Public Disclosure Authorized

Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 11-May-2020 | Report No: PIDC29247

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
Vietnam	P173716		Vietnam: Binh Duong Water Environment Improvement Project (P173716)
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
EAST ASIA AND PACIFIC	Nov 15, 2020	Mar 25, 2021	Water
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Socialist Republic of Vietnam	Binh Duong Provincial Wastewater and Drainage Management Board (WDMB)	

Proposed Development Objective(s)

The project development objectives are to improve municipal wastewater services and manage rainwater inundation risks in selected areas of the South Binh Duong region.

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	293.00
Total Financing	293.00
of which IBRD/IDA	235.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	235.00

Non-World Bank Group Financing

Counterpart Funding	58.00
Local Govts. (Prov., District, City) of Borrowing Country	58.00

Environmental and Social Risk Classification	Concept Review Decision
Substantial	Track II-The review did authorize the preparation to continue

B. Introduction and Context

Country Context

1. **Vietnam has combined rapid economic growth with remarkable success in poverty alleviation but risks remain**. The Government of Vietnam (GoV) launched a sustained period of growth in 1986 with its national economic liberalization and integration program – Doi Moi (Renovation). The national Gross Domestic Production (GDP) of Vietnam then was US$ 26.34 billion whereas it reached US$ 245.21 billion in 2018. Since 2005, annual growth in GDP (constant) has steadily averaged over 6 percent and has not once fallen below 5 percent. Similarly, economic opportunities have been broadly felt as indicated by a decline in poverty rates between 2002 and 2018, from over 70 percent to below 6 percent (US$3.2/day PPP). Although these trends are positive overall, about 17 percent of near poor people in 2010 fell back into poverty in 2014, [1] partly induced by climate change shocks that are mainly associated with flooding.[2]

2. **Recent rates of economic growth has been driven by a growing labor force and population, urbanization, economic sector transition, and underpinned by improved policies and infrastructure investment.** Vietnam is a country of over 90 million people with more than 31.3 percent[3] living in urban areas. Urban population has grown annually by 3 percent in the last ten years which exceeds overall population growth by around 2% and these trends are likely to continue. Consistent with these changes, the economic structure of key sectors (as a percentage of GDP) has been in a steady process of transformation from agriculture to higher valued sectors of industry (including construction) and services. These changes have been enabled by increasing openness and encouragement of private business.[4] A World Bank assessment attributes Vietnam's economic rise to trade liberalization, domestic reforms and deregulation, and investments in human and physical capital.[5] Vietnam has greatly expanded its investments in electricity, water, and other services that improve livelihoods and sustain its modernizing economy. Vietnam's public and private sector infrastructure investment averaged 5.7 percent[6] of its gross domestic product in recent years, the highest in Southeast Asia and compares with 6.8 percent in China.

3. **Vietnam recognizes future needs and has identified six transformation areas of focus to realize its vision for 2035.** The GoV recognizes that gaps in infrastructure investment are large and projected to grow, especially in urban water and sanitation.[7] To address this, it has identified transformations[8] in critical areas that relate to: (i) *reshape urban policies and investments for more dynamic cities and urban centers*; (ii) *chart an environmentally sustainable development path with increasing adaptation and resilience to changing climate patterns*.

[1] Country Partnership Framework for the Socialist Republic of Vietnam for the Period FY18-FY22 (World Bank 2017, Report No. 111771-VN).
[2] In 2010-2014 floods affected nearly 5 million people in Vietnam (source: Climate Change Knowledge Portal)
[3] Per VHLSS survey of 2018.
[4] See World Bank's increased ranking of Vietnam in its Doing Business assessment report
[5] Eckardt, S., Mishra, D., and Dinh, V.T., 2018. "Vietnam's manufacturing miracle". Brookings Institute. https://www.brookings.edu/blog/future-development/2018/04/17/vietnams-manufacturing-miracle-lessons-for-developing-countries/
[6] Asian Development Bank (2017) Meeting Asia's Infrastructure Needs. Manila, the Philippines.
[7] ADB. Vietnam Urban Environment Program. City Sanitation Strategies in the Mekong Delta. Oct 2015.
[8] World Bank; Ministry of Planning and Investment of Vietnam (2016) Vietnam 2035: Toward Prosperity, Creativity, Equity, and Democracy. Washington, DC: World Bank.

4. **The recent COVID-19 crisis has created setbacks for Vietnam and led the government to take short turn actions in addition to long term plans.** Uncertainties surrounding the spread of COVID-19 led the government to initiate community and business closures that caused fiscal and external accounts to deteriorate. More widely, foreign investment in Vietnam is forecasted to decline US$ 2.46 billion or 6.8 percent from pre-virus forecasts. Altogether, COVID-19 and the government response exposed the vulnerability of poor people to such external unforeseen events. In response to COVID-19, the government is developing spending plans to create jobs and ensure equitable growth that will help return the country to previous plans for economic expansion while reestablishing resilience against COVID19 and future shocks.

Sectoral and Institutional Context

5. **Vietnam is rich in water resources but subject to increasing water stress and risks.** Vietnam annually receives almost 2,000 millimeters (mm) of rain each year across 16 major basins. Four river basins in particular (i.e. Red-Thai Binh, Mekong, Dong Nai, and South East River Cluster (SERC)) are fundamental to Vietnam's livelihoods and economy since 80 percent of its GDP is produced there. While water resources often appear plentiful, rapid socio-economic development has increased demand and in the dry season, supply constraints are already emerging in those four key basins, due to reasons such as changing rainfall patterns under climate change as well as overexploitation of groundwater resources, and could extend to 11 basins out of 16 major basins by 2030.[9]

6. In addition to water shortages, during rainy seasons Vietnam is also at risk of seasonal flooding. About 70 percent of the population is at risk from water-related natural disasters.[10] Annual losses due to all forms of water-related natural disasters averaged 1–1.5 percent of National GDP over the last two decades but are predicted to rise to 3 percent by 2050 due to increasing impact of climate change.[11] To put this in a broader context, Vietnam has been ranked among the five countries overall to be most likely affected by climate change.[12] In response, the GoV has initiated several national policies and measures to address climate change and adapt to water-related risks.[13]

7. **In cities, rapid industrialization and population growth have increased water pollution costs and exposed the need for improved wastewater and drainage management.** Currently, only 46% of urban households are connected to drainage systems and only 12.5% of wastewater is treated. Over the next 15 years, wastewater is expected to account for the largest share of effluents (about 60 percent) and contribute to water-related problems that combined could reduce Vietnam's annual GDP by 4.3 percent.[14] Water pollution is estimated to lead to US$12.4 to US$18.6 million in costs per day by 2030 if treatment measures are not implemented.

8. **Binh Duong Province faces critical challenges in improving urban wastewater and drainage.** Binh Duong Province has 2.4 million people and is the seventh largest populated province in Vietnam. Overall, 77.2 percent of Binh Duong population lives in urban areas, more than double the national average of 31.3%, due to fast economic growth and high rates of immigration. Urbanization has grown 41.4 percent in the 2014-18 period compared to a national urban growth of 9.8 percent. The province is an employment hub for the region that attracts many immigrant workers for its thriving industrial economy. The annual budget revenue of the province is the fourth largest in the country. Binh Duong wastewater generation is increasing rapidly with its continued rates of urbanization. [15] In 2019, wastewater treatment

[9] This forecast of water stress assumes a business-as-usual level of investment. World Bank (2019) Vietnam: Toward a safe, clean and resilient water system. Washington. D.C., US.
[10] Eckstein, D., M.L. Hutfils and M. Winges (2018) Global Climate Risk Index 2019. Germanwatch, Berlin, Germany.
[11] World Bank (2019) Vietnam: Toward a safe, clean and resilient water system. Washington. D.C., US.
[12] Arndt, C., Tarp, F. and Thurlow, J. (2015) The economic costs of climate change: a multi-sector impact assessment for Vietnam. Sustainability 7(4): 4131-4145.
[13] For example, the Ministry of Natural Resources and Environment (MoNRE) announced the National Climate Change Strategy, in 2011; the National Green Growth Strategy was adopted in 2012 to attract financing for climate change risks; the Law on Natural Disaster Prevention and Control was enacted in 2013; and in 2016, Vietnam ratified the Paris Agreement.
[14] World Bank (2019) Vietnam: Toward a safe, clean and resilient water system. Washington. D.C., US.
[15] The Viet Nam Provincial Governance and Public Administration Performance Index

capacity in the South Binh Duong region is only able to meet 50 percent of the total wastewater treatment demand. Currently, drainage is inadequate in several areas and even relatively low levels of rainfall can cause urban flooding, an impact that disproportionately affects poor people. Furthermore, a rapid assessment of Binh Duong Province's exposure to climate change and disaster risks shows that Binh Duong faces high levels of river and urban flood risks under future climate change[16]. To continue its successes, Binh Duong must address its gaps in wastewater and drainage coverage, not only in terms of investment in infrastructure but also in handwashing and hygiene education. This is particularly important to reduce the incidence of diseases, such as COVID 19 and other waterborne diseases.

9. **Innovative and financially viable investments in wastewater and drainage infrastructure and services will be required to meet current needs and reduce exposure to high long-term costs**. **Binh Duong province can establish itself as a "*lighthouse*" for demonstrating innovations that the rest of the country could emulate.** For example, water improvements could adapt concepts such as a circular economy (CE) to identify opportunities for water reuse that could include recycling wastewater for irrigation, which could not only save farming costs but also reduce freshwater and groundwater demand and benefit downstream users. Also, nature-based solutions (NBS), including constructed retention ponds and urban infiltration systems, not only attenuate stormwater runoff, can also generate co-benefits in water quality, climate resilience, water storage, and urban aesthetics. In addition, performance-based financing approaches and other financing instruments could offer opportunities to more rapidly expand solutions at reasonable costs to areas of critical need. Last but not least, innovative financing models can be explored to improve the participation of private sector in managing urban wastewater and drainage issues, such as Public Private Partnership (PPP). All these types of innovations are being explored in cities worldwide and are worth consideration for Vietnam provided that appropriate and fit-for-purpose designs and operation and management (O&M) arrangements can be established. In so doing, it would not only offer valuable insights for other Vietnamese provinces but building on its recognition, Binh Duong's experience could become a beacon for other cities around Vietnam and the region that are in similar stages of development.

10. **While solution options exist, decentralized decision-making has created complexities in identifying sound investments for improving integrated urban wastewater and drainage.** Provincial governments are responsible for determining how to achieve sustainable development with investments and services based on local conditions. However, complexities arise because several different governmental agencies influence urban wastewater and drainage management, including Department of Construction, Department and Agricultural and Rural Development and others. As such, competing and potentially conflicting mandates can hinder the process of identifying the best solutions to urban wastewater and inundation issues.

Relationship to CPF

11. **The proposed Project is aligned with the World Bank's Country Partnership Framework (CPF) (FY2018-2022 Report No. 111771-VN).** It contributes to the World Bank Group's dual goals in reducing poverty and boosting shared prosperity by providing key infrastructure for development and developing resilience to disasters. The operation underpins a core strategic thrust of CPF for strengthening resilience to climate change, environmental protection, and improved management of natural assets. Specifically, it supports the following objectives: Objective #4 to improve planning, management, and delivery of infrastructure and land in cities; Objective #10 to increase climate resilience and strengthen disaster risk management; and Objective #11 to strengthen natural resource management and improve water security. The proposed projects consider emerging lessons and strategic shifts proposed in the Performance and Learning Review (PLR) of the CPF (134020-VN) as it aims to deepen engagement at sub-national level with borrowing capacity.

12. **While the focus of the operation will be on expanding municipal services to three cities, it also responds to COVID-19 priorities.** There is a direct link between access to improved water services, sanitation and hygiene (including

[16] World Bank Climate and Disaster Risk Screening (https://climatescreeningtools.worldbank.org/about-the-tools)

handwashing) and the incidence of water-borne diseases and public health including viruses like COVID-19 for which handwashing is an important barrier to infection. The project will reduce pollution to water resources from domestic wastewater and improve drainage systems to reduce exposure to floods. Both wastewater and drainage management aim at protecting water sources by reducing the pollution load, improving hygienic and handwashing practices and sanitary living conditions which serve as essential barriers to human-to-human and surface-to-human transmission of the COVID-19 virus in communities, homes, health care facilities, schools, and other public spaces.

13. **The long-term growth potential of the project for human, natural, and physical capital development is significant**. The proposed project will help to build resilience to future shocks, with interventions to build capacity for Binh Duong communities and local economy to cope with and recover from external shocks (e.g. COVID-19 today, as well as future natural disasters, such as floods, that are expected to increase in frequency and intensity with climate change). Reliability of water infrastructure services is a key factor affecting industrial productivity, efficiency and competitiveness. The implementation of the physical interventions will extend employment opportunities in the Province for construction elements involving earthwork, wastewater network expansion and drainage, as well as tree planting programs in support of nature-based solutions – a particularly relevant dimension since significant declines in forest coverage has increase erosion risks along streams and channels. The implementation arrangement is simple and the likelihood to start disbursement and support employment generation in the next 12-24 months is high.

C. Proposed Development Objective(s)

The project development objectives are to improve municipal wastewater services and manage rainwater inundation risks in selected areas of the South Binh Duong region.

Key Results (From PCN)

14. The progress in meeting the PDO will be measured through the following indicators:

- Households provided with access to wastewater systems and new or improved drainage services (total number, percentage of which female)
- Annual reduction of domestic wastewater pollution discharged to Rivers (tons/year reduction of COD/TN/TP)
- Reduction in the areas exposed to regular flooding (hectares)
- Increased capacity to manage floods (e.g. issuance of flood risk maps, monitoring equipment, # of drainage master plans)
- Increase in awareness of handwashing and hygiene practices (# of people)

15. Intermediary indicators include: Private sector participation in O&M through (# of management contracts signed for provision of sanitation and drainage O&M); and Recycled water (volume) for irrigation or equivalent uses. The final indicators will be developed and presented in the results framework to measure progress against contributing infrastructure and institutional activities under each Component.

D. Concept Description

16. **Fast economic growth, due to high rates of immigration into the Southern Binh Duong Region, strains urban infrastructure capacity and degrades water quality in the Dong Nai and Sai Gon River.** The province is situated upstream of the confluence of Saigon and Dong Nai rivers that supply water to millions of inhabitants of Binh Duong, Dong Nai provinces and Ho Chi Minh City. The project aims to support Binh Duong in protecting these rivers from pollution caused

by high rate of industrialization and urbanization as a major priority. All industrial parks in Binh Duong are already equipped with wastewater collection and treatment facilities to meet the required standards prior discharging to the environment. Operation of these wastewater treatment plants, and quality of the effluent treated wastewater are closely monitored by local DONRE. However, stormwater runoff and domestic wastewater generated from cities and towns are discharged into the Dong Nai River and Sai Gon River with limited to no treatment.

17. **This project builds upon previous collaboration between the Bank and South Binh Duong region in developing wastewater and drainage services.** The World Bank has supported Di An town, the most densely populated town in South Binh Duong region, with constructing and operating a WWTP of 20,000 m^3/day from 2016 to 2018. By mid-2019, with support from the World Bank and other financing institutions, the South Binh Duong region has built four operating WWTPs with a combined capacity of 70,000 m^3/day. However, this capacity only meets about 50% of the wastewater generation of the region's 2.1-million population.

18. **The project intends to expand the wastewater treatment capacity in South Binh Duong region to meet the increasing demand and reduce water pollution in the Dong Nai River System.** It is estimated that by 2030, a population of 2.6 to 3 million in the South Binh Duong region will generate 180,000m^3/day to 200,000m^3/day. The current sewage collection and treatment systems of Thu Dau Mot, Thuan An and Di An will operate at full capacity in a few short years. Accordingly, there is a critical need to build and expand the current system with additional collection and treatment units.

19. **Equally, the urban drainage systems in South Binh Duong region need to be upgraded to reduce inundation and enhance resilience to climate change.** The current stormwater drainage is unable to deal with frequent flooding, which is expected to increase in frequency and intensity. With the region's rapid urbanization, impervious surface areas have grown and led to faster stormwater runoff flows that can overwhelm major roads and residential areas. When flooded, stormwater gets mixed with domestic wastewater and other sources of waste and exacerbates pollution to the Dong Nai river system—a major source of freshwater to HCMC.

20. **In order to improve wastewater services and reduce urban flood risks in South Binh Duong region, the project intends to strengthen relevant institutions by increasing private sector participation and developing integrated urban water/flood management systems.** Implementing financially sustainable wastewater tariff to generate sustainable revenue stream is vital to the sustainable development of wastewater sector and to leveraging financial resources from the private sector and community resources. Furthermore, risk-based integrated urban flood management approach that combines both structural and non-structural measures and increasingly leverages nature-based solutions offer potentials to address urban water issues, including both water pollution and inundation risks, in a holistic way and often at lower costs.

21. The proposed project will focus in on three towns in the South Binh Duong region, namely Thuan An, Di An and Tan Uyen. These towns cover an area of more than 33,000 hectares with a total population of nearly 1,400,000. The total investment is estimated at US$ 293M, of which loans from the World Bank will finance to US$ 235M.

22. The project will be implemented through two components, namely component 1 focused on expansion of municipal wastewater and drainage services and component 2 focused on capacity and institutional development and implementation support.

Component 1: Expanding municipal services for wastewater and drainage management (IBRD Loan: US$217.44 million; Counterpart Fund: US$21.73 million).

This component will scale up wastewater treatment facilities and improve household connections to increase the overall percentage of municipal wastewater being collected and treated in South Binh Duong region. It will also finance Information, Education and Communication (IEC) activities to raise awareness on handwashing and hygienic practices to increase resilience to COVID-19. Moreover, it aims to improve urban drainage systems by combining both grey and green infrastructure to mitigate current urban inundation risks and strengthen future resilience to climate change in the form of

increased flooding. This component includes:

Sub-component 1A: Constructing the domestic wastewater collection and treatment systems (IBRD Loan: US$173.52 million; Counterpart Fund: US$17.35 million).

This component will improve access to wastewater systems in Binh Duong and reduce pollution load to Dong Nai River system and downstream communities in HCMC. The specific investments include:

- Constructing a sewage collection and network and sewage pumping stations for Tan Uyen town, Thuan An, and Di An cities that can increase the coverage for more than 38,000 households. Total primary and secondary wastewater collection and transmission network is 88,800m; and
- Constructing a WWTP with 1st stage capacity of 20,000 m^3/ day for Tan Uyen *town;* Upgrading the existing WWTPs for Thuan An and Di An cities with additional treatment capacity of 17,000 m^3/day and 20,000 m^3/day respectively.

Sub-component 1B: **Improving urban flood resilience under climate change (IBRD Loan: US$33.34 million; Counterpart Fund: US$3.33 million).**

This subcomponent aims to reduce incidence of urban flooding and it will include elements of nature-based solutions as part of the envisaged drainage works. This includes:

- Development of stormwater drainage systems different key flood prone area of a total length of 9,000 m mainly in Tan Uyen town and Thuan An city.; and
- Maintaining and enhancing the use of green space, water space (ponds, lakes) with natural ground to store water and accumulation of groundwater through rainwater infiltration, planting trees to increase the soil water carrying capacity, which provides co-benefits such as creating environmentally friendly landscapes, improved people's wellbeing, water resources protection and climate change mitigation etc.;

Sub-component 1C: Results-Based Financing for sustainable wastewater and drainage management (IBRD Loan: US$10.58million; Counterpart Fund: US$1.06 million).

Disbursement under this component will be based on Performance Based Conditions (PBC). While disbursements under Components 1A and 1B will be triggered by the execution of expenditures, disbursements in Component 1C will depend on achieving the target levels of pre-defined indicators (e.g. household connections to WWTP). The use of PBCs is intended to strengthen a project's results orientation towards increasing utilization of wastewater treatment capacity in the Province, sustaining O&M, water reuse, and strengthen the institutional capacity to improve flood management. The PBC related to household connection is related to the construction of service network, house connection points and house connection for about 38,000 households in the project cities. This subcomponent will also incentivize water reuse and the participation of private section in O&M for wastewater systems, and to improve tariff collection for wastewater services. The preliminary specific PBC for this are:

i. Households connected to the WWTP (#).
ii. Volume of water reused in support of circular economy (cubic meter treated and reused for irrigation or any equivalent use)
iii. Signed management contracts for O&M for wastewater and drainage improvement (#)
iv. Flood hazard risk maps and approval of Integrated Urban Flood Management masterplan

23. The "pricing" of a PBC will directly match the cost of the associated activities required to achieve all the PBC as well as a share of expenditure allocated to wastewater network and treatment plants (e.g. in the form of procurable contracts). The allocation, however, may differ depending on the weight of each PBC to achievement of the PDO.

Verification will be undertaken by independent M&E consultancy.

Component 2: Implementation support, capacity and institutional development (IBRD Loan: US$17.09 million; Counterpart Fund: US$36.24 million).

24. The proposed investments and activities focus on building capacity of the Binh Duong Provincial Wastewater and Drainage Management Board (WDMB). This WDMB has been established in December 2019 with a mandate for implementing asset development, management, and maintenance for wastewater infrastructure through Private Sector Participation (PSP). The WDMB is responsible for developing and implementing investment plans, maintaining the invested assets. Currently a management contract is in place with Binh Duong Water Supply Sewerage Environment Limited Company (BIWASE) for the operation and management drainage and wastewater assets. To fulfill its mandates, the Board proposes to invest in several measures, including the development of: (i) a road-map for long-term/medium investment needs (i.e. development and financing); (ii) operational procedures and guidelines for wastewater and drainage asset management; and, (iii) an institutional capacity improvement plan. The WDMB will also be supported to advance measures in the water sector to respond to COVID19 crisis. These will include allocation for employment generation for household connections and allocation for intensive tree planting and earth work related to nature-based solutions in the Province. These activities are critical as the Province hosts many small enterprises and labor-intensive enterprises (leather and garment industries) that are expected to suffer from the economic downturn due to COVID19. Gender equality will be an important consideration in these activities.

25. The proposed project will support the implementation of these measures through the following measures:

Sub-component 2A: Developing integrated urban water management in the project areas (IBRD loan: US$ 1.87 million; Counterpart Fund: US$ 0.19 million).

This includes:

- Assisting the newly established WDMB under the Provincial People's Committee to develop integrated urban water management strategies of the South Binh Duong region, that manages urban water issues, including both water pollution and urban flooding risks, in a holistic manner, and defining strategic areas and directions for the regions' future sustainable, inclusive and resilient urban development vision.
- Assisting the newly established WDMB develop risk-based integrated flood management approach based on a flood risks map that would be developed in consideration of increasing exposure and vulnerability to rapid urbanization and climate change threats. This approach would account for potential structural and non-structural measures with community and citizen engagement and emphasis will be placed on women participation.
- Conducting a series of trainings on integrated urban water management and nature-based solutions to enhance both technical and official persons' capacity. Female participation will be required in all training activities, which would lead to increased participation of women in flood control and prevention related activities.

Sub-component 2B: Implementation support, capacity building, and coordination for COVID-19 response (IBRD loan: US$ 15.22 million; Counterpart Fund: US$ 25.32 million).

The activities under this sub-component include: (i) M&E and technical support to achieving the PBC, and (ii) construction supervision and contract management. This sub-component 2B will be financed by both counterpart funds (surveys, designs, appraisal etc.) and IBRD (i.e. for construction supervision, safeguard monitoring, financial audit and project M&E). The expected consultancies are: surveys, detailed design and bidding document; construction supervision and contract management; preparation and supervising the implementation of the environmental management planning; verification of detailed design documents and cost estimates; procurement and contract management support, financial audit; monitoring and evaluating the implementation process and project results and independent verification of PBC's implementation; clearance of UXO, mines and explosive materials in the project area; and fee and interests during project implementation.

The component will also coordinate the COVID-19 response in the province as pertains to conducting IEC activities to raise awareness on handwashing and hygienic practices to increase resilience to COVID-19 and other waterborne communicable diseases as well as employment generation opportunities in the province. This component will emphasize female participation in both design and implementation of these activities. The IEC activities will also encourage household connections and increase their willingness to pay tariffs for wastewater services

Sub-component 2C: Site clearance, Land Acquisition and compensation (Counterpart Fund: US$ 10.73 million).

The activities carried out under this sub-component are directly related to the compensation, land acquisition and site clearance that required for project implementation. These include: Consultancies on preparation of compensation, land acquisition and resettlement planning; Implementing compensation, support and site clearance; and Consultancies to supervise the implementation of compensation, land acquisition, and site clearance activities.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

26. The Binh Duong Water Environment Improvement Project (P173716) consists of localized infrastructure developments in three towns involving expanding the domestic wastewater collection and treatment systems including household connections, constructing stormwater drainage systems as well as developing government management capacity. Initial screening shows that the main environmental risks and impacts during construction would be degradation of the local air, soil, and water environment due to exhaust gas emission and waste generation and disposal; water quality degradation and impacts to aquatic species and irrigation activities due to moderate scale dredging and generation of considerable amount of dredging materials; traffic safety and business disturbance; worker and community health and safety; damages to existing weak structures and local houses due to dredging or piling; and safety risk due to unexploded ordnances (UXO) left from the war. The main environmental risks during operation would be water pollution, especially to Dong Nai river, due to failure or malfunction of the WWTPs; environmental pollution due to emissions, odors, and generation of substantial amount of sludge from the WWTPs and maintenance of the sewerage collection system; and worker health and safety risks due to exposure to hazardous chemicals and pathogens. Social risks and impacts related to the project are localized and limited. The project will acquire about 12ha of agricultural land from 46 households for the construction of Tan Uyen WWTP and for dredging of about 1.5 km of Suoi Tre drainage canal in Tan Uyen, the outlet of Tan Uyen WWTP to the Dong Nai river, while wastewater drainage system and rainwater routes will be constructed in the existing roads? bed, and will not require land acquisition. No households will be significantly affected or relocated due to land acquisition. There are additional social risks and impacts to community health and safety related to labor influx such as sexual exploitation abuse, sexual harassments, and communicable diseases. The other potential adverse social impacts will relate to the temporary disruption or limitation of traffic and utilities during the construction phase, but the client in question has demonstrated their capacity to mitigate such impacts in previous projects.

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