in the Delta. In 2013, a Mekong Delta Plan was developed, with the support of the Netherlands government, which evaluated a number of different development strategies including considerations of climate change. Delta level scientific databases and climate change impact assessments are also ongoing; however, to date these projects remain at a theoretical level and are not integrated into the planning process. The impacts of alternate development options on various sectors in a highly complex delta environment, and the efficacy of different investments in the face of climate change and dynamic

upstream development remain poorly understood.

The complexity of issues in the Mekong Delta covers a range of sectors (e.g. agriculture, urban, energy, environment), temporal scales (e.g. from daily operations to long-term climate change concerns), and divergent institutional and policy landscapes. Delta planners and decisions makers need to continue making important strategic decisions, across sectors, on the future direction and nature of development amidst an uncertain future which partly lies outside their control. At present no tools or frameworks exist which allow delta planners to systematically assess the resilience of their investment decisions against the breadth of potential change. Integrated information platforms would help contribute to evidence-based resilient planning and management of the highly vulnerable Mekong Delta.

Institutional Context

The current institutional landscape in the Mekong Delta is complicated, with planning and sectoral implementation roles spread across several ministries and agencies which make it challenging to effectively plan for and build resiliency in the Delta's development plans. The Ministry of Agriculture and Rural Development (MARD) is responsible for overseeing and providing policy guidance on the agriculture and rural development in Vietnam. In addition, MARD is responsible for overseeing the development of water resource infrastructure including irrigation, flood control, and coastal defenses. The Ministry of Natural Resources and Environment (MONRE) is responsible for managing the nation's land, air, and water resources, and is also Vietnam's lead ministry for climate change policy. The Ministry of Planning and Investment (MPI) oversees the overall national, regional, planning processes and promotes and guides infrastructure investments.

The government is facing huge coordination challenges relating to the activities, investments, plans and programs of different sectoral agencies. Furthermore, the South-West Steering Committee (SWSC) –part of the political mechanism in Vietnam–is limited in its mandate from taking a stronger coordination role, especially with regard to the implementation of measures and investments. All this makes inter-ministerial and inter provincial coordination difficult, and multisectoral planning required for adaptive delta management, difficult.

Several decentralization programs have been deployed and several state agencies have been established to incorporate perspectives and concerns of various stakeholders. The integrated principles for land and water use embedded in several existing policies are not applied in practice; spatial and policy planning continues to target sectors separately. Compounding these challenges is the fragmentation of data, information and analysis across various research agencies (often affiliated with key sectoral ministries), with no protocols for data sharing and very limited collaboration.

Sectorally, there are institutional barriers and tight control on agricultural production (notably rice) which hamper the progress in agricultural productivity and profitability. In the Mekong Delta, water resources management has traditionally focused on flood control and on the provision of freshwater, mainly for agriculture. Protection of water resources was long disregarded despite growing demand and increasing water pollution. Legislation relating to water and land-use remains complicated.

II. Proposed Development Objectives

The Project Development Objective (PDO) is to enhance tools for climate-smart planning and improve climate resilience of land and water management practices in selected provinces of the Mekong Delta in Vietnam. The objective would be achieved through the provision of capital investments, technical assistance and capacity building for farmers in the selected provinces of the Mekong Delta in Vietnam and government institutions at national and sub-national levels.

III. Project Description

Component Name

Component 1: Enhancing Monitoring, Analytics, and Information Systems (Estimated US\$61.3 million, of which US\$56.4 million will be financed by IDA).

Comments (optional)

Putting the Mekong Delta on a more sustainable and resilient trajectory in the face of climate change, upstream Mekong basin development, and environmentally damaging practices within the Delta itself, will require investments in both infrastructure and the enhanced capacity to monitor, plan, and manage the Delta's land and water resources. Component 1 provides the framework for ensuring the capacity to undertake "smart investments" and cope with anticipated wide-scale environmental changes.

Component Name

Component 2: Managing Floods in the Upper Delta (Est. US\$ 101 million, of which US\$ 79.1 million will be financed by IDA)

Comments (optional)

The primary objective of this component is to protect and/or reclaim the benefits of controlled flooding (flood retention) measures while increasing rural incomes and protecting high value assets in An Giang, Kien Giang and Dong Thap provinces.

Component Name

Component 3: Adapting to Salinity Transitions in the Delta Estuary (Est. US\$ 109.1 million, of which US\$ 82.0 million will be financed by IDA)

Comments (optional)

This component aims to address the challenges related to salinity intrusion, coastal erosion, sustainable aquaculture and improved livelihoods for communities living in the coastal areas of Ben Tre, Tra Vinh, and Soc Trang provinces.

Component Name

Component 4: Protecting Coastal Areas in the Delta Peninsula (Est. US\$ 101.4 million, of which US\$82.2 million will be financed by IDA)

Comments (optional)

This component aims to address the challenges related to coastal erosion, groundwater management, sustainable aquaculture, and improved livelihoods for communities living in the coastal areas of Ca Mau, Bac Lieu and Kien Giang provinces.

Component Name

Component 5: Project Management and Implementation Support (Est. US\$ 14.5 million, of which US\$10.9 million will be financed by IDA)

Comments (optional)

This component supports project management and capacity building for MARD, MONRE and MPI to implement the Project. This component is expected to provide incremental operating costs and consultant and advisory services for overall project management, financial management, procurement, safeguards and monitoring and evaluation.

IV. Financing (in USD Million)

Total Project Cost:	387.00	Total Bank Financing:	310.00
Financing Gap:	0.00		
For Loans/Credits/Others			Amount
BORROWER/RECIPIENT			77.00
International Development Association (IDA)			310.00
Total			387.00

V. Implementation

Overview of the Implementation Arrangements. The Ministry of Agriculture and Rural Development (MARD) plays the role of Executing Agency, and will work in close collaboration with the Ministry of Natural Resources and Environment (MONRE), and the Ministry of Planning and Investment (MPI) to jointly implement the project. A Project Steering Committee (PSC) comprised of representatives from MONRE, MARD, PPCs, MOF, MPI, OOG, and SBV, would be established to monitor overall implementation, and provide policy and technical advice. The PSC would be chaired by a MARD Vice Minister and will include representatives from MARD's technical departments, and the participating provinces.

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
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

Comments (optional)

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