

# INTEGRATED SAFEGUARDS DATA SHEET CONCEPT STAGE

Report No.: ISDSC12463

**Date ISDS Prepared/Updated:** 30-Sep-2015

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## I. BASIC INFORMATION

### A. Basic Project Data

<b>Country:</b>	Vietnam	<b>Project ID:</b>	P153544
<b>Project Name:</b>	Mekong Delta Integrated Climate Resilience and Sustainable Livelihoods Project (P153544)		
<b>Task Team Leader(s):</b>	Anjali Acharya, Binh Thang Cao, Greg J. Browder		
<b>Estimated Appraisal Date:</b>	11-Jan-2016	<b>Estimated Board Date:</b>	29-Mar-2016
<b>Managing Unit:</b>	GEN02	<b>Lending Instrument:</b>	Investment Project Financing
<b>Sector(s):</b>	General agriculture, fishing and forestry sector (40%), Public administration-Water, sanitation and flood protection (20%), General water, sanitation and flood protection sector (40%)		
<b>Theme(s):</b>	Natural disaster management (10%), Rural services and infrastructure (10%), Climate change (40%), Environmental policies and institutions (15%), Water resource management (25%)		
<b>Financing (In USD Million)</b>			
Total Project Cost:	330.00	Total Bank Financing:	300.00
Financing Gap:	0.00		
<b>Financing Source</b>			<b>Amount</b>
BORROWER/RECIPIENT			30.00
International Development Association (IDA)			300.00
Total			330.00
<b>Environmental Category:</b>	A - Full Assessment		
<b>Is this a Repeater project?</b>	No		

### B. Project Objectives

18. The proposed Project Development Objective (PDO) is to strengthen institutional coordination and planning across the Mekong Delta, and improve resilience of people's livelihoods

and assets to climate change in selected vulnerable sub-regions. This will be achieved through (i) strengthening information and decision support systems; (ii) reinforcing institutional coordination, planning and capacity; and (iii) identifying and financing ‘low-regret’ (\*) investments (structural and non-structural) adopting an integrated “landscape” approach, in three key sub-regions of the Mekong Delta.

(\*) The UK Climate Change Impacts Programme (UKCIP) defines ‘low regret’ actions as “adaptive measures for which the associated costs are relatively low and for which the benefits, although primarily realized under projected future climate changes, may be relatively large”.

### **C. Project Description**

**Background:** Water and land management in the Delta have been guided by the 1993 Mekong Delta Master Plan (supported by the Dutch government) which focused on developing water control infrastructure to maximize rice production for national food self-sufficiency. This 1993 Delta Plan succeeded in dramatically increasing rice production and enabling Vietnam to become one of the world’s largest rice exports. This was achieved through a massive expansion of agricultural water control infrastructure that focused on two objectives: i) controlling flooding to allow for a third rice crop in the wet season; and ii) bringing freshwater into coastal areas that naturally experienced high levels of saline water intrusion during the dry season. This agricultural water control infrastructure was coupled with improvements in the canal navigation network system to facilitate the transport of rice out of the Delta. In the last 15 years there has also been a dramatic increase of shrimp production along the coastline.

Although Vietnam has succeeded spectacularly in increasing food production in the Delta, this success has generated a set of long-term sustainability challenges including: i) increased flooding in some areas due to high levels of flood protection for agricultural areas; ii) loss of the environmentally important coastal mangrove belt; and iii) increased salinity intrusion in coastal areas due to higher levels of dry season water abstractions for irrigation. These environmental problems are compounded by predicted climate changes which will increase wet season flows and decrease dry season flows from the Mekong River into the Delta. Upstream hydro-power reservoirs will also impact flows into the Delta, particularly the flows of sediment and nutrients. Finally, the national policy of maximizing rice production for national food security in Vietnam is slowly being relaxed and the policy is being adjusted to towards a more market-driven mechanism to allow farmers to maximize incomes.

These environmental and economic changes promoted the Vietnam government, again with Dutch assistance, to formulate the 2013 Mekong Delta Plan which aims to ensure the “safe, prosperous, and both economically and environmentally sustainable and climate proof development of the Mekong Delta.” The goal of the proposed project is help operationalize the 2013 Mekong Delta Plan (MDP) and each of the project components specially responds the strategy and recommends in the Plan. The maps below provide a summary of the key environmental issues and the provinces in the Delta.

**Component 1: Knowledge Management, Planning, and Institutions:** The MDP emphasized the importance of improving institutional performance and emphasizing that land and water issues require cross-provincial boundary solutions and overall Delta management. This components supports this approach by: i) creating a knowledge management platform for the Delta; ii) updating and deepening the 2013 Mekong Delta plan; iii) developing Delta-wide cross-sectoral planning and coordination mechanisms; and iv) strengthening provincial environmental agencies.

**Component 2: 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 including replenishing soil fertility, groundwater recharge, and sustaining aquatic eco-systems. The primary objective of this component is to protect and/or reclaim the benefits of controlled flooding while increasing rural incomes and protecting high value assets. This will consist of: i) modifying water and agricultural infrastructure to allow for more controlled and beneficial flooding in rural areas and offer new agricultural/aquaculture alternatives; ii) providing support to farmers so they have alternatives to the wet season rice crop, including aquaculture; iii) constructing flood control infrastructure for select high value assets such as towns and orchards; and iv) facilitating agricultural water use efficiency in the dry season.

Component 3: Delta Estuary Environmental Zone (Soc Trang, Tra Vinh, and Ben Tre Provinces): The Mekong River divides into 9 tributaries which flow into the East Sea through the Estuary zone. This area is naturally characterized by low flows during the dry season which allow saline water to extend upwards of 100 km inland. Over the past twenty years, closed freshwater systems designed for rice production have been developed in this area consisting of large polders ringed by dikes and with sluice gates to control saline water intrusion. The long-term sustainability of this strategy is questionable due to reduced dry season water availability and sea-level rise. In addition, farmers are rapidly converting to more profitable shrimp farms along the coast, often accompanied by destruction of mangrove forests.

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. This will consist of: i) construction of coastal defenses consisting of combinations of embankments and coastal mangrove belts; ii) modification of water and agricultural infrastructure along the coastal zone to allow flexibility for sustainable aquaculture activities; iii) support to farmers to transition to more sustainable brackish water activities such as mangrove-shrimp, rice-shrimp, and other aquaculture activities; and iv) supporting climate smart agriculture by facilitating water use efficiency in the dry season.

Component 4: Delta Peninsula Environmental Zone (Ca Mau and Bac Lieu): In contrast to the adjacent estuary zone, there are no tributaries of the Mekong river flowing through the peninsula and historically 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. An extensive canal network has also been developed to bring freshwater from the Mekong River into the peninsula to allow rice production.

This component aims to address the challenges related to coastal erosion, groundwater management, sustainable aquaculture, and improved livelihoods for communities living in the coastal and river mouth areas. This will consist of: i) construction of coastal defenses consisting of combinations of embankments and coastal mangrove belts; ii) modification of water control infrastructure along the coastal zone to allow flexibility for sustainable aquaculture activities; iv) control of groundwater abstraction for agricultural/aquaculture and development of freshwater supplies for domestic use; v) support to farmers to practice more sustainable brackish water activities such as mangrove-shrimp and other aquaculture activities; and vi) supporting climate smart agriculture by facilitating water use efficiency.

Component 5: Project Management for MARD, MONRE, and Provincial Departments.

#### **D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)**

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 CO<sub>2</sub> 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.

All three project components described below fall within the Mekong Delta. The Mekong Delta is characterized by the tropical monsoon climate, although cold air from Siberia and China occasionally penetrates the Mekong Delta. The general circulation is dominated by two monsoon flows: the northeast in winter and southwest one in summer periods. The southwest monsoon or the rainy season, normally affects the basin from mid-May to early October and the northeast monsoon occurs in the dry season from early November to mid-March. In the Mekong Delta, the rainfall has clear temporal and spatial distribution patterns. In the south-west area of the Delta (including Ca Mau and Soc Trang) the rainfall (of 2400 mm) has historically been much higher than that (1200 mm) in the coastal area of the East Sea (an area that includes Dong Thap).

Component 2: 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. In An Giang Province, a large bird sanctuary exists at Tra Su, which is also home to Tra Su Forest. With an area of 850ha, Tra Su Forest is home to 70 species of birds including two rare species of birds recorded in Vietnam's Red Book: *Mycteria leucocephala* and *Anhinga melanogaster*. Tràm Chim National Park is a national park in Dong Thap Province. This national park was created to protect several rare birds, in particular the Sarus Crane (*Grus antigone*), a species listed in the IUCN Red Book. In Kien Giang, U Minh Thuong National Park contains over 243 plant species and has a rich mammalian population, including hairy-nosed otters and fishing cats. A total of 187 birds have been recorded here, including the oriental darter, spot-billed pelican, black-headed ibis, glossy ibis, greater spotted eagle and Asian golden weaver. There are also a total of 39 amphibian species and 34 species of fish in the park.

Component 3: Delta Estuary Environmental Zone (Soc Trang, Tra Vinh, and Ben Tre Provinces): The Mekong River divides into 9 tributaries which flow into the East Sea through the Estuary zone. This area is naturally characterized by low flows during the dry season which allow saline water to extend upwards of 100 km inland. Over the past twenty years, closed freshwater systems designed for rice production have been developed in this area consisting of large polders ringed by dikes and with sluice gates to control saline water intrusion. The long-term sustainability of this strategy is

questionable due to reduced dry season water availability and sea-level rise. In addition, farmers are rapidly converting to more profitable shrimp farms along the coast, often accompanied by destruction of mangrove forests. In Tra Vinh, bird sanctuaries are located Tra Cu, Chua Huang, and Duyen Hai. Duyen Hai is also host to the Duyen Hài Power Station- a complex of under-construction 2x 622 MW coal-fired power plants located in Mu U Hamlet, Dan Thanh Commune. This plant will have serious negative implications for local flora, fauna, aquafauna, and avifauna, as well as potentially affecting groundwater and air quality, resulting in a deleterious impact on livelihood of local fishermen and farmers. In Ben Tre, Thanh Phu is an important nature reserve of 4,510 ha, comprising a strict protection area of 1,788 ha, a very critical coastal protection area of 949 ha, and a scientific research area of 1,773 ha. Thanh Phu Nature Reserve comprises a narrow strip of coastline between two of the mouths of the Mekong River: the Co Chien and Ham Luong estuaries. As is the case with other sites on the eastern coastline of the Mekong Delta, Thanh Phu Nature Reserve is strongly affected by erosion as well as accretion. Ben Tre also contains a planted mangrove forest at Bao Thuan, and a large bird sanctuary at Ham Vo.

Component 4: Delta Peninsula Environmental Zone (Ca Mau and Bac Lieu): In contrast to the adjacent estuary zone, there are no tributaries of the Mekong river flowing through the peninsula and historically 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, particularly at Dam Roi. The Mui Ca Mau Park is home 60 species of upper plants, up to 26 mangrove tree species and two species of double mangrove and “quao” tree that are listed in Vietnam's Red Book. The Bac Lieu Bird Sanctuary is notable for its 50-odd species of bird, including a large population of white herons.

### **E. Borrowers Institutional Capacity for Safeguard Policies**

12. The Ministry of Natural Resources and Environment (MONRE) is responsible for land, water resources, mineral resources, geology, environment, hydrometeorology, climate change, surveying and mapping, management of the islands and the sea. 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. However, specifically relating to safeguards application and compliance, MONRE has more limited operational experience –which will need to be strengthened through institutional strengthening and targeted training programs under this proposed project.

13. The Ministry of Agriculture and Rural Development (MARD) is responsible for rural development and the governance, promotion and nurturing of agriculture and the agriculture industry. The purview of the Ministry includes forestry, aquaculture, irrigation and the salt industry; it is also involved in water management and flood control. MARD has considerable experience in implementation of World Bank-financed projects, and has good capacity in terms of compliance with safeguards policies.

14. Aside from these national level institutions, the provincial and district authorities will be responsible for implementation and monitoring of specific environment and social management activities. These provinces have been engaged in various Bank projects so relevant departments do have familiarity with Bank requirements. However, the project will include relevant technical assistance and training to PPMU staff and relevant provincial and district officers responsible for implementing and monitoring the social and environment related activities and studies.

## F. Environmental and Social Safeguards Specialists on the Team

Ha Thi Van Nguyen (GEN02)

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## II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The overall environmental impacts from the proposed activities are expected to be largely positive, and those that will result in negative environmental impacts, through the construction of civil works, or changes of ecological flow, will be mitigated. Structural and non-structural investments to build resilience of communities to climate change and associated risks will be financed through this project. Potential investments to increase mangrove cover will enhance ecological restoration and help reduce coastal erosion. Climate-smart agriculture practices and cropping supported by this project will lead to reduced greenhouse gas emissions. Structural measures may also help to address saline intrusion and manage flood risks.</p> <p>Construction-related impacts. Given the existence of unexploded ordnances in the Mekong Delta, a mine clearance program must be undertaken prior to the start of civil works, and all workers undertaking dredging must operate with appropriate protective measures, including sandbagging of cranes, etc. The Borrower should also refer to the World Bank Group Environmental Health and Safety Guidelines, which, as well as sector-specific guidelines, provides guidance on best practice occupational and community health and safety procedures:. Any dredged material must be tested for Acid Sulfate Soil, and be treated and safely disposed of.</p> <p>The Project is proposed as category A for Environmental Assessment due to its cumulative impacts, spatial extent, its focus on adaptive delta management, and civil works largely carried out under Components 2, 3 and 4.</p> <p>The social and environmental impacts of the various sub-projects will be determined by the screening</p>

	<p>process for environmental and social impacts. This process will be delineated in the framework safeguard documents that will serve a guideline for the preparation of sub-project Environmental Assessments for those sub-projects not definitively identified prior to Project appraisal. The task team proposes four “volumes” for appraisal as follows:</p> <ul style="list-style-type: none"> <li>• Volume 1: Regional Environmental Assessment</li> <li>• Volume 2: Regional Social Assessment</li> <li>• Volume 3: Project Environmental and Social Management Framework (ESMF)</li> <li>• Volume 4: Sub-Project Level Environmental and Social Impact Assessments (ESIAs); out of a total loan amount of \$300 million, it is expected that around \$100 million of investments will be prepared for appraisal.</li> </ul> <p>A. Volume 1: Regional Environmental Assessment (REA)</p> <p>This will be based primarily on the 2013 Mekong Delta Plan vision, which lays out a long-term vision and strategy for the Delta taking into account climate change and other factors. The project objective is to help operationalize the Mekong Delta Plan.</p> <p>Prior to project identification, the Bank contracted, utilizing WPP funds, an Australian firm (International Center of Environmental Management-ICEM) to under a Technical Assistance (TA) assignment entitled “Developing Long-Term Adaptation Tools for the Mekong Delta.” The scope of this assignment is as follows:</p> <p>“DELTA Tools combine Mekong Basin future simulations of hydrological regimes for the Mekong Delta based on four key drivers of change; climate, hydropower development, land use change and sea level rise to determine the threats to the delta from key issues such as flood depth, extent and duration, saline intrusion and erosion. These geophysical changes are then overlaid onto the socio-economic projections for the delta to determine delta metrics; risks to rice production, agriculture and aquaculture as well as impacts on infrastructure and natural</p>
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	<p>systems. These metrics provide the basis in which proposed investment decisions and scenarios from the Mekong Delta Plan can be assessed for their adaptability and resilience to future climate projections.”</p> <p>For the REA (i.e. Volume 1), the proposed approach is to combine information from the Mekong Delta Plan and the ICEM products, to present the overall context, rationale, and approach for the project. The Ministry of Natural Resources and the Environment (MONRE) will be the lead agency for the REA and the Bank is planning to contract ICEM to help advise MONRE in the preparation of the REA.</p> <p>The task team does not feel that a separate or stand-alone SESA and/or Cumulative Impact Assessment (CIA) is needed in this case. Rather the REA will document and present previous strategic environmental work, which looks at cumulative impacts, from the 2013 Mekong Delta Plan and the ICEM work. It is important to note also that the proposed (2020) Mekong Delta Plan Update in Component 1 will significantly expand the previous strategic environmental work and will inherently and organically address cumulative impacts at the regional level.</p> <p><b>B. Volume 2: Regional Social Assessment (RSA)</b></p> <p>The RSA will present the general socio-economic context for the project, describe and geo-reference poverty and ethnic minority issues, and most importantly examine the social and economic dynamics of the agriculture/aquaculture practice transitions contemplated under the project.</p> <p>The concept of Delta climate resiliency has been at the forefront of Vietnamese and Development Partner activities in recent years and there are numerous examples of small-scale pilots demonstrating innovative agricultural/aquaculture practices. The project will provide the financing to help provide the infrastructure to scale up these innovations, but their ultimate success depends on the ability of communities and households to transition to new practices that both economically</p>
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	<p>and financially sustainable. Some of these key transitions are:</p> <ul style="list-style-type: none"> <li>• From Triple Rice to Rice-Aquaculture</li> <li>• From Double Rice to Rice-Aquaculture</li> <li>• Growing Floating Rice in Wet Season</li> <li>• From Intensive Shrimp to Mangrove/Aquaculture (Shrimp)</li> <li>• From Rice to Mangrove/Shrimp (Shrimp)</li> </ul> <p>Many of these livelihood transitions are already well-understood and documented at the pilot scale. The Bank task team has contracted IUCN-Vietnam to help review and document the socio-dynamics of transitions to more climate resilient agricultural/aquaculture activities these “transition models” will then be incorporated into the RSA and will help guide the formulation of specific subprojects in terms of the social and economic dynamics.</p> <p>MARD will be responsible developing the RSA, with the support of the IUCN (contracted by the Bank) and individual social specialist consultant.</p> <p>C. Volume 3: Environmental and Social Management Framework</p> <p>The goal is identify at least \$100 million worth of investments by appraisal out of a total estimated loan amount of \$300 million. Thus an ESMF will need to be formulated to guide the subproject specific ESIA that will developed during project implementation. The main body of the ESMF document will provide the overall screening process and safeguard guidance for the project, and the specific framework policies will be included as annexes, including the Resettlement Policy Framework, Ethnic Minorities Development Framework, Pest Management Framework, etc.</p> <p>Fortunately, MARD has worked on a number of similar projects in the Mekong Delta, such as the Mekong Delta Water Resources Management Project (Approved in 2011) and the Sustainable Agriculture Transition Project (Board Approval in 2015), that can be easily adapted to fit the needs of the project.</p>
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		<p>D. Volume 4: Subproject Environmental and Social Impact Assessments (ESIA) and Environmental Management Plans</p> <p>It is expected that around \$100 million of investments will be identified prior to appraisal. By July 2015 the specific subprojects should be confirmed allowing for the preparation of feasibility studies/ESIAs. It is expected that there will be between 5 and 10 subprojects, most if not all of the subprojects will be at the Category B level of impacts. According to the national environmental assessment regulation, Decree No. 18/2015/ND-CP dated 14/2/2015, the subprojects under Component 1, 2, 3, and 4 may be subject to preparation of ESIA or environmental protection plan (EPP). As per Bank's requirements, all the Category A subprojects need to prepare a full ESIA. For Category B subprojects, depending on the type of subproject and the nature and magnitude of the impacts, an EMP or a simple environmental code of practice (ECOP) may be sufficient.</p> <p>All the safeguards instruments prepared during project preparation are subject to prior review and approval by the Bank. By project appraisal, public consultation and disclosure of the safeguards instruments will be completed.</p>
Natural Habitats OP/BP 4.04	Yes	<p>Hydrological impacts impacting natural habitats. Certain proposed project activities would impact the ecological flow of the rivers in the Mekong Delta, impacting aquatic flora and fauna. Hydrological modeling will be undertaken to limit seasonal impacts on aquatic fauna insofar as possible. Changes in the ecological flow of the Mekong River may result due to the installation of sluice gates and other flood/salinity control measures; leading to a reduction in the diversity and quantity of fish populations. Fish species in the Mekong Delta are threatened by overfishing and loss of habitat and spawning sites due to changes to the river, including canalization of river banks etc. Efforts will be taken to limit impacts on aquatic fauna, for example, through the placement of fish ladders at sluice gates.</p> <p>Tra Vinh and other locales: Changes in the ecological flow of the Mekong River will take place</p>

		<p>as a result of the installation of and erosion control measures (such as the balanced island and ring dykes and embankment protection). This may result in changes in the diversity and quantity of fish populations and other marine life and mitigation measures will be proposed to limit these, based on hydrological modeling.</p> <p>In the case of the beach in Tra Vinh adjacent to the under-construction Duyen Hai Thermal Power Plant --- 2x 622 MW sub-critical coal-fired units will be installed for Phase I of this project, the jetty built for the coal terminal will have impacts on hydrological flows in the project area. Residents in the area have already claimed that construction of the plant has resulted in soil loss and erosion. The positioning and design of the marine outfall from the cooling water recirculation system of the plant is a valid concern depending on the temperature differential at the edge of the mixing zone. If it is too high, this will have an effect on marine life in the area, and may impact livelihoods of fishermen in the area, as well as having detrimental effects on the marine ecosystem. However, neither the Power Plant nor its associated facilities are supported by the project. The Power Plant is located on the coastal area about 70 km downstream of the proposed sluice gate subproject. These factors will be taken into consideration when designing any climate resilience or livelihood restoration subprojects in the vicinity of the plant.</p> <p>Care will be taken to ensure that subprojects do not take place in, or in close proximity to natural reserves and wildlife and bird sanctuaries. These include the following:</p> <p>In An Giang Province, a large bird sanctuary exists at Tra Su, which is also home to Tra Su Forest. With an area of 850ha, Tra Su Forest is home to 70 species of birds including two rare species of birds recorded in Vietnam's Red Book: <i>Mycteria leucocephala</i> and <i>Anhinga melanogaster</i>. Tràm Chim National Park is a national park in Dong Thap Province. This national park was created to protect several rare birds, in particular the Sarus Crane (<i>Grus antigone</i>), a species listed in the IUCN Red Book. In Kien Giang, U Minh Thuong National Park contains over 243 plant</p>
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	<p>species and has a rich mammalian population, including hairy-nosed otters and fishing cats. A total of 187 birds have been recorded here, including the oriental darter, spot-billed pelican, black-headed ibis, glossy ibis, greater spotted eagle and Asian golden weaver. There are also a total of 39 amphibian species and 34 species of fish in the park.</p> <p>In Tra Vinh, bird sanctuaries are located Tra Cu, Chua Huang, and Duyen Hai. Duyen Hai is also host to the Duyen Hài Power Station- a complex of under-construction 2x 622 MW coal-fired power plants located in Mu U Hamlet, Dan Thanh Commune. This plant will have serious negative implications for local flora, fauna, aquafauna, and avifauna, as well as potentially affecting groundwater and air quality, resulting in a deleterious impact on livelihood of local fishermen and farmers. In Ben Tre, Thanh Phu is an important nature reserve of 4,510 ha, comprising a strict protection area of 1,788 ha, a very critical coastal protection area of 949 ha, and a scientific research area of 1,773 ha. Thanh Phu Nature Reserve comprises a narrow strip of coastline between two of the mouths of the Mekong River: the Co Chien and Ham Luong estuaries. As is the case with other sites on the eastern coastline of the Mekong Delta, Thanh Phu Nature Reserve is strongly affected by erosion as well as accretion. Ben Tre also contains a planted mangrove forest at Bao Thuan, and a large bird sanctuary at Ham Vo.</p> <p>The Mui Ca Mau Park is home 60 species of upper plants, up to 26 mangrove tree species and two species of double mangrove and “quao” tree that are listed in Vietnam's Red Book. The Bac Lieu Bird Sanctuary is notable for its 50-odd species of bird, including a large population of white herons</p> <p>Wetlands/Biodiversity impacts. Dong Thap: It is suggested that a wetland in Gao Giang be developed as a water reservoir to provide fresh water for aquaculture, and also to serve as an ecotourism site. Mitigation measures must be in place to protect or rehabilitate the melaleuca forests and species in the wetlands, especially during construction.</p> <p>Ca Mau: There was a suggestion that rainwater</p>
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		<p>harvesting be undertaken through the building of a reservoir in the Mui Ca Mau National Park. This RAMSAR site is habitat to 93 bird species; 26 species of mammal; 43 types of reptiles; 9 amphibian species; 139 fish species, and 24 shrimp species. It is reported that these include gray-foot pelicans, Chinese white stork, large-spotted civet, otter, turtles-teeth, black-back box turtles, and three-ledge tortoise. The Park comprises the largest land area of intertidal mudflats and mangroves in the South. The Park is home 60 species of upper plants, up to 26 mangrove tree species and two species of double mangrove and “quao” tree that are listed in Vietnam’s Red Book. Given the associated infrastructure requirements (water treatment plant, pipelines, pumping stations, etc.) it is recommended that further detail study be conducted to determine the level of impact on the natural projected area. The Bank does not support project that would involve significant conversion or degradation of critical habitats, which include National Park as one of the categories.</p>
Forests OP/BP 4.36	Yes	<p>Coastal protection/restoration aims to restore coastal landscapes to enhance resilience of inland farming systems, reduce vulnerability to the impacts of sea-level rise and coastal erosion. Activities may include mangrove reforestation in targeted areas. Forest Management Plans will be prepared for all mangrove reforestation undertaken as part of the Project, and for any sub-projects that may affect the indigo forests. There are indigo forests in Ca Mau, Kien Giang, An Giang, and Dong Thap.</p> <p>As noted above, It is suggested that a wetland in Gao Giong in Dong Thap Province, be developed as a water reservoir to provide fresh water for aquaculture, and also to serve as an ecotourism site. Mitigation measures must be in place to protect or rehabilitate the melaleuca forests and species in the wetlands, especially during construction.</p>
Pest Management OP 4.09	Yes	<p>Potential increased use of pesticides, and pollution and disease from shrimp farming. Dong Thap: proposed farming of giant freshwater prawn with in a 40,000 ha area to include Tam Nong, Thanh Binh, Cao Lanh, Lap Vo, and Hong Ngu. This could lead to increased pollution load in soil and water from the expansion of extensive/intensive shrimp farming leading to increased use of antibiotics [and</p>

		pesticides]. Other locales: The use of pesticides and fertilizer on vegetables grown as an additional source of revenue under the adoption of floating rice cultivation or alternate crops such as, for example, mango, longan, and mandarin along the Song Tien River. Since the changes in agricultural practices will lead to use of pesticides (and fertilizer), albeit reduced and sustainably managed, an integrated pest management policy will be adopted, and a Pest Management Framework will be appended to the ESMF based on the existing Framework prepared under the Mekong Delta Water Resources Management for Rural Development Project.
Physical Cultural Resources OP/BP 4.11	Yes	It is not expected that the projects will necessitate the relocation of cultural, historic, or religious monuments, or graves. Should this be unavoidable, all effort will be made to limit impacts on such sites. In such a case, a PCR management Plan will be prepared in consultation with local stakeholders and religious/cultural authorities. Since the project includes dredging and excavation activities, which may result in chance finds, chance find procedures will be included in contracts and EMPs.
Indigenous Peoples OP/BP 4.10	Yes	The project will entail multiple subprojects in a large geographical area of Mekong Delta Region where ethnic minority communities (Cham and Khmer) 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. Once the policy application is confirmed, MARD will conduct social assessments (SA) – at subproject level as part of subproject Environmental and Social Impact Assessment (ESIAs) - to confirm if affected ethnic minorities (EMs) provide their broad support to the project, including by: (i) identifying potential benefits and negative impacts of the project; (ii) defining the recommendations (including mitigation measures) to ensure free, prior and informed consultations with the EMs (especially, their participation in the project design and monitoring during the implementation phase); and (iii) defining the measures required to provide culturally appropriate benefits (e.g. tailored information disclosure, consultation, and community support activities). By appraisal, Ethnic Minority Development Plans (EMDP) of relevant subproject (s) will be prepared under Volume 4: Subproject

		ESIA Reports. The EMDPs will include 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. In addition, as part of ESMF, MARD will also develop an Ethnic Minority Planning Framework (EMPF), guiding the preparation of individual EMDPs for subprojects identified during the project implementation (under Volume 3: ESMF and Supporting Frameworks).
Involuntary Resettlement OP/ BP 4.12	Yes	<p>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.</p> <p>The RSA and subproject ESIA's will be the initial instruments that will determine the scope of these impacts. By appraisal, MARD will prepare: (i) individual Resettlement Plans (RPs) for subprojects with known impacts and location (under Volume 4: Subproject ESIA Reports) ; and (ii) a Resettlement Policy Framework (RPF) to guide the preparation of RPs for investments identified during project implementation (under Volume 3: ESMF and Supporting Frameworks). The RPF and RPs will 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. The RPF and RPs will also include guidance on screening and policy application implication for potentially linked activities. Impacts on livelihoods will also be addressed through the Environment and Social Management Framework for the project. These Frameworks will identify specific procedures that will need to be followed once smaller sub projects are identified.</p>
Safety of Dams OP/BP 4.37	Yes	Safety issues based on flood retention structures. Given that no flood retention structure will be higher

		than 10 meters, the team will agree on appropriate safety measures with the Borrower and to ensure the involvement of qualified engineers, and will confirm that the environmental assessment (EAs) for each subproject have determined that there would be no risk or negligible risk of significant adverse impacts due to potential failure of the structure to local communities and assets, including assets to be financed as part of the proposed Project.
Projects on International Waterways OP/BP 7.50	Yes	Since the project is located in the Mekong Delta, and may include flood retention and fisheries sub-projects that may have an impact on upstream riparians, OP 7.50 – International Waterways - is triggered, and notifications to riparian states will be made [or a waiver will be sought] prior to the approval of the Project.
Projects in Disputed Areas OP/ BP 7.60	No	OP 7.60 is not triggered because none of the proposed project sites are in a Disputed Area. Screening will be undertaken to ensure any additional sites proposed lie outside a Disputed Area as defined by OP 7.60.

### III. SAFEGUARD PREPARATION PLAN

**A. Tentative target date for preparing the PAD Stage ISDS:** 15-Dec-2015

**B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing<sup>1</sup> should be specified in the PAD-stage ISDS:**

All the project draft safeguard instruments including REA, RSA, ESMF, RPF, EMPF, subproject ESIA, EMPs, RPs, and EMDPs will be completed and disclosed locally and at the InfoShop by December 2015.

All the safeguards instruments prepared during project preparation will be completed by appraisal in January 2016 with subsequent final disclosure locally at the project sites and the InfoShop.

### IV. APPROVALS

Task Team Leader(s):	Name: Anjali Acharya, Binh Thang Cao, Greg J. Browder	
<b>Approved By:</b>		
Safeguards Advisor:	Name: Peter Leonard (SA)	Date: 03-Nov-2015
Practice Manager/ Manager:	Name: Iain G. Shuker (PMGR)	Date: 09-Nov-2015

<sup>1</sup> Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.