Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 04-Jun-2020 | Report No: PIDC29413

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
Vietnam	P174156		Integrated Resilient Development Project (P174156)
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
EAST ASIA AND PACIFIC	Dec 09, 2020	May 14, 2021	Urban, Resilience and Land
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Ministry of Finance	Provincial Projects Management Unit of Khanh Hoa, Provincial Projects Management Unit of Quang Nam, Provincial Projects Management Unit of Phu Yen, Provincial Projects Management Unit of Binh Dinh	

Proposed Development Objective(s)

To increase access to resilient infrastructure services and to strengthen institutional capacity on disaster-resilient development planning and management in selected provinces of the South-Central Coast Region in Vietnam.

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	537.30
Total Financing	537.30
of which IBRD/IDA	404.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	404.00

Non-World Bank Group Financing	
Counterpart Funding	133.30
Borrower/Recipient	133.30

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

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Since the introduction of comprehensive economic reforms in 1986, known as *Đổi Mới*, Vietnam has been a major development success story**. Gross domestic product (GDP) growth per capita has averaged 5.5 percent annually since 1990, leading to a three-and-a-half-fold increase in average income.[1] Over that period, the only country that has performed better was China. Vietnam's growth has been impressively stable and inclusive, as evidenced by a relatively small increase in the Gini coefficient from approximately 33 in 1993 to approximately 35 in 2014. External trade has been the major driver, much of it powered by strong foreign direct investment. The pace of economic growth is expected to continue, with the country's draft *Socio-Economic Development Plan (SEDP) for 2020-2030* setting out an annual GDP growth target of 7 percent.

2. **Economic growth coupled with the Government of Vietnam's (GOV) strong focus on inclusive social development has enabled Vietnam to drastically reduce the incidence of extreme poverty**. The US$1.90-a-day poverty rate fell from 50 percent in the early 1990s to 1.9 percent in 2018. Using the General Statistics Office (GSO)-World Bank national poverty line,[2] poverty incidence fell from about 58 percent in the early 1990s to 9.8 percent in 2016.[3] By the World Bank's measure of shared prosperity (the income growth of the bottom 40 percent of the population), Vietnam is one of the most noteworthy cases of long-term shared prosperity globally.

3. **To ensure continued rapid growth, the GOV is investing substantially in infrastructure development**. The draft SEDP for 2021-30 calls for total investments to reach 33-35 percent of GDP, which would be in the range of US$ 60-70 billion. Investments will be focused on transport, energy, and digital infrastructure to address bottlenecks to development. Investments to strengthen climate and disaster resilience will also be prioritized, including the sea dykes, river bank strengthening, and urban infrastructure.

4. **Vietnam is highly vulnerable to weather-related hazards such as typhoons, floods, and drought, which are**

[1] Vietnam 2035 Report (World Bank, 2016).
[2] The GSO-World Bank poverty line in 2016 was VND 969,167 per person per month, equivalent to US$ 3.34 per day in 2011 purchasing-power-parity (PPP).
[3] Climbing the Ladder: Shared Reduction and Shared Prosperity in Vietnam (World Bank, 2018).

expected to become more frequent and intense with climate change. Despite extensive investments in risk management, disasters cause annual asset losses of approximately one percent of GDP,[4] and people's well-being losses of around 2 percent of GDP.[5] The current financing capacity of Vietnam meets only about 10 to 21 percent of the estimated need just for emergency reconstruction and recovery, and only about 5 percent of assets in the country are covered by insurance. Vietnam could see losses of over 4 percent of GDP in the case of a major disaster. In the next 50 years, it has been estimated that Vietnam has a 40 percent chance of experiencing an event with economic losses exceeding US$6.7 billion with an affected population of greater than 39 million.[6]

5. **Climate change is expected to impact Vietnam in various ways**. Vietnam was as ranked among the five countries likely to be most affected by climate change due to the concentration of a high proportion of its population and economic assets in vulnerable coastal lowlands and deltas.[7] Based on a Representative Concentration Pathway scenario (RCP 4.5), sea levels are expected to rise by 0.22 meters while rainfall is expected to increase by 12.4 to 33.3 percent by 2030, which will contribute to increasing flood levels.[8]

6. **Inadequate infrastructure increases the vulnerability to disasters and climate change, thereby limiting economic growth potential**. Uneven access to basic infrastructure, including drainage systems, wastewater collection and treatment, and road networks,[9] also increases the vulnerability of urban areas to disaster and climate change risks. Analysis shows that flood risks in urban and economic growth areas are nearly twice as high as in low-growth areas, and half of all industrial zones are directly exposed to the threat of intensive flooding.[10] Potential losses are especially large in coastal areas that offer many economic opportunities and attract a growing number of people and services, but are exposed to disasters and sea level rise.

Box 1: COVID-19 Pandemic in Vietnam

Vietnam took quick and decisive actions to effectively respond to the spread of the COVID-19 virus. Based on GOV reports, there have been no virus-related deaths and, as of May 27, 2020, only 327 infections nation-wide[11] despite Vietnam's role as a regional trade powerhouse and a tourism hotspot. However, given its deep integration with the global economy, the COVID-19 outbreak caused declines in Vietnam's manufacturing, tourism, and transport activities during the first quarter of 2020. GDP expanded by just 3.8 percent in the 1st quarter of 2020 (year-on-year), which was the lowest rate since the first quarter of 2009. Preliminary estimates indicate that the rate of expansion of the economy could slow to about 4.9 percent in 2020 compared to approximately 7 percent annual growth over 2017-19.[12] Because of the relatively limited number of infected, the most important negative impacts associated with the outbreak are on tourism and on manufacturing due to supply chain disruptions.

Sectoral and Institutional Context

Sectoral Context

[4] Vietnam Central Committee for Disaster Prevention and Control, 2017
[5] Resilient Shores: Safeguarding Vietnam's Coastal Development in the Face of Natural Hazards (Draft) (World Bank, 2020).
[6] Vietnam Catastrophe Risk Assessment and Modeling, Country Risk Profile (World Bank, 2017).
[7] Vietnam: Climate Risk Country Profile (World Bank and Asian Development Bank, 2018).
[8] Hydraulic modeling report for World Bank Scaling up Urban Upgrading Project (SIWRR, 2017)
[9] Shifting the GEAR: Putting Vietnam's Urbanization onto an Efficient, Inclusive, and Resilient Pathway (Draft) (World Bank, 2019).
[10] Resilient Shores: Safeguarding Vietnam's Coastal Development in the Face of Natural Hazards (Draft) (World Bank, 2020).
[11] Ministry of Health official website on Covid-19 outbreak (May 27, 2020) (*https://ncov.moh.gov.vn/*)).
[12] East Asia and Pacific in the Time of COVID-19 (World Bank, 2020).

7. **The development of Vietnam's coastal areas has been critical to Vietnam's progress**. The country's coastline spans over 3,000 km and is home to a growing number of densely populated and urbanized areas. It is estimated that at least 28 percent of Vietnam's coastline has been built up by cities and settlements.[13] As a result, the 28 provinces along the coast (out of 63 provinces in total) account for an estimated 48 percent of the country's population.[14] In 2017, 127 out of the country's 372 industrial zones were located in coastal provinces.[15] Meanwhile, 16 coastal economic zones generated over US$5 billion in exports, leading to direct jobs for 130,000 workers as of 2016.[16] The coastal provinces are particularly important to the country's tourism sector, accounting for 70 percent of national tourism GDP in 2017.[17]

8. **The susceptibility of Vietnam's coastal areas to climate change and natural disasters places key economic assets and vulnerable populations at considerable risk**. In partnership with the GOV, the World Bank prepared an extensive report on coastal resilience in Vietnam ("Resilient Shores: Safeguarding Vietnam's Coastal Development in the Face of Natural Hazards"). The analysis indicates that during a 50-year coastal flood event, the estimated total number of people exposed to flooding of more than 25 centimeters will reach up to 10.8 million, which is approximately 12 percent of the total population. Furthermore, 0.3 percent of GDP (US$0.58 billion) and 32,000 workers in the tourism sector will be affected in such a scenario. During a 50-year riverine flood event, an estimated 2 percent of GDP (US$3.5 billion) and 192,000 workers directly employed by the tourism sector will be affected. A typhoon with windspeed up to 200 km per hour can result in daily losses of US$114-324 million in the transport sector.

9. **The impact of Typhoon Damrey in November 2017 demonstrated the vulnerability of Vietnam's coastal provinces to major natural disasters**. Typhoon Damrey was the strongest typhoon to affect Vietnam in over 15 years and directly hit the South Central Coast region. A total of 15 provinces were affected by the typhoon, which caused extensive damage through high wind speeds and floods. Overall, it is estimated to have caused economic losses amounting to almost US$1 billion and led to the deaths of 107 people. Almost 300,000 houses were damaged and 3,550 collapsed. The wider agricultural sector suffered losses of over US$230 million, affecting fisheries, forestry, and crop agriculture—with indirect effects on people's incomes and livelihoods.[18] Typhoon Damrey was not a one-off event but a recurring phenomenon in Vietnam's exposure to typhoons due to its long coastline and geographic location. Typhoons not only bring heavy rainfall but are often accompanied by storm surges in which the coastal sea level increases and masses of water are drawn on land, thus causing severe coastal flooding.

10. **Following Typhoon Damrey, the Bank worked in partnership with the GOV to develop a coastal resilience strategy**.[19] The main recommendations from the analysis specified five areas of focus for an effective coastal resilience strategy to safeguard the opportunities of coastal development: (i) Strengthening data, coordination and decision-making, including the establishment of detailed hazard and risk information to enable risk-informed decisions; (ii) Ensuring risk-informed coastal, river-basin and spatial planning; (iii) Strengthening resilience of lifeline infrastructure systems, including transport, energy, water, disaster protection, health and school infrastructure systems; (iv) Taking advantage of nature-based solutions; and (v) Strengthening

[13] Resilient Shores: Safeguarding Vietnam's Coastal Development in the Face of Natural Hazards (Draft) (World Bank, 2020).
[14] General Statistics Office of Vietnam, 2019.
[15] General Statistics Office of Vietnam, 2019.
[16] ASEAN Secretariat & United Nations Conference on Trade and Development, 2017.
[17] General Statistics Office of Vietnam, 2017.
[18] Global Facility for Disaster Reduction and Recovery, 2018; and United Nations Development Programme, 2018.
[19] Resilient Shores: Safeguarding Vietnam's Coastal Development in the Face of Natural Hazards (Draft) (World Bank, 2020)

preparedness for disasters that cannot be avoided, including preparing for future shocks and effective emergency response and recovery. Generally, current policies and actions focus more on recurrent events than less frequent and high-impact events.

Institutional Context

11. **The Central Coast socio-economic region has developed rapidly since the 1990s but continues to lag other regions in key socio-economic indicators**. In the ten-year period from 1999 to 2009, the average annual GDP per capita growth of 16.2 percent in this region was the fastest among Vietnam's six socio-economic regions.[20] Concurrently, the pace of urban spatial growth,[21] measured based on the net growth of nighttime light (NTL) use between 1996 and 2017, increased rapidly in the Central Coast socio-economic region, expanding at an average annual rate of 13.6 percent.[22] Despite the impressive progress, the region lags the national average in terms of poverty rates and average income.[23] Based on the GSO multi-dimensional poverty rate, the Central Coast socio-economic region had an average poverty rate of 10.2 percent in 2017 compared to the national average of 7.9 percent. Further, the region's monthly average income per capita of VND 2,358,000 was almost 24 percent below the national average of VND 3,098,000.

12. **In the South Central Coast region, the provinces of Khanh Hoa, Quang Nam, and Binh Dinh are regional industrial hubs while Phu Yen is rapidly developing as a tourism hub.** Khanh Hoa, Quang Nam, and Binh Dinh host large-scale coastal economic zones and industrial parks (e.g., Cam Ranh, Van Phong, and Ninh Hoa in Khanh Hoa; Chu Lai-Ky Ha in Quang Nam; and Nhon Hoi in Binh Dinh). Khanh Hoa and Quang Nam, in particular, are among only 16 net contributing provinces to national revenue.[24] With long coastal areas and rich cultural heritages, the region is an emerging center of the tourism industry with easy connectivity and diverse tourism assets. Quang Nam is home to two UNESCO World Heritage Sites (i.e., the ancient town of Hoi An and the My Son temple complex) while Khanh Hoa drew over 7 million tourists in 2018 (including 3.6 international tourists) anchored on the resort city of Nha Trang. Tourism is a key driver of Phu Yen's long-term growth strategy anchored on the potential of its unspoiled beaches (e.g., Vung Ro and Xuan Dai bays) and the Da Dia Reef, which is a national heritage site. Binh Dinh also has a rich historical and cultural heritage as an ancient Champa centre while also having several natural attractions that draw both local and international tourists (e.g., Ba Mountains complex, Ham Ho waterfall, and Ghenh Rang beach).

13. **While Khanh Hoa ranked ahead of national averages in key socio-economic indicators, Binh Dinh, Quang Nam, and Phu Yen have considerable room to improve socio-economic conditions**. As summarized in Table 1, the monthly average income per capita of the four provinces were lower than the national average in 2018, although Khanh Hoa was approximately just 10 percent below the national average compared to over 22 percent for the other three provinces. Khanh Hoa was the only one among the four provinces to rank ahead of the national average based on the most recent Human Development Index in 2012. In terms of the Multi-Dimensional Poverty Rate in 2018, both Khanh Hoa and Binh Dinh had average rates that were below the national average while Quang Nam and Phu Yen continued to have above-average poverty rates. These statistics indicate that despite impressive progress made in the past decade, each of the four provinces, particularly Quang Nam and Phu Yen, still need to accelerate socio-economic development to catch up with the rest of the country.

[20] General Statistics Office of Vietnam, 2019. The six socio-economic regions for which the GOV disaggregates socio-economic statistics are the North, Red River Delta (including Hanoi), Central Coast, Central Highland, South East (including Ho Chi Minh City), and Mekong River Delta regions.
[21] Urban spatial growth is defined as the expansion of urban and economic usage of land areas, which is measured by the net growth of NTL within a specific boundary.
[22] Shifting the GEAR: Putting Vietnam's Urbanization onto an Efficient, Inclusive, and Resilient Pathway (Draft) (World Bank, 2019).
[23] General Statistics Office of Vietnam, 2019.
[24] Net contributing provinces are those where locally-generated revenues exceed local budget expenditures such that the provinces "contribute" surplus revenues to the national budget.

Table 1: Provincial Socio-economic Data

	Khanh Hoa	Quang Nam	Phu Yen	Binh Dinh
Population (2017)	1,222,200	1,493,800	904,400	1,529,000
Area (2017, km^2)	5,137.8	10,574.7	5,023.4	6,066.2
Overall population density (2017, persons/ km^2)	238	141	180	252
Monthly Ave. Income per capita (est. 2018, VND)				
- Provincial	3,455,000	2,906,000	2,837,000	3,024,000
- National	3,876,000			
Human Development Index (2012)				
- Provincial	0.752	0.745	0.728	0.742
- National	0.752			
Multi-Dimensional Poverty Rate (est. 2018, %)				
- Provincial	3.7%	10.3%	7.5%	5.5%
- National	6.8%			

Sources: General Statistics Office, 2019; and "Growth that works for all: Viet Nam Human Development Report 2015 on Inclusive Growth" (United Nations Development Programme. 2016).

14. **The four provinces face particular challenges in the face of heightened risks of climate change and natural disasters**. Based on recent analysis from the World Bank's forthcoming on coastal resilience in Vietnam ("Coastal Resilience: Risk and Opportunity in Vietnam's Coastal Regions"), while coastal flooding remains a threat to Quang Nam, Binh Dinh, Phu Yen and Khanh Hoa, the more serious risks come from pluvial and fluvial flooding. Table 2 summarizes the exposure of key economic sectors of the four provinces to a 50-year riverine flooding event. The analysis reveals that extensive shares of agricultural areas are exposed to a major flooding event, ranging from 15 percent for Phu Yen to 22 percent for Quang Nam. The share of hotels that are exposed to a 50-year riverine flooding event is very high for the four provinces, ranging from 45 percent in Khanh Hoa to 79 percent in Binh Dinh. Thousands of jobs are estimated to be affected in each province. While it was difficult to assess the potential economic losses, the estimated provincial GDP generated by the tourism sector that will be affected by a major flooding event is significant for the four provinces.

Table 2: Provincial Exposure of Economic Sectors and Assets in a 50-year Riverine Flooding Event

	Khanh Hoa	Quang Nam	Phu Yen	Binh Dinh
Agriculture				
- Agricultural crops exposed (% of area)	20%	22%	15%	20%
- Est. loss in export value (US$ millions)	36.5	91.9	26.2	52.4
- Agricultural jobs affected (thousands)	24	60	17	34
Tourism				
- Hotels exposed (% of total)	45%	61%	77%	79%
- Est. Tourism GDP affected (US$ millions)	303.5	452.8	97.9	166.4
- Tourism jobs affected (thousands)	16	25	5	9
Industry				
- Industrial zones exposed (% of total)	0%	100%	67%	50%
Public Infrastructure				
- Schools exposed (% of total)	44%	30%	57%	58%
- Hospitals exposed (% of total)	55%	54%	25%	50%
- Power plants exposed (% of total)	100%	77%	67%	40%
- Electrical substations exposed (% of total)	27%	40%	14%	77%
- Est. contingent liability to roads (US$ millions)	14.0	25.4	2.9	17.8

Source: Resilient Shores: Safeguarding Vietnam's Coastal Development in the Face of Natural Hazards (Draft) (World Bank, 2020)

15. **Recognizing the risks faced by its coastal regions, the GOV has moved towards the implementation of coastal zoning and spatial planning practices to better plan the development and management of coastal regions**. The Ministry of Natural Resources and Environment (MONRE)[25] is in the process of enacting the *National Master Plan for*

[25] At the national level, jurisdiction over coastal land management, land use, and spatial planning/zoning falls under the MONRE. According to the *Law on Marine and Islands Resources and Environment* (2015), MONRE is responsible for formulating master plans for the sustainable exploitation

Sustainable Exploitation and Use of Coastal Resources, which will serve as the basis for provinces to adopt functional zoning to efficiently utilize natural resources and protect the coastal areas to meet the sustainable economic-social development needs and adapt to climate change.[26] Furthermore, the GOV adopted in 2018 a *Strategy for Sustainable Development of Vietnam's Marine Economy to 2030 with a vision to year 2045* that outlines policy goals and strategies for balancing coastal and marine resource management (including strengthening measures for climate change adaptation) with socio-economic goals for the development of coastal provinces (including strengthening infrastructure and services to support the industrial, aquaculture, and tourism sectors).

16. **The GOV's forthcoming update to its medium-term development plan reflects and increased prioritization of resiliency policies for coastal areas**. The draft of *Vietnam's SEDP for 2020-2030* specifically recognizes the vulnerability of the South Central Coast region and calls for "proactive policies (to) be adopted to respond to climate change and mitigate natural catastrophe impacts." More generally, the SEDP prioritizes "more proactive response to climate change (and) reduction of GHG emissions," including the development infrastructure that "will be more resilient to climate change" and smart solutions that "enhance adaptation in agriculture, aquaculture and forestry." These principles and priorities are being incorporated in the respective *Provincial SEDPs for 2020-2030, with a vision to 2050* that are under preparation by each of the four provinces.

17. **Sustaining resilient economic growth requires a risk-informed and integrated approach that leverages structural measures and digital solutions**. Given the issues faced by coastal provinces, there is an urgent need to address critical weaknesses in flood mitigation infrastructure to reduce risks to vulnerable populations and key economic assets. Investments are also needed to improve connectivity and environmental sanitation systems to make these infrastructure services more resilient to the increasing stresses of climate change and natural disasters. Importantly, structural investments must be supported by developing integrated, smart planning and management systems that will modernize planning, decision-making, and accountability for disaster preparedness and management in the project provinces. Investments cannot solely rely on grey infrastructure solutions given that the extensive use of concrete, the felling of trees, and the extension and widening of the roads, increases both the urban heat island and greenhouse gas emissions (GHGs). Various green, nature-based solutions, such as retention and detention ponds, water absorbing landscapes, bio-engineering methods to create more natural embankments in order to reduce erosion etc., should complement these engineering measures.

18. **The GOV has also advanced e-government reforms over the past two years in an effort to leverage technology to advance administrative procedure reforms, improve transparency and efficiency of the government, strengthen competitiveness, and to provide better services to citizens and business**. A National Steering Committee on eGovernment, chaired by the Prime Minister, was established in August 2018 and the GOV subsequently established key policies in 2019 that set objectives for the government by 2025, both at central and subnational levels, to build at least three leading smart cities and to enhance the ratio of digital economy to GDP to 20 percent. The e-government reform agenda of the GOV provides a platform for leveraging technology to enhance disaster risk management, resilience, and emergency preparedness at both the national and provincial levels.

Relationship to CPF

19. **The proposed Integrated Development Project is fully aligned with the World Bank Country Partnership Framework (CPF) for Vietnam 2018-2022.**[27] The operation will support the vulnerable coastal provinces of Khanh Hoa, Quang Nam, Phu Yen, and Binh Dinh in increasing access to resilient infrastructure and strengthen disaster preparedness,

and utilization of coastal resources and integrated coastal resources management programs, and for the establishment of the coastal corridor protection.

[26] Specifically, the Master Plan will be applied to protecting, maintaining and restoring ecosystems, endemic species, natural resources and cultural-historical values on coastal areas. The Master Plan should identify and minimize conflicts between industries and localities in the exploitation and use of coastal resources, serving the parallel needs of socio-economic development, environmental protection and defense requirements, according to an integrated approach.

[27] Country Partnership Framework for the Socialist Republic of Vietnam for the Period FY18-FY22 (World Bank 2017, Report No. 111771-VN).

which is fully consistent with Focus Area 3 of the CPF to "enhance environmental sustainability and resilience." In particular, the operation will support extensive structural and non-structural interventions that will "increase climate resilience and strengthen disaster risk management" of the project provinces, as aligned with CPF Objective 10. The operation will also support investments to improve the wastewater collection and treatment systems of the project provinces, which aligned with CPF Objective 11 to "strengthen natural resource management and improve water security." The proposed project will contribute to the Bank's Twin Goals of eliminating extreme poverty and boosting shared prosperity by supporting the four provinces in increasing access to improved basic services for the bottom 40 percent of the population, removing infrastructure constraints, and improving connectivity and access to jobs for both male and female members of local communities.

C. Proposed Development Objective(s)

To increase access to resilient infrastructure services and to strengthen institutional capacity on disaster-resilient development planning and management in selected provinces of the South-Central Coast Region in Vietnam.

Key Results

Table 3: PDO Level Indicators

PDO Outcome	Outcome indicator
Reduced flooding risk	• People benefiting from improved drainage in the area covered by the project interventions (number, percentage of which female, and percentage of which bottom 40 percent) • People benefiting from improved coastal protection in the area covered by the project interventions (number, percentage of which female, and percentage of which bottom 40 percent)
Improved environmental sanitation	• People provided with access to improved sanitation provided by the project (number, percentage of which female, and percentage of which bottom 40 percent)
Improved connectivity	• People who have access to new or improved roads under the project (number, percentage of which female, and percentage of which bottom 40 percent) • Travel time on new or improved roads and bridges[28]
Enhanced disaster preparedness and governance	• Number of provincial agencies utilizing digitalized public administrative services systems • Number of provincial agencies utilizing smart integrated disaster-transport-tourist management systems • Number of large projects screened for climate risk and resilience

D. Concept Description

20. **The Integrated Resilient Development Project is in line with the World Bank's new generation of urban interventions in Vietnam centered around a multi-sectoral approach to improve access to urban services and resilience**. The project builds on the lessons and experiences of the Bank's previous and ongoing interventions in the urban resilience and disaster risk management sector in Vietnam and other countries, and will be guided by the following principles: (i) leveraging accessible and affordable new technologies for better managing risk, with a focus on incorporating flood risk assessment in planning, strengthening operation and maintenance, sharing of information across administrative

[28] This indicator is defined as the reduction in travel time by percentage.

units, and community participation; (ii) integrating remedial and preventive measures to increase connectivity and guide future urban development in low risk areas, while improving the living conditions of the urban core; (iii) harmonizing nature-based solutions with gray infrastructure design to increase adaptability and reduce the life cycle costs of operation and maintenance; and (iv) enhancing the quality of infrastructure with consideration of climate change and the needs of diverse populations, particularly women.

21. **The Integrated Resilient Development Project will support investments in the provinces of Quang Nam, Phu Yen, Binh Dinh and Khanh Hoa to strengthen the resilience of the economic growth**. Located in the South Central Coast region, which is highly susceptible to climate change and natural disasters, the four proposed project provinces are currently preparing their respective medium-term SEDPs that are expected to align with the central government's forthcoming SEDP for 2020-2030, which calls for "proactive policies (to) be adopted to respond to climate change and mitigate natural catastrophe impacts." Hence, the provinces are increasingly prioritizing investments that will reduce the exposure of key economic assets and vulnerable communities.

22. **The project will increase coastal protection and improve connectivity while increasing resilience to weather events in urban cores the four proposed project provinces**. Quang Nam, Binh Dinh, Phu Yen, and Khanh Hoa have each proposed a series of investments to enhance connectivity and services among urban and industrial zones, strengthen linkages to national back-bone infrastructure, and increase flood resilience of the interconnected economic corridors. An integrated and holistic approach for both geographical coverage and interventions that can leverage the economic development while reducing the impacts of environment degradation and disasters has been applied, following the provincial strategies and urgent needs. The proposed investments are structured around three main areas: (i) improving connectivity, (ii) improving urban environment and sanitation, and (ii) coastal flood risk reduction. These investments are expected to create an environment more conducive to rapid economic growth and the project will finance catalytic investments to generate further growth

23. **To ensure the investments are managed in an integrated manner, the project will support the provinces in addressing institutional and technical capacity constraints through the development and strengthening of their priority sectors in digital solutions, public investment management (PIM) and resilient tourism development**. Building on the e-government reform agenda of the national government, the proposed project will also support the project provinces in addressing institutional and technical capacity constraints that have limited their capability to prepare and respond effectively to disasters and public health crises. Furthermore, the project will assess the current PIM of the proposed project provinces by applying the Bank's standard climate-informed PIM assessment framework, which will take into account the responsiveness and flexibility of the PIM system to respond to catastrophic events and its mitigation measures.

Box 2: Making IRDP "COVID19 Informed"

While the full extent of the impact of the COVID-19 pandemic in Vietnam is not yet clear, it is likely that the country will need to address the consequences of the current global crisis for years to come. As it goes about preparing the project, the World Bank will explore a number of avenues that could help the proposed project provinces better handle the short and long-term implications of the COVID-19 outbreak as well as future public health crises. These potentially include the flowing:

- *Remote Monitoring*: Remote monitoring techniques have been increasingly used in Bank projects in recent years. They have helped increase transparency and effectiveness of supervision. Having such a system in place would also allow for continued project monitoring in case of recurrent and prolonged lockdown.
- *Remote working tools*: The Provincial Project Management Units (PPMUs) and network of groups responsible for implementing the project would be provided with remote working support.

- *Social Distancing in Work Locations*: Guidelines will be developed to ensure that labor and other individuals working on World Bank-financed activities are not unduly exposed to health and safety risk.
- *Public Space Upgrades*: For investments in public spaces, the project could finance water fountains, public toilets with hand washing facilities, etc.
- *Early Warning Systems*: These can be adopted from flood protection systems to ensure last mile connectivity during potential outbreaks/clusters.
- *Information Campaigns*: Information campaigns may be implemented through women's unions and other organizations on the characteristics of COVID-19 and the importance of good hygiene.
- *Outbreak Monitoring*: As cases are identified, geospatial systems may be built to identify where people live, and overlaid with density in order to assess hotspots and to track the spread of infections.

Project Components

24. The project is organized around three components:

Component 1: Resilient Infrastructure (IBRD: US$331.90 million; Counterpart: US$92.20 million)

25. This component will finance investments to improve access to resilient infrastructure and services in key coastal economic zones of the target provinces. The proposed investments will contribute towards positive social, economic, and environmental impacts in the selected provinces, while enhancing the capacity of the authorities in disaster emergency relief and response. This component consists of the following sub-components:

26. *Sub-component 1.1 – Resilient Connectivity*. This sub-component will support investments to improve connectivity and resilience of coastal economic zones of the proposed project provinces by providing key and resilient linkages with the provincial and/or national road network. Provision of the proposed roads and bridges will help unlock economic opportunities and boost economic growth of not only the economic zones but also the surrounding vicinities, contributing to development of the coastal economic corridors for the provinces.

27. *Sub-component 1.2 – Disaster risk reduction*. This sub-component will support investments to build resilience and reduce the impact of disasters in the selected areas by rehabilitating and strengthening coastal erosion prevention infrastructure, and enhancing flood discharge and storage.

28. *Sub-component 1.3 – Environmental sanitation*. This sub-component will support investments to improve wastewater and solid waste collection and treatment systems, and increase the number of household connections to hygienic sewer systems, which will minimize the amount of untreated wastewater discharged directly into rivers, lakes, and natural ground.

Component 2: Integrated Smart Resilient Planning and Management System (IBRD: US$35.10 million; Counterpart: US$8.56 million)

29. The activities under this component will leverage information technology (IT) in the four project provinces to strengthen foundations for digital driven socio-economic development. This component will focus on: (i) strengthening of the efficiency and effectiveness of public administration; and (ii) development of resilient planning and management with smart service delivery. The investments under this component consists of three sub-components:

30. *Sub-component 2.1 – Digitally Enabled Infrastructure for eGovernment and Smart City Initiatives.* This sub-component will support the project provinces to equip and install a fit-for-purpose and modern IT infrastructure that can

catalyze the data assets of the provinces and enable priority applications and smart services. Based on the architecture design of the information system to be developed and depending on the current status of the IT infrastructure in the provinces, this sub-component will support investments in one or more the following activities:

- Constructing or rehabilitating provincial information/data building centers.
- Setting up or upgrading provincial database with servers, storages, and facility systems. The upgraded data centers should be designed to be private cloud ready by applying the virtualization technology to ensure the agility of the ICT infrastructure.
- Establishing smart city/e-government operation center with high performance computing system, information sharing, analysis, and presentation platform, that allow the provinces to centrally manage and operate ICT systems to monitor the availability and optimize the performance of the entire system.
- Improving or upgrading the provincial government networks to provide network coverage with appropriate bandwidth for implementing e-government and smart city applications to all districts and communes.
- Upgrading the information and cyber security systems, including the implementation of security operation centers.

31. *Sub-component 2.2 – Maximizing Data for Efficient Decision Making and Service Delivery*. The sub-component will support the project provinces in establishing GIS-based data interoperability platforms that integrate critical data layers, including base maps; registries for land, citizens, and enterprises; and functional data layers related to tourism, planning, transport, and disaster resilience, among others. These data layers will be the foundation for the geospatial data sharing platforms toward provincial shared data warehouses, where the data analytics can be applied to improve governance capabilities and public service delivery. The following activities shall be designed and implemented under this sub-component:

- Formulating and adopting provincial detailed regulations for data management and sharing. The regulation will guide the entire data collection, management, and sharing through the geospatial data sharing platform.
- Developing and building a common data warehouse and the provincial Local Government Service Platform (LGSP) to provide the IT systems and technical capability to manage, store, and exchange the data.
- Standardizing the shared data layers from different agency systems, propagating these to the shared data store, and providing the data access to data users via the LGSP system.

32. With the establishment of provincial regulations for data governance and sharing, the LGSP, and the data warehouse, as well as the IT capability, the investments under this sub-component will enable the provinces to further integrate additional data layers to the data warehouse depending on the needs and the pace of digital government maturity of the province. These will also provide the foundation for data analytics by applying machine learning and other possible disruptive technologies to provide smart applications, which will be implemented under sub-Component 2.3.

33. *Sub-component 2.3 – Smart Applications and Services Toward Smart City*. This sub-component will assist the project provinces to implement priority smart applications to improve both the service delivery and the governance capability. The principle of the smart application implementation under this sub-component is to pilot and ensure the smooth operation of the design IT system, including utilization and contribution of data to the geospatial data sharing platform built under sub-component 2.2. The following smart applications and services shall be considered for implementation in the provinces:

- Integrated smart transport-tourism-disaster early warning- environment management system
- Digital public services, including construction permits
  Formulating and adopting a comprehensive system operational manual, including technical guidance and financing mechanism for system operation and maintenance.

Component 3: Technical Assistance and Implementation Support (IBRD: US$9.10 million; Counterpart: US$2.53

million)

34. This component will finance technical assistance (TA) activities and support overall project implementation.

35. *Sub-component 3.1 – Public Investment Management.* A substantial and increasing share of public investment is managed by subnational governments globally and in Vietnam in particular. They are notably assigned important land use management, urban services, transport, water and environmental management functions. However, they are often the most affected and least equipped to deal with the glowing frequency and severity of climate related extreme hydro-meteorological events. Against this backdrop, subnational governments need to adapt and mitigate these risks. This requires adapting their PIM systems to make them more climate sensitive and improving the resilience of their public investment and asset portfolio while contributing to their transition to a more sustainable development path.

36. The World Bank's new climate informed Public Investment diagnostic tool aims to assess the strength and weaknesses of subnational public investment management and its climate resilience. This diagnostic framework aims to address this need through a dedicated and climate informed analysis that combines a quantitative and qualitative assessment to help subnational governments identify the main allocative and operational efficiency gaps and risks of their public investments. It includes an assessment of the strengths and weaknesses of their underlying core PIM functions and their effectiveness. The resulting heat map and recommendations aim to help the four project provinces prioritize their reforms to address weak links that generate the greatest potential efficiency gains. This diagnostic tool will be used to assess the PIM system of Quang Nam, Binh Dinh, Phu Yen and Khanh Hoa. Based on the result of the assessment, TA will be provided to the four provinces to strengthen the institutional and technical capacity of relevant provincial departments to increase the efficiency of the PIM system with climate-response and economic resilience measures.

37. *Sub-component 3.2 – Resilient and Sustainable Tourism Development Strategy.* TA will be provided to four provinces to develop integrated tourism development strategies that incorporate resilient principles to promote sustainable tourism development. While most provinces have masterplans, the implementation have proved to be challenging and at times undermined tourism development objectives and sustainability.[29] Thus, the strategies will address key challenges faced by the provinces, including the management of cultural heritage and historic assets, economy, and over-tourism, which may lead to stresses on infrastructure services and have a negative impact on the environment, cultural, and social fabric of the provinces. The strategies will provide a long-term vision with risk-informed planning and decision-making instruments, and key policies to implement the strategy, such as multisectoral collaboration, conservation and management of tourism assets (including heritage sites and buildings), destination management, promotion of community-based tourism, defining zoning policies, diversifying tourism product,[30] and strengthening of public and private sector collaboration (including identifying skill gaps and improving training program in response to demand).

38. *Sub-component 3.3 – Project Implementation Support.* TA will be provided to all four provinces to support project implementation, including (i) the preparation of technical designs for sub-projects; (ii) construction supervision and contracts management; (iii) independent monitoring of environmental and social safeguards; (iv) independent financial audits. This TA will also strengthen: (v) strategic communication (including design and creation of websites and other content for public communication and social media) and citizens' engagement activities; and (vi) relevant training of staff and other persons associated with project implementation, particularly in safeguards, procurement and contract management, and monitoring and evaluation.

Box 3: Potential Project Impacts on Improving Responsiveness to Future Public Health Crises

[29] Taking Stock Report - Recent Economic Developments of Vietnam (World Bank 2019). The report also sites an example of change of residential land-use into commercial hotels, for over time.
[30] All the four provinces have potential for coastal, mountain, and cultural tourism which has not been leveraged much.

Considering the current COVID-19 pandemic, the proposed infrastructure and e-government investments of the project will strengthen the capacities of the project provinces to prepare for and respond to public health crises. The proposed infrastructural investments, particularly in improved and financially sustainable wastewater collection and treatment, road connectivity and disaster protection, will protect and improve public health services by improving the resilience of the beneficiaries to infectious disease outbreaks with fecal-oral transmission routes, such as the COVID-19 virus. Digitizing economic business services and establishing smart planning systems will strengthen the resilience of public administration and enable the provinces to make decisions in an integrated, coordinated, and data-driven manner. This is essential to facilitate economic recovery following public health crises and to mitigate the social and economic costs associated with such emergencies.

Proposed Project Cost

39. The total project cost is US$ 537.30 million, of which US$ 404.00 million will be financed by the World Bank. The remaining US$ 133.33 million will be financed through counterpart funds from the PPCs of the project provinces. The counterpart funds will be used to finance land acquisition and compensation, TA activities, project management, and other costs. Table 4 provides a breakdown of the project costs per component for each province.

Table 4: Proposed Project Cost (US$ million)

Provinces	Quang Nam		Binh Dinh		Phu Yen		Khanh Hoa		Total		
Components	**WB**	**CF**	**WB**	**CF**	**WB**	**CF**	**WB**	**CF**	**WB**	**CF**	**Total**
Component 1: Resilient Infrastructure	96.99	34.08	108.80	20.80	38.63	7.82	81.49	29.45	325.91	92.15	418.06
Component 2: Integrated Smart Resilient Planning and Management System	19.70	6.92	6.40	0.50	6.00	0.26	9.01	0.90	41.11	8.58	49.69
Component 3: TA and Implementation Support	1.68	0.59	3.80	0.00	-	0.43	3.57	1.50	9.05	2.52	11.57
Other costs (taxes, interest, fees)	13.15	4.62	0.00	17.00	-	-	14.78	8.44	27.93	30.06	57.99
TOTAL	**131.52**	**46.21**	**119.00**	**38.30**	**44.63**	**8.50**	**108.85**	**40.29**	**404.00**	**133.30**	**537.30**

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

Summary of Screening of Environmental and Social Risks and Impacts

The common construction EIR include dust, noise, vibration, solid waste and wastewater generation, localized pollution and flooding, loss of vegetation cover, trees and benthics organisms, disturbance to traffic and public services, traffic safety risks, reduced landscape values, health and safety risks to the workers and local communities etc. These potential EIR would moderately affect environmental quality, public health and daily lives of local communities. There are also other significant adverse potential EIR during construction due to site characters and investment topologies. Some unexploded ordinances (UXO) if left underground from the war that happened in the past would cause safety risks. Dredging (67 km in Quang Nam, about 20 km in Nha Trang and 45 ha in Binh Dinh) would result in significant EIR, such as: (i) disturbance and increased

safety risks to waterway traffic; (ii) temporary water quality impacts (due to increased turbidity and leaching of substances from sediments into water) thus affecting other water users including aquatic life; (iii) riverbank erosion and damage to weak riverside structures; (iv) environmental pollution and public health issues related to leakage wastewater and bad odours from wet dredged materials at temporary storage areas and/or disposal sites and (iv) large volumes of dredged materials (estimated 4.5 mil. m3,1 mil. m3 and 820,000 m3 in Quang Nam, Binh Dinh and Khanh Hoa, respectively) requiring land for disposal, and issues with regards to emissions, drainage of contaminated leachate, erosion, safety risks at these disposal sites. Other types of investments may also lead to significant EIR. Some production/coastal protection forest (possibly 40 ha in Quang Nam and 38 ha in Binh Dinh) may need to be removed for construction. Embankment effect of new roads may affect community connectivity or disrupt drainage or irrigation services. Soil subsidence and landslide risks may lead to cracking of existing structures at dredging or deep excavation sites. Occupational health and safety (OHS) for the workers or safety for local communities along the sea dyke in Phu Yen would be a major concerns if construction take place under severe weather conditions such as sea waves, winds and sunlight or right next to residential clusters. The main EIR in operation would be: (i) traffic safety and community connectivity and flooding risks if new road/canal embankment is significantly higher than existing ground levels; (ii) emissions of odours gases and effluent, OHS for the operators of the wastewater treatment plant (WWTP); (iii) pollution due to gas emissions and/or leachate from solid waste treatment facility; (iv) Disruption of access to water fronts at the beach, localised flooding or increased stagnant wastewater behind the newly built sea dykes. The specific location of the proposed works are known and are mostly located in peri-urban areas, as opposed to densely populated urban areas. Although, the project will be implemented in the cities/district where there are many cultural heritage sites of both national, and the global importance (including some of the oldest churches and pagoda/temples), the sub-projects themselves are not in close proximity to these sites. Similarly, the sub-projects will not affect sensitive social receptors such as low income or ethnic minority communities. Key social risks and impacts include land acquisition of an estimated 637ha, of which 51ha is residential land and 586ha is agricultural land. Total affected households of the four subprojects is about 3,496HHs, in which physical and economic displaced HHs are 689HHs and 2,896HHs, respectively. Vulnerable households (such the elderly, people with disabilities, female headed households, and poverty households) may be affected by land acquisition for the project and this will be assessed further during project implementation. Aside from land acquisition and resettlement, the other possible impacts on the livelihoods of trash pickers during construction of an additional landfill module in the existing landfill area, or on community health and safety due to the collection, transport and treatment/storage/disposal of the waste material from drainage and waste management activities should be temporary, predictable and/or reversible. These risks and impacts will be occurring across a mid-sized geographic area, (7 cities and districts of 4 provinces). Although, there are additional social risk management requirements specified by the new Environmental and Social Standards of the World Bank, (including social risks and impacts to occupation and community health and safety related to labor influx (when workers camps are established in the project sites) such as SEA/SH and communicable diseases) these are predictable, mitigatable and manageable. Local communities of the project cities/district have shown their absorption capacity for social risks related to labor influx, due to their experience with large labor influx from industrial zones and tourist sites. However, since the project is being prepared under the COVID19 crisis circumstances there is an increased potential for workers to spread communicable diseases. This risk will be addressed by instituting careful community health and safety measures and labor management procedures informed by relevant health protocols. The other adverse social impacts will relate to the temporary disruption or limitation of traffic and utilities during the construction phase, and the Borrower demonstrated their capacity to mitigate such impacts in previous projects.

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