

**PROJECT INFORMATION DOCUMENT / INTEGRATED SAFEGUARDS DATA SHEET
(PID/ISDS)
APPRAISAL STAGE**

Report No.:

Date Prepared/ Updated: June 20, 2017

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

Country:	Vietnam	Project ID:	P159976
		Parent Project ID	P153544
Project Name:	GEF Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project (P159976)		
Region	EAST ASIA AND PACIFIC		
Estimated Appraisal Date:	July 3, 2017	Estimated Board Date:	September 12, 2017
Practice Area (Lead):	Environment & Natural Resources	Lending Instrument:	Investment Project Financing
Sector(s):	General agriculture, fishing and forestry sector (40%), Public administration-Water, sanitation and flood protection (20%), General water, sanitation and flood protection sector (40%)		
Theme(s):	Natural disaster management (10%), Rural services and infrastructure (10%), Climate change (40%), Environmental policies and institutions (15%), Water resource management (25%)		
Borrower(s)	Government of Vietnam		
Implementing Agency	Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD), MARD; Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE) and International Cooperation Department (ICD), MONRE		
Financing (in USD Million)			
Financing Source			Amount
BORROWER/RECIPIENT			0.1
Global Environment Facility (GEF)			6.1
Total Project Cost			6.2
Environmental Category	A-Full Assessment		
Concept Review Decision			
Is this a Repeater project?	No		
Is this a Transferred project? (Will not be disclosed)			

B. Introduction and Context

Country Context

- 1. 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.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. Building a climate resilient and sustainable Vietnam's Mekong Delta will require attention to regional/ global environment benefits,** including: (i) climate change mitigation through promoting conservation and enhancement of carbon stocks in forest, and other land use, and support climate smart

agriculture; (ii) sustainable land management through maintaining and/or improving flow of agro-ecosystem services to sustain food production and livelihoods, and reducing pressures on natural resources; and (iii) sustainable forest management through maintaining forest resources and enhancing forest management. These regional/global environment objectives are proposed to be addressed through activities under this GEF grant.

Sectoral Context

7. **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.

8. **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.

9. **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.

10. **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. Degradation of coastal forests, especially mangroves, is compounding coastal erosion.

11. **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 pattern.

12. **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.

13. **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.

14. **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.

15. **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.

16. **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.

17. **To make the region more resilient to climate change, there is an increasing demand for improved research and innovation to transition from the traditional practices and livelihoods to ones that are more climate-resilient, and contribute to climate change mitigation.** There is inadequate investment in integrated research and innovative practices that support climate change mitigation, contribute to better land-use and water management, and sustainable coastal forest management. The proposed GEF grant will specifically contribute to the identification, and demonstration of such research and innovation which provide solutions to enhance resilient livelihoods, promote sustainable agriculture/ aquaculture, enhance carbon stocks and reduce GHG emissions.

Institutional Context

18. **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.

19. **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.

20. **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 research agencies (often affiliated to key sectoral ministries), with no protocols for data sharing and limited collaboration.

21. **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.

22. **Lastly, there is a wealth of data and information on expected climate change impacts, trends in land degradation (e.g., soil pollution and salinity intrusion, etc.), forest management (especially mangroves) and water management in the Mekong Delta.** However, very little gets turned into actionable knowledge or used as the basis of policy and decision-making. This is partly from fragmented databases spread among multiple research agencies, and which have no mandate or protocols to share information, pool resources or to cooperate. There is a critical need for such research collaboration to produce empirical data and a strong evidence base to support robust decision-making, and climate-resilient planning in the Mekong Delta.

Relationship to CAS/CPS/CPF

23. **Twin Goals and CPS:** The project is aligned with the Vietnam CPS –which includes a pillar relating to climate resilience. The project is also consistent with the WBG 'twin goals' of eliminating extreme poverty and boosting shared prosperity through economic growth among the bottom two quintiles. In terms of poverty headcount basis, the Mekong Delta stands out as having the largest number of poor, with most provinces having poverty rates ranging from 16-28 percent. These poorer communities are likely to face economic displacement as their livelihoods are impacted by sea level rise, salinity and scarce fresh water resources.

24. **Vietnam Socio-Economic Development Plans (SEDP):** The planning process in Vietnam follows a five year planning cycle, and includes the Mekong Delta Socio-Economic Plan, as well as sectoral master plans (for irrigation, forestry, water resources etc.), provincial socio-economic development plans and land use plans. The Project is designed to foster coordination between ministries and sectors as well as to enhance tools for climate-smart analysis that will inform the various planning processes.

C. Project Development Objective

The project development objective of this additional financing (AF) is the same as that of the parent project: *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 GEF grant aims to help strengthen research capacity, and innovation to build climate resilience of key livelihoods, and reduce greenhouse gas emissions in Project provinces.

The Parent project has 5 components; and the additional financing supports all:

- Component 1: Enhancing Monitoring, Analytics, and Information Systems;
- Component 2: Managing Floods in the Upper Delta;
- Component 3: Adapting to Salinity Transitions in the Delta Estuary;
- Component 4: Protecting Coastal Areas in the Delta Peninsula;
- Component 5: Project Management and Implementation Support

I. Background and Rationale for Additional Financing

1. **Background.** The IDA credit of SDR 218.8 million (equivalent to US\$310 million) to the Socialist Republic of Vietnam for the Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project was approved on June 10, 2016 and became effective on Nov 23, 2016; the closing date is Dec 31, 2022. The project development objectives are 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 project has the following five components: (i) Enhancing

Monitoring, Analytics, and Information Systems; (ii) Managing Floods in the Upper Delta; (iii) Adapting to Salinity Transitions in the Delta Estuary; (iv) Protecting Coastal Areas in the Delta Peninsula; and (v) Project Management and Implementation Support. The project is being implemented in nine of the 13 provinces of the Mekong Delta. These include An Giang and Dong Thap in the upper delta; Ben Tre, Tra Vinh, Vinh Long and Soc Trang in the delta estuary; and Ca Mau, Bac Lieu and Kien Giang in the coastal peninsula.

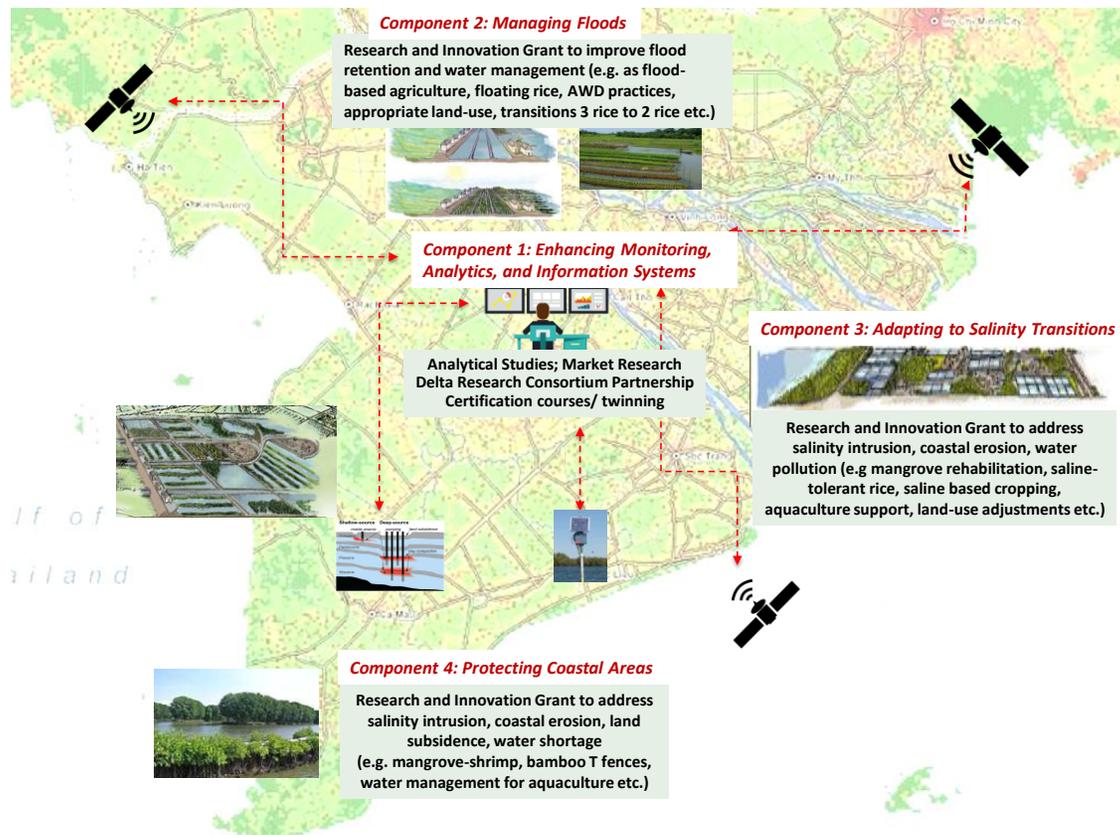
2. The Project is in early stages of implementation and is making satisfactory progress. The PMUs and the PPMUs have been fully staffed. Training has been provided to relevant staff in all project provinces on procurement, financial management, and technical aspects. Work plans for the PMUs and the PPMUs have been approved by the respective implementing agencies. Procurement plans for the first 18 months have been updated and a few initial procurement packages have been sent to the Bank for review. The Request for Proposals for the main Technical Assistance package has received Bank's no objection. Designated Accounts (DAs) have been opened and the initial deposits of IDA funds have been made to the DAs. Withdrawal applications for \$0.5 million have been made. One or more accountants have been appointed at the PMUs and in each PPMU and have been provided training. Internal audit teams have been established at the national level and in the project provinces. Safeguards staff have been appointed at the PMUs and in each PPMU and have been provided training by Bank safeguards specialists.

3. Rationale for Additional Financing. MD-ICRSL was originally designed as a co-financed, IDA-GEF blended operation. The US\$ 6.1 million GEF grant was envisaged to finance various activities related to research and innovation under Component 1 and Components 2, 3 and 4. However, there were delays in developing and finalizing the detail design of Component 1 which constitutes the main activities proposed to be financed by the GEF grant. As a result, the team agreed to prepare the IDA project separately with a specific note in the PAD that *“the project is seeking additional resources from the Global Environment Facility (GEF) to finance research and innovation activities relating to climate resilient solutions for the Mekong Delta. If the GEF grant funds are obtained during project implementation, they would finance activities which are complementary to the project and will be processed separately”*.

4. On July 29, 2015 the Bank received the endorsement letter from the GEF Viet Nam Operational Focal Point, who confirmed that the MD-ICRSL proposal is “(a) in accordance with [their] government's national priorities, including the priorities identified in the Strategy for Protecting the National Environment to 2020, vision to 2030, the National Strategy for Climate Change, Vietnam Green Growth Strategy, Decision 899/2013/QD-CP on Agricultural Restructuring towards Raising Added Values and Sustainable Development, and [their] commitments to the relevant global environmental conventions; and (b) was discussed with the relevant stakeholders, including the global environmental convention focal points”.

II. Proposed Use of GEF Funds

5. The GEF grant will be used to strengthen research capacity, and encourage innovation to build climate resilience of agriculture and aquaculture livelihoods, and reduce greenhouse gas emissions for selected provinces in Vietnam's Mekong Delta. The graphic below shows how the GEF grant activities complements the parent Project. Specifically, the funds will be allocated to the following activities:



6. **Component 1 - Enhancing Monitoring, Analytics, and Information Systems (Estimated US\$1.1 will be financed by GEF grant):** This component will help to strengthen research capacity on addressing climate change mitigation, supporting sustainable land, water and forest management, and contributing to evidence-based decision making. This grant component will include:

- Analytical work including market research including identifying export potential, developing value chains, enhancing branding and extension services for local products generated from a shift to climate smart/climate resilient livelihoods;
- Supporting a Delta Research Consortium Partnership (DRCP) –as a mechanism to ensure coordination and collaboration across government research agencies and universities;
- Preparing and delivering customized short courses and curriculum development on adaptive delta management – including through twinning arrangements between Mekong provincial universities (e.g. Can Tho university and An Giang university, and international universities); and
- Designing communication/media products and events to raise national public awareness of livelihood transition models for Vietnam’s adaptation to climate change.

7. **Component 2 - Managing Floods in the Upper Delta (Estimated US\$1.6 will be financed by GEF grant):** This component will finance a research and innovation grant that aims to support climate resilient livelihoods and contribute to climate-smart practices that are adapted to flooding and water management in the upper delta. Potential examples of issues to be covered include developing flood-based production models that support transition from three-rice to two-rice crops, floating rice, vegetables, fish and aquaculture models, land-use planning, etc.

8. This sub-regional grant may be used to (i) identify, evaluate and select climate smart and climate-resilient AAWF practices that helps to address the challenges in the upper delta; (ii) identify models of climate smart and climate resilient AAWF practices (flood-based models) and flood retention measures tested and assessed for their economic, social and environmental impacts; and (iii) develop specific knowledge products on climate-smart, climate-resilient AAWF practices for scalability and replication across the upper delta.

9. **Component 3 - Adapting to Salinity Transitions in the Delta Estuary (Estimated US\$1.6 will be financed by GEF grant):** This component will finance a research and innovation grant that aims to promote climate-smart and climate-resilient livelihoods that enable transitions to brackish options, in the face of salinity intrusion in the delta estuary. Potential examples of issues to be covered include mangrove-shrimp models, brackish water livelihoods, water-use efficiency, co-management of coastal forests, non-structural measures including land-use planning, etc.

10. This sub-regional grant may be used to (i) identify, evaluate and select climate smart and climate-resilient AAWF practices that helps to address the challenges in the delta estuary; (ii) pilot models of climate smart and climate resilient AAWF practices relating to salinity transitions that are assessed for their economic, social and environmental impacts; and (iii) develop specific knowledge products on climate-smart, climate-resilient AAWF practices for scalability and replication across the estuary sub-region.

11. **Component 4 - Protecting Coastal Areas in the Delta Peninsula (Estimated US\$1.6 will be financed by GEF grant):** This component will finance innovative practices that support climate-smart and climate resilient livelihoods to address challenges in the delta peninsula relating to salinity intrusion, coastal erosion, land-subsidence, and water scarcity. Such innovations include securing flow diversion, mangrove poly-cultures, co-management of coastal forests, co-management of aquaculture, non-structural measures such as bamboo T fences, land-landscape-level zoning, ecological based organic shrimp farming etc.

12. This grant component will (i) identify, evaluate and select climate smart and climate-resilient AAWF practices that helps to address the challenges in the delta peninsula; (ii) pilot models of climate smart and climate resilient AAWF practices relating to coastal erosion, water scarcity, and salinity intrusion assessed for their economic, social and environmental impacts; and (iii) develop specific knowledge products on climate-smart, climate-resilient AAWF practices for scalability and replication in the peninsula sub-region.

Component 5 – Project Management (Estimated US\$0.2 will be financed by GEF grant): The GEF grant will utilize the same CPMU being used to manage the parent IDA project. As such, this component will finance additional staffing for the parent PMU to specifically supervise the GEF grant activities. The table below indicates the costs allocated for each component of the AF.

25. **Key global environmental benefits/GEF value added.** The proposed AF is fully consistent with the GEF 6 Design Principles relating to Climate Change Mitigation (CCM), Land Degradation (LD) and Sustainable Forest Management (SFM) focal areas, specifically the CCM-2 Program 4, LD-1 Program 2 and LD-3 Program 4, SFM-1 and SFM-2. The GEF grant offers the following global environmental benefits and other significant adaptation benefits:

26. **First, support for climate mitigation.** The grant supports mitigation actions involve direct reduction of anthropogenic emissions and enhancement of carbon stocks in forest and other land use and support

of climate smart agriculture sinks and reservoirs that are necessary for limiting long-term climate damage. Options associated with LULUCF, including strengthening and improvement of MRV of the GHG emissions and carbon sequestration is also taken into consideration. These concrete actions can be spatially directed and economically pro-actively optimized. The project will promote innovation, technology transfer, and supportive policies and strategies to address this global challenge.

27. ***Second, rehabilitation of degraded land and soil.*** Extensive soil degradation due to erosion, salinization, compaction, and nutrient depletion is one of the major drivers of declining crop and livestock productivity in agro-ecosystems. Under the LD focal area strategy, the grant focuses on enhancing agro-ecosystems resilience and supporting agricultural yields (especially rice) that are affected by land degradation, primarily from salinity intrusion and pollution. It will look at land suitability and soil management practices, at soil conditions, water availability levels, salinity gradients, vegetation, existing land use and climate change projections, fertilizing methods and precision agriculture measures to ascertain the suitability of land and/or water; and improve soil management practices for agricultural/aquaculture activities.

28. ***Third, sustainable forest management.*** The grant will contribute to sustainable forest management and biodiversity conservation through addressing the drivers of deforestation and maintain flows of forest ecosystem services as it will focus on research and innovation relating to (i) mangrove restoration and rehabilitation in coastal areas; (ii) conservation and provision of ecosystems into production landscapes/seascapes and sectors; and (iii) integrated land-use and land-use change planning. More specifically, the grant will help to identify livelihood models that support and encourage sustainable forest management, including and especially relating to coastal forests. These include livelihoods models such as mangrove-shrimp farming –which has successful pilots that have been undertaken –and additional potential to replicate (research and innovation support) will be financed through this grant. The grant will also support the development of technical and institutional capacities to identify and monitor forest loss and develop mechanisms for revenue generation from forest carbon.

29. **In addition, the grant will also contribute to generating global environmental benefits relevant to the International Waters focal area,** through enhanced management of a transboundary water system, and investments targeting fisheries and coastal habitats. The project will be linked to other studies undertaken by VNMC and MRC on the impacts of upstream development on the Mekong Delta region in Vietnam, especially the Upper Delta. **The project is also expected to lead to a number of adaptation co-benefits,** through improved management actions, which will be using scarce water resources more efficiently; supporting the adoption of drought-tolerant crops; diversifying crops – livestock production systems, choosing tree species and forestry practices less vulnerable to storms and fires.

II. SAFEGUARDS

A. Project location and Salient physical characteristics relevant to the safeguard analysis

30. The Mekong Delta population has been identified one of the most vulnerable to the impacts of climate change. Agriculture and aquaculture is likely to be 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 increased tropical storm intensity,

long-term sea-level rise, and sudden-onset fluvial and coastal flooding. In addition, changes in fishing and farming practices, (heavier use of pesticides and fertilizers) and increasing industrialization and river traffic has led to a deterioration in air, surface and groundwater quality. Poor construction practices and intensified land use has led to increased mangrove deforestation, resulting in increased coastal erosion and increased vulnerability to natural disasters.

31. *Upper Delta Environmental Zone (An Giang/Dong Thap/Kien Giang Provinces):* This area is characterized by natural occurring deep floods in the wet season. The development an extensive agricultural flood control system has shifted the flood waters to other areas in the Delta and also reduced the beneficial effects of flooding which historically included replenishment of soil fertility, groundwater recharge, and the preservation of aquatic eco-systems. Land degradation from reduced soil fertility, and extensive rice cropping that contribute to greenhouse gas emissions

32. *Delta Estuary Environmental Zone (Soc Trang, Tra Vinh, Vinh Long and Ben Tre Provinces):* Over the past twenty years, closed freshwater systems designed for rice production have been developed in the estuary consisting of large polders ringed by dikes and with sluice gates to control saline water intrusion. Land degradation from saline intrusion, coastal forests destruction from conversion to shrimp farming are typical challenges of this sub-region.

33. *Delta Peninsula Environmental Zone (Ca Mau, Kien Giang and Bac Lieu):* The peninsula was covered by dense mangroves sustained by localized rainfall. In recent decades, there has been an explosion of shrimp farming along the coast which relies heavily on groundwater abstraction to maintain the proper salinity level. The over-abstraction of groundwater has resulted in significant land subsidence. The natural mangrove forest has been significantly reduced, although there are still significant protected mangrove zones.

B. Borrowers Institutional Capacity for Safeguard Policies

The parent project (to which this GEF grant is additional financing) is implemented by MARD, in collaboration with MONRE and MPI. MARD has considerable experience in implementation of World Bank-financed projects, and has good capacity in terms of compliance with safeguards policies. MONRE has a reasonable level of skilled technical specialists, particularly in Hanoi, and this capacity is supplemented by research performed at research agencies and academic institutions. Although MONRE has more limited operational experience, the newly-created MONRE PMU will be strengthened through institutional strengthening and targeted training programs under this parent project. Similarly, MPI safeguards capacity will be strengthened as needed. The GEF grant involves key research agencies affiliated to MARD (IPSARD) and MONRE (ISPONRE).

C. Environmental and Social Safeguards Specialists on the Team

Son Van Nguyen (GENDR)
Nghị Quy Nguyen (GSURR)

D. SAFEGUARD ISSUES OF THE AF

The AF would not affect any change in the parent project's development objectives and design. It would not trigger a new safeguard policy or change the environmental category of the parent project. The AF is not expected to expand to new areas not covered by the original project or requires new safeguard

instruments. The GEF financed activities which largely focused on technical assistance. As a result, there would be no major additional risks beyond what have been identified as part of the parent IDA project. Therefore, the environmental and social safeguards instruments of the parent project is valid for the AF. The ESMF was updated to reflect the activities under the AF and re-disclosed locally at the project sites on June..., 2017 and at the Bank’s website on June..., 2017.

Processing the TA activities under the AF during implementation will follow the interim guidelines of the Bank’s Operations Policy and Country Services, Operational Risk Management (OPSOR), effective January 2014: *“Interim Guidelines on the Application of Safeguard Policies to Technical Assistance (TA) Activities in Bank-Financed Projects and Trust Funds Administered by the Bank”*. This requirement has been included in the ESMF of the parent project. The following sections are for the parent project, for which the grant is an additional financing.

Safeguard Policies	Triggered ?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>This policy is triggered due to the potential adverse impacts associated with construction activities under Component 1, 2, 3, and 4 and implementation of the sustainable livelihood models, requiring the identification, mitigation and monitoring of potential adverse environmental and social impacts.</p> <p>The project is proposed as Category A for environment, given the potential construction and operation of a water reservoir for water supply and fire prevention (in Ca Mau subproject scheduled for second phase) which would be located adjacent to U Minh Ha National Park in Ca Mau province, and thus may have significant impacts on natural habitats and biodiversity of the national park. The complicity of water resources issues and the significant impacts of land acquisition due to project activities are also anticipated, as well as potential future induced impacts when pilots are scaled up.</p> <p>A Regional Environmental Assessment (REA) and four Environmental and Social Impact Assessments (ESIAs) for the first phase subprojects have been prepared based on the agreed ToR. An ESMF has been prepared and disclosed during preparation phase given that the subprojects will be identified during project implementation. Each subproject will go through environmental and social screening. The full scale Environmental and Social Impact Assessment (ESIA) will be carried out for all category 'A' subproject. Category 'B' subproject will require limited ESIA or ESMP.</p>
Natural Habitats OP/BP 4.04	Yes	<p>The project will not impact any protected area nor will it affect important/endangered flora or fauna species or biodiversity areas of high value. The environmental and social screening and the first phase subprojects confirmed that natural habitats are present in the project areas. However, they would not have impact on any protected area nor would they affect important/endangered flora or fauna species or biodiversity areas of high value. Construction and operation of the sluices gates would have the small potential impacts on natural habitats of the rivers, canals, and estuaries including loss of small benthic habitats and disturbance of benthic organisms, temporary blockage of fish passage in the rivers and canals due to operation of the sluice gates. Impacts and mitigation measures were and will be included in the relevant subproject ESIAs to address these impacts.</p>

Forests OP/BP 4.36	Yes	There are indigo forests in Ca Mau, Kien Giang, An Giang, and Dong Thap. The activities to restore coastal landscapes to enhance resilience of inland farming systems, reduce vulnerability to the impacts of sea-level rise and coastal erosion including mangrove reforestation in targeted areas may have the potential to have adverse impacts on the rights and welfare of local people and their level of dependence upon natural and plantation forests. No significant impacts on forests were found in the first phase subprojects, and associated mitigation measures were included. Forest Management Plans will be prepared for all mangrove reforestation undertaken as part of the Project, and for any subprojects that may affect the indigo forests.
Pest Management OP 4.09	Yes	The more reliable irrigation water would induce increased irrigated agricultural activities which may involve the use of agricultural chemicals. In order to mitigate these environmental impacts, an integrated pest management plan (IPM) program will be implemented for each applicable subproject as a part of the ESMP. A Pest Management Framework (PMF) was developed and included in the ESMF as a guideline for preparation of an IPM program. The PMF stipulates prohibition of the use of very toxic chemicals, and provides directions and approach for IPM.
Physical Cultural Resources OP/BP 4.11	Yes	It is not expected that the project will necessitate relocation of PCRs such as monuments, temples, churches, religious/spiritual and cultural sites. Should this be unavoidable, all effort will be made to limit impacts on such PCRs. In such a case, a PCR management Plan will be prepared in consultation with local stakeholders and religious/cultural authorities. The project will involve relocation of graves which are also considered physical cultural resources (PCRs). Since the project includes dredging and excavation activities, which may result in chance finds, a chance finds procedure has been included in the ESMF for application in subproject ESMPs.
Indigenous Peoples OP/BP 4.10	Yes	The project entails multiple subprojects in a large geographical area of Mekong Delta Region where ethnic minority communities (Cham, Chinese and Khmer) are likely to be present. Of the 4 sub-projects selected for the first year implementation, two (Kien Giang and Tra Vinh/Vinh Long) have EM peoples present in the subproject areas. Ethnic minorities (mainly Khmer) account for 23.6% of Cau Khe District (Tra Vinh Province). This represents 31,335 households. In the two districts located in Vinh Long Province, the number of EM household is very little. No EM household is affected by land acquisition. These EM households are potentially affected by the Subproject due to the proposed livelihood improving models.
Involuntary Resettlement OP/BP 4.12	Yes	Project activities will involve some land acquisition resulting in physical land take and impacts on livelihoods and resources. At this stage, this may occur in components 2 3 and 4. For the four first year subprojects, total permanent land acquisition is estimated at 1,249,974 m ² (especially 132,240, 1,100,00, and 17,734 in Kien Giang, An Giang and Tra Vinh/Vinh Long sub-projects). Temporary land acquisition, for the purpose of work space during construction, is estimated at 274,253 m ² . It is estimated that the total number of household affected by these subprojects is 825 (respectively 58, 752, and 13 in Kien Giang, An Giang, and Tra Vinh/Vinh Long sub-projects), of which 70 HHs (respectively 58 and 12 in Kien Giang and Tra Vinh/Vinh Long sub-projects) will need to be relocated.

Safety of Dams OP/BP 4.37	No	The project may fund the construction of a water reservoir for water supply and fire prevention. No structure will be higher than 10 meters, and the dam and reservoir are not anticipated to pose any hazards. In line with OP/BP 4.37, the ESMF has provisions for meeting the requirements of the policy, including ensuring the involvement of qualified engineers.
Projects on International Waterways OP/BP 7.50	Yes	This policy triggers for the project considering the nature of activities to be implemented within broad areas of the Vietnam Mekong Delta and that Vietnam is a riparian on the International Mekong river basin, of which it is a downstream riparian. The proposed investments under the project will involve additions or alterations that will rehabilitate, upgrade, or make changes to existing schemes. No project activities will be implemented on the mainstream of the Mekong, and construction of the sluice gates will be implemented on the primary and secondary infield canals. The four subproject Environmental and Social Impact Assessments (ESIAs) prepared for the first year of implementation confirmed that the project would not have appreciable harm to the Mekong flow and water quality. Further, the proposed project area is located in the most downstream of the Mekong, therefore, the investments will not certainly affect the water quality or flow in the upstream riparian countries. Therefore, it is assessed that the project falls within the riparian notification exception under paragraph 7(a) of OP 7.50, and that no riparian notification is required. The memorandum for approval of the riparian notification exception was signed by the Regional Vice President on March 23, 2016.
Projects in Disputed Areas OP/BP 7.60	No	None of the proposed project sites are in a Disputed Area.

II. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The project would mainly involve the following physical investments under Components 2, 3, 4: i) Rehabilitation and reinforcement of low dikes in the floodplain, sea and river dikes to create a sediment area for mangrove/for flood/salt intrusion regulation and control, and embankments to prevent high tides; ii) Construction of infield sluice gates and culverts through the sea dykes to control salinity intrusion/shrimp-rice farming; iii) Construction and rehabilitation of irrigation systems including dredging canals for water regulation and water quality improvement; iv) Construction of two reservoirs for freshwater water supply and a water treatment plant; v) Mangrove planting, restoration, and protection; vi) Sustainable agriculture systems focused on land use/zoning and water resources management; vii) Development of livelihoods models that are climate change (CC) resilience in the three zone of the project, including floating rice farming, conversion of rice to other high economic value crops, aquaculture and rice-shrimp and mangrove forest-shrimp models; and vii) Capacity building on specific livelihood activities. Civil works under Component 1 will be small including of a small building to house the Mekong Delta Center in Can Tho city and expanding and upgrading MONRE's monitoring systems in the Mekong Delta for surface water and groundwater, including construction of water resources monitoring stations.

The project is expected to bring about significant positive changes to the Mekong Delta region in terms of (i) enhanced capacity of the region to adapt to climate change adaptation due to implementation of sustainable climate resilience livelihoods models; (ii) increase in agricultural productivity and thus contributing to poverty

reduction and economic development due to optimum fresh water-salinity intrusion regulation and flood control; (iii) improvement water quality due to reduced use of fertilizers, pesticides, and aquaculture chemicals; and (iv) Increased mangrove cover for enhancing ecological restoration and reducing coastal erosion.

Regional level impacts

Environmental and social impacts have been identified and assessed in detail –both at the regional level as well at the project-specific levels. Given the types and locations of the proposed subprojects and the nature of social conditions and water resources management in the lower part of Mekong Delta, a Regional Environmental Assessment (REA) was conducted. The REA confirmed that rapid population growth and intensive agricultural and aquaculture development over the past decades have significantly reduced the natural values in the delta area and key lessons include (a) highly controlled multi-crop farming systems have depleted soil fertility and cut off agricultural areas from natural fertilization processes of the Mekong River, (b) shrinking Mekong Floodplain area has exacerbated flooding in unprotected areas, (c) draining of wetland depressions in the delta for agricultural expansion; (d) dry season agriculture is shifting the delta's balance between fresh and marine environments; and (e) 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. Based on the key basin-wide drivers of change (rainfall and temperature, hydropower, land use, and sea level rise) it was found that key changes in the Mekong Delta will be an increase in flood magnitude, volume and duration, shortening of transition seasons, and increase dry season water levels.

The REA found no major adverse regional negative impacts resulting from the proposed project and that the regional adverse impacts can be mitigated through implementation of the subproject ESMPs. Summary of key regional impacts for Components 2, 3 & 4 include:

- Installing water/flood control structures in the upper delta will change the hydrological flow and is likely to have major positive regional impacts by increasing flood retention and restoring floodplain ecosystems and agriculture. Flooding will provide nutrients and sediment in the wet season reducing the use of fertilizers and pesticides. Under the new livelihood models farmers will be transitioning from triple rice cropping to double rice plus crops and aquaculture. This will be a step-by-step process that includes agricultural extension, access to markets and sustainable agricultural practices.
- Installing water/salinity control structures in the estuary and peninsula will have major positive impacts by increasing protection from coastal erosion, and minor negative regional impacts by blocking the movement and migration of coastal and estuarine fisheries in the in-field rivers of the Delta. The loss in capture fisheries may be offset by increasing the areas mangroves, which in combination with improved coastal management should increase biodiversity. The combination of mangroves and sea dikes will also provide positive benefits by reducing the damages caused by storm surges and sea level rise.
- The operation of the sluice gates will need to be flexible, and incorporate hydrological modeling and surface water monitoring of salinity to determine zones for freshwater, brackish and saline farming. The operations and zones may need to be altered depending on wet, average or dry years. For example, the province of Vinh Long is impacted by salinity in dry years.
- The development of livelihood programs in the Delta Estuary should help farmers to transition to adapt to salinity intrusion and improve climate resilience. Promoting sustainable aquaculture, extensive shrimp and mangrove-shrimp should lead to reduced groundwater abstraction and surface water pollution associated with intensive shrimp. Groundwater use studies and surface water monitoring is required to confirm this during and after the implementation of the project.
- Constructing the reservoir in Ca Mau and improving water and sanitation facilities in the delta peninsula is likely to have major positive regional impacts. Dry season freshwater shortages and access to water and sanitation are critical challenges in coastal areas. The reservoir, if operated effectively, and complemented by climate smart agriculture should reduce the exploitation of groundwater. Dam safety measures and further

hydrological and hydraulic modeling is required to enhance the benefits and reduce any negative impacts during construction and operation of the reservoir.

The REA, however, confirmed that these impacts are likely to be only local or sub-regional and can be managed through subproject safeguard instruments and Environmental and Social Management Plan (ESMP). To enhance government capacity for taking regional impacts into account, Component 1 has specifically included activities to improve monitoring systems, strengthen planning tools for mainstreaming climate resilience, and creating decision support systems and a Mekong Delta Climate Resilience Assessment to feed into provincial and delta-wide plans and investments.

Project-level impacts

The main social impacts/risks due to construction of civil works and implementation of livelihoods models would include: (i) loss of crops, trees, livelihoods, and other properties due to permanent and temporary land acquisition and relocation of households; (ii) farmers' reluctance/resistance to changes in livelihood models; (iii) low preparedness of farmers in implementing the livelihood models; (iv) disproportionate impacts/benefits from project activities on the more vulnerable such as poor, elderly, and ethnic groups; and (v) relocation of graves.

Typical and site-specific environmental adverse impacts during pre-construction, construction, and preparation of the water infrastructures (including sluice gates) and implementation of livelihoods models include: (i) safety risk due to Unexploded Ordnances (UXOs); (ii) increased nuisance from dust and noise; (iii) water and land pollution due to waste generation; (iv) interference with local agricultural and aquaculture activities; (v) sedimentation and water pollution on agricultural land and in aquaculture ponds; (vi) exposure of acid sulfate soil from excavation activities; (vii) interruption in irrigation and/or domestic water supply; (viii) risks to health and safety of local people and construction workers; (ix) disturbance of local road and waterway traffic; (x) temporary blockage of fish passes to the rivers and canals; and (xi) water use conflict among rice farming, aquaculture, and salt production water users.

The four ESIA's of the first phase subprojects confirmed these impacts to be moderate, short to medium term, unavoidable, and can be mitigated through effective consultation and adequate compensation. The project sites do not include physical cultural resources; however, throughout the implementation of subprojects, a relocation of graves would be necessary.

The findings of the ESIA's indicate the main adverse impacts during operation to include: i) Impacts of waterway traffic interruption due to operation of the sluice gates; ii) Impacts on water quality and aquatic life as a result of increasing use of agrochemicals due to provision of more freshwater for rice irrigation; iii) Impacts of solid waste and waste water from pilot of aquaculture models; iv) Increase of water use conflict between rice farming and brackish water aquaculture due to improper sluice gate system management; and v) Potential environmental risks such as epidemic of fish or shrimp disease, structure damage; and vi) Temporary blockage of fish passes to the in-field rivers and canals due to temporary closure of the sluice gates. However, these adverse impacts were assessed as low to moderate and can be mitigated.

Induced impacts: The ESIA's also determined that during project implementation a limited number of sustainable livelihood models will be piloted, and no significant negative impacts on the environments would be anticipated. However, in the long term, scaling up of these models, especially intensive aquaculture models, if not properly managed at the planning level, may result in changes in land use on a broad scale, thus significantly affecting the environment and biodiversity in the region.

Indigenous People (OP 4.10). The project will entail multiple subprojects in a large geographical area of Mekong Delta Region where ethnic minority (EM) communities are likely to be present. The application of OP 4.10 at the subproject level will be identified on a case by case basis with support from early screening exercises. Of the 4 sub-projects selected for the first year implementation, two (Kien Giang and Tra Vinh/Vinh Long) have EM peoples present in the subproject areas. Most of the EM households are Khmers with small population of Hoa

(Chinese) and Cham. Among the three groups, the Khmer is the poorest and most vulnerable group, followed by the Cham while the Chinese have an equal standing with the Kinh. Khmers make up a large proportion of the poor and landless, and often work as hired laborers on the rice and aquaculture farms as well as collecting natural aquatic resources to sell to aquaculture farmers as feed stock for shrimp.

Involuntary Resettlement (OP 4.12). Project activities are likely to involve some land acquisition resulting in physical land take and impacts on livelihoods and resources. At this stage, this may occur in components 2, 3 and 4. It may be necessary to compensate local communities for lost homes, immovable assets, and/or lost revenues/livelihoods as a result of any flood control/ saline intrusion measures or changes in fishing and farming practices and/or changes in cropping. Additional assistance to farmers who may have changes in their current livelihoods may also be needed, and is being identified through a social analysis. Total permanent land acquisition is estimated at 1,249,974 m² (specifically 132,240, 1,100,00, and 17,734 in Kien Giang, An Giang and Tra Vinh/Vinh Long sub-projects respectively). Temporary land acquisition, for the purpose of work space during construction, is estimated at 274,253 m². It is estimated that the total number of household affected by these subprojects is 825 (respectively 58, 752, and 13 in Kien Giang, An Giang, and Tra Vinh/Vinh Long sub-projects), of which 70 HHs (respectively 58 and 12 in Kien Giang and Tra Vinh/Vinh Long sub-projects) will need to be relocated. Vulnerable groups (poor, women head of households, disabled head of households) are also present and will receive special assistance. Based on the above, social impacts are significant for the An Giang and Kien Giang sub-projects and not significant for sub-projects in Tra Vinh/Vinh Long.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The construction of proposed works will have long term impacts on current livelihood models which may have to change to adapt to changing environmental conditions and climate change impacts. The shift to new and more sustainable, climate-resilient livelihoods is expected to help farmers diversify production and increase incomes. All farmers will receive support such as training and transfer of knowledge from pilot livelihood demonstrations models, or by using farmer cooperatives or collective groups to implement livelihood adaptation models in order to reduce the risks for farmers. Some HH may be more reluctant to change (i.e. elderly, ethnic minority households, poor and landless or land poor households) and will need specific support in order for them to adapt their livelihood. Change in the institutional arrangement in agriculture in the Mekong Delta is expected by using farmer cooperatives or collective groups to implement the livelihood adaptations. Forming new cooperatives, or implementing through existing cooperatives, will help to instill farmer confidence through collective risk sharing, particularly with risk-averse farmers that may be unwilling to adopt the new adaptation models.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

The alternatives of “without the subproject” and “with the subproject” and technical alternatives have been analyzed for all the four first phase subprojects. The technical, financial, environmental and social aspects, and construction methods have been considered in carrying out the alternative analysis. Every effort has been made to reduce significant impacts on the environment and society and to avoid/minimize the need for land acquisition. The safe approach will apply for the subproject identified during project implementation.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

In order to assess the overall environmental impacts of the proposed investment, including the four first phase subprojects and subprojects which may be selected during implementation, the Borrower has prepared a Regional Environmental Assessment (REA) and four ESIA's associated with ESMPs for the four first phase subprojects have been prepared. Since not all subproject will be identified during project preparation, an Environmental and Social Management Framework (ESMF) has also been developed.

Regional Environmental Assessment (REA). Given the types and locations of the proposed subprojects and the nature of social conditions and water resources management in the lower part of Mekong Delta, the REA was conducted to provide strategic recommendations to guide the Project design and ways to enhance potential positive impacts and mitigate potential negative impacts. MARD and MONRE will follow recommendations of the REA that the project should implement measures to monitor and manage the potential regional and regional/sub-regional impacts by: (a) enhancing monitoring of surface water, groundwater and fisheries in project areas during construction and operation of water control infrastructure, supported by groundwater use studies; (b) monitoring of riverbank and coastal changes to determine the effectiveness of investments in coastal protection; (c) establishing zones and flexible management for freshwater and brackish aquaculture considering participatory approach for determining operating schedules of water control infrastructure; (d) step-by-step implementation of livelihood models including agricultural extension and market services; (e) involve MONRE and other agencies to use the modeling developed for the project for coastal erosion, salinity intrusion and the transport of sediments and nutrients to the upper delta floodplains; (f) incorporating lessons learned from ongoing WB projects in the Mekong Delta; and (g) apply the lessons from the implementation of the three first-year subprojects into the design and operation of subprojects in Phase II.

Environmental and Social Management Framework (ESMF). The ESMF has been prepared to ensure that activities to be financed under the Project would not create adverse impacts on the local environment and local communities, and that the residual and/or unavoidable impacts will be adequately mitigated. The framework covers requirements for: (i) adequate safeguard screening including impacts on natural habitats, forests, and physical cultural resources; (ii) impact assessment and development of mitigation measures, including the Environmental Codes of Practice (ECOP) for construction activities and chance finds procedures; (iii) procedures for preparation, review, and clearance of safeguards instruments during implementation; (iv) safeguards implementation, supervision, monitoring, and reporting; (v) institutional strengthening and capacity building programs; and (vi) institutional arrangements and budget. The ESMF also includes a screening checklist to exclude all investment proposals that may cause significant or irreversible social and environmental impacts. A subproject will not be eligible for funding if it would: (i) involve the significant conversion or degradation of critical natural habitats; (ii) involve significant conversion or degradation of critical forest areas; (iii) contravene applicable international environmental agreements; and (iv) be located in a physical cultural resources site recognized at the national or provincial level. The ESMF is adopted by MARD.

With regard to the Small Grants Facility (SGF) which is a new activity under the AF, the ESMF for the main project will be updated to reflect this activity including the screening of the proposals to be financed by the SGF and the responsibility for environmental and social safeguards supervision during implementation. The updated ESMF will be disclosed locally and at the InfoShop.

Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs). The objectives of the ESMPs are to: i) ensure compliance with the applicable provincial, national, laws, regulations, standards, and guidelines; ii) ensure that there is sufficient allocation of resources on the project budget for implementation of ESMP-related activities; iii) ensure that environmental risks associated with a project property managed; iv) respond to emerging and unforeseen environmental issues not identified in the subproject ESIA; v) provide feedback for continual improvement in environmental performance. The ESMPs consist of the set of good practice mitigation measures to address common construction related impacts which referred to as Environmental Codes of Practices (ECOP), site-specific environmental and social measures to deal with the impacts specific to the subproject areas and activities. The ESMPs also include monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and

social impacts, offset them, or reduce them to acceptable levels. Each subproject ESMP includes a Compliance Framework which lays out the role and responsibilities of the contractor and a penalty system to address non-compliance cases of the contractor to the environmental management requirements of the subproject. The ESMPs include the budgets for their implementation including for capacity building in project environmental management. Some key mitigation measures at subproject level include:

Management of dredged materials. A sampling survey suggested that dredged materials from excavation during construction of sluice gates and dredging of canals are mainly silt and clay with high organic content and low levels of heavy metals. Therefore, the materials could be used for dikes, roads, construction of houses. However, other areas may contain acid sulfate soil and/or heavy metals and toxic chemicals and could be an issue. During detailed design PPMU will prepare a Dredge Materials Disposal Plan containing: (a) detailed estimate of the nature and quantity of dredged materials; (b) chemical analysis of the dredged materials; (c) indicative lands for disposal; (d) communication plan for local residents informing the quality of the dredges and any restriction on the use for housing construction and gardening in case the materials found to be unsuitable; and (e) inventory of planned road and dikes to transport the dredged materials.

Management of the use of pesticides and agrochemicals. The Government has been promoting a number of integrated pest management (IPM) practices to reduce the use of pesticides and agrochemicals both for rice, fruit, vegetable, and shrimp farming. Promotion of the IPM practices will be continued and the project will support necessary training and scale up of the activities found to be effective in the Mekong Delta. A Pest Management Framework (PMF) has been prepared and included in the ESMF. It will be for preparation of Pest Management Plan for relevant subprojects and/or activities that promote the use of toxic agrochemicals to be implemented under Components 2, 3, and 4.

Management of water use conflict. To reduce potential water use conflicts, the size of the sluices has been calculated to assure not only effective management of irrigation system but also balance the water need of different water users. Optimum operation and maintenance of sluice gates will be developed taking into account close communication and consultation with upstream and downstream water users to ensure water need both in terms of quantity and quality to the key water users.

Management of aquaculture wastes and disease. The project will adopt biosafety approaches which do not use pesticides and insecticides nor antibiotics for rice-fish and forest-shrimp models. For addressing environmental impacts of wastes and disease in extensive and intensive aquaculture models, the project will follow the Vietnam Good Aquaculture Guidelines (VietGAP) and the EHS Industry Specific Guideline on Aquaculture. Capacity building and water quality monitoring will also be a focus.

Temporary interruption of waterway traffic. Short closure periods of sluice gates will minimise disruptive impacts on waterway transport. Closing of the sluice gates will be made in close consultation with the local community and an announcement will be made to the public at least 1 month before the closing date.

The subproject owner, which are the provincial Departments of Agriculture and Rural Development, through its Provincial Project Management Unit (PPMU), will include content of the corresponding ESMPs into the standard tender documents to be used as a basis for contractors to implement environmental management during construction phase. The Central Project Management Unit (CPMU) will be responsible for overall supervision and monitoring of the subproject including implementation of the ESMPs and will provide safeguard training to the subproject staff. The CPMU will assign an Environmental Safeguard Coordinator (ESC) and the Social Safeguard Coordinator (SSC) to assist in the coordination, supervision, and monitoring of safeguard implementation activities. Implementation of the ESMPs on the ground will be supervised monitored by Construction Supervision Consultant, Environmental Control Officer of the PPMU, and the Independent Environmental Monitoring Consultant hired by the CPMU.

Social

Regional Social Assessment (RSA). The RSA focuses on regional analysis at project level with its overall

objective to better understand the impacted communities in order to improve community engagement in long-term delta investment planning processes to ensure long-term sustainability and client ownership of the proposed investments. It was done by engaging with subproject communities in order to enhance the understanding of current climate change adaptation practices and social impacts that may result from the proposed World Bank livelihood adaptation models. The findings suggest that the construction of proposed works might cause long term impacts on current livelihood models which may have to change to adapt to the impacts of the proposed investments (dyke reinforcement, sluice gates etc.), to the new environmental situation and to the impacts on climate change. With the shift to new adaptation models it is expected that farmers will diversify their production and increase their income. These new livelihoods will also be more sustainable and farmers will reduce their vulnerabilities to climate change and environment. Some HH may be more reluctant to change (i.e. elderly, ethnic minority households, poor and landless or land poor households) and will need specific support in order for them to adapt their livelihood. To address these non-safeguard issues, the report proposes recommendations to address climate, environmental and social vulnerabilities of the Project. At subproject level, SIAs were prepared to include social aspects into the project design.

Resettlement Policy Framework (RPF). The RPF has been prepared in accordance to the Bank's policies and guidelines governing preparation and implementation of subprojects and/or components. It also lays down the principles and objectives, eligibility criteria of displaced persons (DP), modes of compensation and rehabilitation, potential relocation of these persons, approval procedures, participation features and grievance procedures. The RPF also includes guidance on screening, policy application implication for potentially linked activities and for subprojects identified in project implementation.

Ethnic Minority Planning Framework (EMPF). The EMPF sets out guidelines to: (i) ensure that the EM people receive social and economic benefits that are culturally appropriate; (ii) avoid potentially adverse effects on the ethnic minority communities; and (iii) when such adverse impacts cannot be avoided, minimize, mitigate, or compensate for such effects. The EMPF also includes guidance on screening, policy application implication for subprojects identified in project implementation.

Resettlement Plan (RP) and Ethnic Minority Development Plan (EMDP). Three RAPs and two EMDPs for year 1 subprojects have been prepared. Each RAP addresses adverse social impacts due to involuntary resettlement and lays down the principles and objectives, eligibility criteria of the affected persons (APs), entitlements, legal and institutional framework, modes of compensation and rehabilitation, stakeholders participation, grievance procedures, and monitoring. RPs include the measures to ensure that displaced people are: (i) informed about the options regarding resettlement; (ii) consulted and offered alternative resettlement choices; and (iii) provided with effective compensation and livelihood restoration. RAPs were prepared in accordance to the guidelines set forth in the project's RPF. Three full RPs (An Giang, Kien Giang and Tra Vinh-Vinh Long) have been prepared. RAP for Ben Tre subproject is not required as the land acquisition for the 5 proposed sluice gates have been completed in another Bank funded project closed in 2013 (Vietnam Natural Disaster Risk Management Project – P073361). The total estimated cost of RP implementation is 304billion VND equivalent to 13,600,000 USD.

The EMDP includes a summary of the SA, consultations, the scope of impacts and mitigation measures, activities for the enhancement of project implementing agencies and estimated costs for the Plan. Each EMDP addresses adverse social impacts on ethnic minorities and proposes measures to mitigate impacts and to maximize benefits. EMDPs have been prepared in accordance to the guideline set forth in the project's EMPF. In the two subprojects (Tra Vinh – Vinh Long and Kien Giang) with EM present in the project area, no EM household is affected by land acquisition. These EM households are potentially affected by the subproject due to the proposed livelihood adaptation models and may need specific support to change/adapt their livelihood. The *free, prior and informed consultation* with EM show that there is broad community support from EM peoples for the subproject implementation. Development activities have been proposed to maximize benefits for EM. These EM development activities include: i) Training to raise awareness of the community on husbandry and agricultural production; ii) Training to raise awareness of the community on climate change and adaption to changes in water resources, ecological and social; iii) Livelihood Development Training; iv) Develop livelihood models, with the

participation of organizations, social organizations, coordinate the selection of models site, support technical guidance, implementation, monitoring and replicable results. Estimated budget for these development activities are 2,969,250,000 VND (132,000 USD) and 1,413,250,000 VND (62,811 USD) for Tra Vinh – Vinh Long and Kien Giang subprojects respectively.

Social Safeguard Implementation, Monitoring, and Training. All implementing agencies (MARD CPO, PPMUs), through its dedicated social staff/unit, will be responsible for implementing and monitoring the social safeguard instruments (RPF, EMPF, EMDP, RP). The implementation of social safeguard instruments will be internally monitored by the IAs in close coordination with the respective Peoples' Committees at different administrative levels and externally supervised by independent monitoring consultant. Implementing agencies must to ensure that activities related to social safeguards will be properly tracked, reported and documented. Independent monitoring consultant will be mobilized by MARD around the same time as implementation of project activities and will be retained until the end of the project/sub-project. The performance and compliance to social safeguard instruments will also be subject to regular supervision from the Bank Task Team (at least twice a year). During the project implementation, appropriate trainings will be provided to CPO, PPMUs, consultants and local community representatives on the safeguard instruments to be applied to the Project.

Grievance and Redress Mechanism (GRM): Each subproject safeguard instruments (ESMP, RAP, EMDP) also includes a GRM to provide the framework within which complaints about safeguards compliance can be handled, grievances can be addressed and disputes can be settled quickly. The GRM will be in place before the subproject construction commences. Within the Vietnamese legal framework citizen rights to complain are protected. As part of overall implementation of the subproject, the GRM will be established by Environmental and Social Unit of the PPMU. It will be readily accessible, handle grievances and resolve them at the lowest level as quickly as possible. The key process and elements of the GRM include, procedures for submission of complaints and grievance resolution, responsible person, and contact information. The complaints can be received in verbal or writing forms, by telephone, fax, or email. They can be sent to the local authorities, contractor, construction supervision engineer, PPMU, or the independent environmental monitoring consultants and will be logged in the record system and sent to responsible person for taking action. To facilitate complain process, subproject information leaflets will be prepared and distributed at the subproject sites to provide practical information about grievances to local residents including contacts and addresses.

The GRM also refers to the WB's Grievance Redress Service (GRS) and clearly indicates that subproject affected communities and individuals may submit their complaints to the WB's independent Inspection Panel which determines whether harms occurred, or could occur, as a result of WB non-compliance with its safeguards policies and procedures. The website address to provide information on how to submit complaints to the World Bank's GRS is also provided.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Public Consultation and Information Disclosure. Two rounds of consultations for the parent project were organized in October 2015 and January 2016. The affected people and communities and other relevant stakeholders have been consulted on the REA, RSA, ESMF, RPF, EMPF, first phase subproject ESIA's and ESMPs, RPs, and EMDPs. The final versions of the environmental and social safeguards instruments for the parent project were disclosed locally and at the InfoShop, respectively. For the GEF additional financing, the ESMF will be updated to reflect the Small Grants Facility activity including the screening of the proposals to be financed by the SGF and the responsibility for environmental and social safeguards supervision during implementation. The updated ESMF will be disclosed locally and at the InfoShop.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	Parent project: 01/27/ 2016

Date of submission to InfoShop	Parent project: 01/27/ 2016
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	3/17/2016
"In country" Disclosure	Parent project: 01/26/2016
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	Parent project: 01/27/ 2016
Date of submission to InfoShop	Parent project: 01/27/2016
"In country" Disclosure: Intensive consultation of RPF and first year RAPs were carried out in October 2015 and January 2016. In-country disclosure was made on January 27.	
Indigenous Peoples Development Plan/Framework	
Date of receipt by the Bank	Parent project: 01/27/ 2016
Date of submission to InfoShop	Parent project: 01/27/2016
"In country" Disclosure: Intensive consultation of EMPF and first year EMDPs were carried out in October 2015 and January 2016. In-country disclosure was made on January 27.	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why:	

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment	
Does the project require a stand-alone EA (including EMP) report?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Are the cost and accountabilities for the EMP incorporated in the credit/loan?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
OP/BP 4.04 - Natural Habitats	
Would the project result in any significant conversion or degradation of critical natural habitats?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>
If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
OP 4.09 - Pest Management	
Does the EA adequately address the pest management issues?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Is a separate PMP required?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>
If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design? If yes, does the project team include a Pest Management Specialist?	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
OP/BP 4.11 - Physical Cultural Resources	
Does the EA include adequate measures related to cultural property?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Does the credit/loan incorporate mechanisms to mitigate the potential adverse	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>

impacts on cultural property?	
OP/BP 4.10 - Indigenous Peoples	
Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
If the whole project is designed to benefit IP, has the design been reviewed and approved by the Regional Social Development Unit or Practice Manager?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
OP/BP 4.12 - Involuntary Resettlement	
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Is physical displacement/relocation expected?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Is economic displacement expected? (loss of assets or access to assets that leads to loss of income sources or other means of livelihoods)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
OP/BP 4.36 - Forests	
Has the sector-wide analysis of policy and institutional issues and constraints been carried out?	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Does the project design include satisfactory measures to overcome these constraints?	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Does the project finance commercial harvesting, and if so, does it include provisions for certification system?	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
OP 7.50 - Projects on International Waterways	
Have the other riparians been notified of the project?	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Has the RVP approved such an exception?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
The World Bank Policy on Disclosure of Information	
Have relevant safeguard policies documents been sent to World Bank's InfoShop?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
All Safeguard Policies	
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Have costs related to safeguard policy measures been included in the project cost?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>

III. APPROVALS

Task Team Leader(s):	Name: Anjali Acharya, Binh Thang Cao, Greg J. Browder	
<i>Approved By:</i>		
Safeguards Advisor:	Name: Peter Leonard	Date:
Practice Manager/Manager:	Name: Christophe Crepin	Date: