

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

Report No.: PIDA35431

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<b>Project Name</b>	Can Tho Urban Development and Resilience (P152851)
<b>Region</b>	EAST ASIA AND PACIFIC
<b>Country</b>	Vietnam
<b>Sector(s)</b>	Sub-national government administration (10%), Information technology (5%), Urban Transport (30%), Sanitation (10%), Flood protection (45%)
<b>Theme(s)</b>	Climate change (15%), Municipal governance and institution building (20%), Other urban development (25%), Natural disaster management (40%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P152851
<b>Borrower(s)</b>	Can Tho City People's Committee
<b>Implementing Agency</b>	Can Tho City People's Committee
<b>Environmental Category</b>	A-Full Assessment
<b>Date PID Prepared/Updated</b>	07-Dec-2015
<b>Date PID Approved/Disclosed</b>	10-Dec-2015
<b>Estimated Date of Appraisal Completion</b>	18-Dec-2015
<b>Estimated Date of Board Approval</b>	24-Mar-2016
<b>Appraisal Review Decision (from Decision Note)</b>	

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**I. Project Context**  
**Country Context**

Vietnam has made strong progress in economic growth and poverty reduction, and continues to undergo transformation from a rural to urban economy. Vietnam's economic progress has been accompanied by rapid urbanization, sustaining a 3 percent annual urban population growth rate from 1999 to 2011. In 1999, the percentage of the population living in urban areas was only 23.8 percent (18,243,036), in 2014 that share has risen to 32.95 percent (29,896,442), representing a movement of 11.7 million Vietnamese citizens to cities during that period. The country recently graduated to lower-middle-income country status and has recorded among the highest growth rates in the world, which in turn enabled rapid poverty reduction. The international US\$1.25 and US\$2 a day (PPP) poverty rates have tumbled from 49.4 and 78.1 percent in 1998 to 2.44 and 12.5 percent, respectively.

The Mekong Delta, and by extension Can Tho City, is particularly vulnerable to climate change and

hydro-metrological disasters, particularly flooding. Flooding has significantly impacted the socioeconomic development of the city and the entire Mekong Delta as a whole. Each year, about half of the Delta is flooded by overflow of 1 m to 3 m in depth. As one of the 13 Mekong Delta provinces, and being located along the Bassac River (Hau River), Can Tho City shares the hazards of the larger Mekong Delta. The City is susceptible to flooding caused by Mekong alluvial overflow, high tides, and extreme rainfall events. Seasonal flooding typically impacts 30 percent of the city area, but has recently increased to 50 percent. Close to 95 percent of the total land area is less than 1 m above mean sea level, except for the built-up urban area located along the bank of the Hau River, which is about 2 m above mean sea level.

Medium-size cities undergoing rapid urbanization, such as Can Tho City, will have implications on economic growth and poverty reduction goals in Vietnam. Can Tho has a population of approximately 1.25 million, and an urban annual growth rate of 5 percent between 2005 and 2012. As the 4th most populated city in Vietnam and the largest city in the Mekong Delta, it is an engine of economic growth for the region. The City is an emerging hub for high-tech agro-industrial production and aquaculture, food processing, and export. As a major actor in the region, Can Tho has a strategic role in promoting food security in the Delta, and concentration of industries, educational institutions, and health facilities. Although the City is growing dynamically, it faces multiple threats to sustainable development that are primarily caused by seasonal flooding, sea-level rise, land subsidence and rapid urbanization.

## **Sectoral and institutional Context**

### **Sectoral Context**

The Mekong Delta is a complex natural system that is home to significant human development and is particularly exposed to disaster and climate risk. The Mekong Delta is an agricultural center for Vietnam. Climate change and human development, manifested through sea level rise and land subsidence, have created an existential challenge to the region. Meanwhile, the negative consequences of development (groundwater extraction, development of heavy infrastructure and construction of a ring dykes across the Mekong Delta) are exacerbating the already significant flooding challenges faced by the region. In combination with the effects of climate change, this has resulted in increasing disaster risk today and greater risk in the future through more frequent and severe flooding, drought, and storms as well as increasing natural challenges such as subsidence and salinity.

Can Tho, the economic center of the Mekong, suffers significant regularly occurring flood losses. Recent flooding in Can Tho has affected an average of 2,000 ha (about 69 percent of the total core urban area) and more than 200,000 people each year. In addition to the serious damages to assets, flooding also interrupts economic activities in these core urban areas. According to the City's analysis, urban flooding caused direct economic damages of more than US\$300 million in the last 5 years. A recent study by the International Institute for Environment and Development estimates total (direct and indirect) annual economic losses due to flooding at US\$642 per household, which represents 11 percent of each household's annual income. City-wide, this could represent some US \$130–190 million in damages and losses per year due to flooding. Yet the city does not have a strategy or specific instruments to manage these costs efficiently and to reduce the negative development impact from flooding.

A number of factors contribute to flooding in Can Tho, including heavy rainfall, tidal increase, poor

drainage in built-up urban areas, and land subsidence. The core urban area is affected by high tides and heavy rains during flood season, with only about 10 percent of attributed to river flooding. Recent analyses show that the maximum water level in Can Tho has continuously increased over the last 15 years even though the water level upstream did not change. The increased water level in the city is caused by stronger influence of tides due to morphology changes of the Hau River and probable land subsidence. In addition, sewer systems in the city are generally old and of insufficient capacity to deal with high rainfall events, while many parts of the city do not yet have drainage systems. Rapid and uncontrolled urbanization has resulted in encroachment on many natural canals, significantly reducing water drainage capacity of the city drainage system. As a result, urban flooding from rainfall events and high tides is a regular occurrence. Projected climate change impacts are expected to worsen this situation.

To support the government in increasing the resilience of the Mekong Delta region, the Bank is working to develop two separate, but mutually reinforcing investments. The first investment analyzes the Mekong Delta system as a whole and will propose interventions to address the complex balances for competing resources to strengthen integrated climate resilient management and development (P153544). It will support structural and non-structural measures to strengthen, more broadly, regional and provincial-level planning capacity for sustainable Delta-wide development. The second investment—this Can Tho Urban Development and Resilience Project—will invest in supporting Can Tho City, as a socioeconomic development hub and the largest city in the Mekong Delta region, to become more climate resilient and promote sustainable urbanization and transport corridors. This project will align with both the Delta-wide development approach and the flood risk management plans for Can Tho City, which prioritize protecting the core urban area of the city as a necessary immediate action.

The proposed project is part of the World Bank's long-term engagement on the topics of urban development, disaster risk management, and climate change in Can Tho over the last decade. This includes lending operations such as the Vietnam Urban Upgrading Program (VUUP1) (approved in 2004 with additional financing in 2009; US\$50.7 million for Can Tho) and its successor the Mekong Delta Region Urban Upgrading Project (VUUP2) (approved 2012; US\$69.9 million for Can Tho) as well as numerous studies and technical assistance initiatives. The project leverages non-structural infrastructure measures within areas of resilience planning (Local Resilience Action Plan, 2013; City Strength Diagnostic, 2014), climate adaptation (TA for Can Tho City Steering Committee on Climate Change, 2009) and disaster risk management with a focus on flooding (Integrated Flood Risk Management Plan for Can Tho, 2013).

Analytical activities and physical investments are financed by a wide range of other donors in Can Tho City and the Mekong Delta. To promote coordination the Bank hosts a "Mekong Delta Roundtable" to help bring together activities undertaken by other partners (e.g., AusAID, ADB, GIZ, IUCN, IFAD, AFD, etc.) in the Mekong Delta Region. In addition, the Dutch recently completed the Mekong Delta Plan, which suggest a broad range of interventions to increase resilience and productivity, and wide range of donors are supporting various interventions. With regards to Can Tho, AFD is proposing a €25 million river flood protection system in the downstream of Can Tho River. The German development agencies GIZ and KfW are supporting a wastewater treatment plant in Ninh Kieu district.

Much progress has been made to date on improving urban infrastructure. The Bank's engagement over the past decade has included a bundle of Bank financed activities that has resulted in (a)

constructed or rehabilitated over 50 km of primary, secondary, and tertiary drainage; (b) dredged and upgraded over 8 km of canals; (c) extended water supply to 13,500 households; (d) provided sewer connections to 84,000 households, and; (e) connected 7,000 households to the power grid. When completed in 2017, the two urban upgrading operations will have addressed most of the large low-income areas (LIA) in the urban core.

The project also builds on and complements the Bank's engagements at the national level towards building financial resilience against disaster and climate risks and improving social safety nets. A US\$1.5 million SECO financed technical assistance supports the government in managing the fiscal cost of disasters without negatively affecting development spending and growth. This project complements work at the national level through bottom up building the demand for the solutions the national government is developing. In parallel, this project builds on the Bank's engagement in supporting the consolidation of social safety net systems through the US\$60 million Social Assistance System Strengthening Project that aims to improve the government's social assistance system by developing innovations in management and service delivery nationwide, and by piloting these innovations in the four project provinces.

#### Institutional Context

A number of government agencies are involved in flood risk management and urban development, often with overlapping mandates and authorities. There are two entities with a mandate to coordinate and mainstream flood management in Can Tho—the Climate Change Coordination Office (CCCO) and the City Committee for Flood and Storm Control (CCFSC)—and there are four departments involved in the design, operation, and maintenance of the drainage and flood control systems. Specifically, the Department of Transport (DOT) manages the piped drainage system and part of the open canal system in the city. The Department of Agriculture and Rural Development (DARD), under which the CCFSC is located, manages open canals with an agricultural drainage purpose as well as the flood control system, including embankments and tidal gates. The Department of Natural Resources and Environment (DONRE) is responsible for water resource management. Finally, the Department of Construction (DOC) is responsible for issuing building codes for drainage systems, but does not manage or operate them. There is a need to consider these structures as part of one flood management system with one consolidated operations and maintenance procedure.

## II. Proposed Development Objectives

The proposed Project Development Objective is to reduce flood risk, improve connectivity between the city center and the new low risk urban growth areas, and enhance the capacity of city authorities to manage disaster risk in Can Tho City.

Approximately 65 percent of the outcome is to reduce flood risk, while 25 percent is focused on improving connectivity to lower risk parts of the City and 10 percent aims to increase the capacity manage disaster risk in the City. The core urban area is defined as the Ninh Kieu and Binh Thuy districts.

## III. Project Description

### Component Name

Flood risk management and environmental sanitation

### Comments (optional)

The objective of this component is to reduce flood related risks in the urban core of Can Tho. This

component consists of a balance between structural and non-structural measures to help the city manage urban flood risk. The structural measures are a combination of “low-regret” engineering solutions, including surrounding embankment, tidal gates/valves and improved rainwater storage and drainage system.

**Component Name**

Urban corridor development

**Comments (optional)**

The objective of the transport investments is to increase regional connectivity and encourage new urban development in the less flood prone area of Cai Rang. The investments in transport infrastructure will connect vertical axes of the city, facilitating connectivity between new and existing populated area in the city center, improving connectivity between inter-regional urban areas and promoting public transport scheme of Can Tho city. Three road links will be financed, including: i) the Quang Trung bridge crossing the Can Tho River; ii) the Tran Hoang Na Road, including NH1 side roads from Tran Hoang Na to IC3 intersection; iii) the Cach Mang Thang Tam to PR 918/Bui Huu Nghia road. The last of these road links will serve the dual purpose of providing flood protection for the urban core.

**Component Name**

Spatial planning platform and financial and social protection instruments

**Comments (optional)**

The objective of this intervention is to build management systems to improve spatial planning, data and information management and public financial management, in order to improve development planning in a climate and risk informed manner, to strengthen financial resilience and to augment social protection. A conceptual framework focused on systems development for urban management including spatial planning technology, and flood risk management measures to complement the physical flood risk management investments and the establishment of a public transport management system to complement the transport link investments.

**IV. Financing (in USD Million)**

Total Project Cost:	312.00	Total Bank Financing:	250.00
Financing Gap:	0.00		
<b>For Loans/Credits/Others</b>			<b>Amount</b>
BORROWER/RECIPIENT			62.00
International Bank for Reconstruction and Development			125.00
International Development Association (IDA)			125.00
Total			312.00

**V. Implementation**

**Institutional and Implementation Arrangements**

The Project Management Unit (PMU) of the Mekong Delta Region Urban Upgrading Project (VUUP 2) will lead the preparation and implementation of the proposed project. VUUP 1 closed December 31, 2014, and select experiences staff from that PMU have been integrated into the VUUP 2 PMU. A review capacity assessment of the PMU rated as Moderately Satisfactory for all main indicators including procurement and FM. The PMU is now have 47 staff and will be strengthened to 55–60 staff. Since VUUP 1 and 2 focused on third-level canal dredging and

drainage/wastewater network upgrading, the capacity within PMU will need to be strengthened to manage the complex flood risk management and sanitation improvement aspects proposed. The PMU will recruit staff specialized in disaster risk management and water and sanitation engineering, to be available for the preparation of investment bidding documents and for the supervision of the preparation of safeguard instruments.

A Project Steering Committee, chaired by the Vice Chairwoman of Can Tho, was established to provide strategic direction and oversight for the preparation of the project. The committee includes representation from all related departments of the city. Given its mandate to help facilitate coordination, a representative from the Climate Change Coordination Office will be added to the committee. Its members are leaders from the city's departments such as Planning and Investment, Finance, Construction, Transport, Agriculture and Rural Development, Environment and Natural Resources and districts' people committee. After the Loan Agreement is approved and the loan is provided, the government will decentralize the loan for CPC to use. CPC will provide counterpart fund for the project, ensure that agencies are complying with obligations as stipulated in the Loan Agreement.

#### Results Monitoring and Evaluation

The city will prepare an annual progress report, in accordance with the format outlined in the Operations Manual. The progress reports will cover (a) physical and financial progress achieved against agreed indicators; (b) issues and problem areas, including remedial actions; and (c) work programs and cost estimates for the coming year, including revised estimates for the former period. An independent M&E consultancy will report to the city and will be responsible for overall monitoring and supervision of the implementation and impact of various components. They will also supervise implementation of the overall environment and social safeguards and resettlement process, review and monitor for each subprojects the specific social and environmental management plans and supervision of their implementation. M&E would be carried out using latest technology, such as satellite imagery and GIS systems, where necessary. The M&E reports will be gender disaggregated.

#### Sustainability

**Physical Sustainability.** Five options for physical investments were considered for this project to protect the urban core of the City and the top selection was considered based on a detailed hydraulic and exposure model. The selection criteria was focused on the highest economic rate of return and the lowest negative impacts, using a low regrets approach to climate change. Infrastructure investments are designed to be more resilient to physical conditions than they are at the present time, which will assure improved physical sustainability of the infrastructure. Using international best practices for engineering designs, construction supervision, and technical audits, quality of work for flood control, bridge expansion, slope stabilization, and school safety investments will be assured. In addition, the design will account for demographic, topographic, hydrologic, and land use/cover changes.

**Financial Sustainability.** The physical investments being made will reduce the annual contingent liability posed by disasters, and therefore reduce the fiscal burden on government accounts. In addition, the proposed project will build capacity within the government to reduce their contingent disaster liability by improving the design and quality of public and private new construction that will be more resilient to adverse events. A fiscal analysis was completed to ensure that sufficient counterpart funds will be available for resettlement and to verify that the City has the capacity to repay the debt incurred. It was found the City has adequate resources.

Institutional Sustainability. Institutional sustainability is often difficult to achieve and suffers from a lack of adequate resources to support the counterparts. In the case of this project, institutional sustainability will be particularly high due to the significant financial and technical support from the Swiss Economic Corporation (SECO) to support the technical assistance program. A key outcome of the project will be improved capacity of line departments to engage in long-term urban planning and flood risk management in order to build and maintain climate resilient infrastructure investments. Of particular emphasis is analytical and technical support to the city to improve its approach to flood risk and urban development—from an ad hoc system of rehabilitation to a data-driven decision making approach founded upon long-term planning.

## VI. Safeguard Policies (including public consultation)

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

### Comments (optional)

The project has numerous positive environmental and social impacts. It will, under all technical scenarios, reduce flooding in Can Tho's urban core, and will strengthen and improve the capacity of existing drainage and sanitation systems. The investment will reduce drain overflows, thereby improving public health, reducing traffic congestion, and leading to an improved standard of living for urban residents. The enhanced aesthetics of the city and improved functionality of roads and pavements will be beneficial to the local tourism and business sectors. Wastewater treatment undertaken under the Project will lessen the pollutant load in the Can Tho and Cai Son Rivers. The Project will also improve the welfare of the Project Affected Persons currently living along the river, who will be relocated to new sites with improved amenities.

OP/BP 4.01 is triggered and the project is classified as a category A due to the potentially significant and potentially irreversible environmental and social impacts associated with the flood control measures, although the social impacts due to relocation of over one thousand households has a greater impact than the temporary and limited environmental impacts caused by construction activities.

## VII. Contact point

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**VIII. For more information contact:**

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