

**COMBINED PROJECT INFORMATION DOCUMENTS / INTEGRATED
SAFEGUARDS DATA SHEET (PID/ISDS)
ADDITIONAL FINANCING**

Report No.: PIDISDSA19655

Date Prepared/Updated: 15-Sep-2016

I. BASIC INFORMATION

A. Basic Project Data

Country:	Vietnam	Project ID:	P158976
		Parent Project ID (if any):	P095129
Project Name:	Northern Delta Transport Development Project Additional Financing (P158976)		
Parent Project Name:	Northern Delta Transport Development Project (P095129)		
Region:	EAST ASIA AND PACIFIC		
Estimated Appraisal Date:	26-Sep-2016	Estimated Board Date:	16-Feb-2017
Practice Area (Lead):	Transport & ICT	Lending Instrument:	Investment Project Financing
Borrower(s):			
Implementing Agency:			
Financing (in USD Million)			
Financing Source			Amount
BORROWER/RECIPIENT			28.50
International Development Association (IDA)			83.00
Total Project Cost			111.50
Environmental Category:	A - Full Assessment		
Appraisal Review Decision (from Decision Note):	The review did authorize the team to appraise and negotiate		
Other Decision:			
Is this a Repeater project?	No		

B. Introduction and Context

Country Context

The transport sector has contributed positively to the economic growth of Vietnam over the past two decades and has helped reduce poverty directly through better linkages to markets, education, and health facilities and indirectly through its contribution to growth. The impressive economic progress manifests itself in many ways:

- Real Gross Domestic Product (GDP) grew at an annual rate of 6.6 percent between 1995 and 2015 and is expected to average 6.2 percent between 2015 and 2021. GDP per capita increased from US\$189 in 1993 to US\$2,088 in 2015 and is expected to surpass the US\$3,000 mark by 2021;
- Poverty, measured at the US\$1.9 a day threshold, dropped significantly from about 49.2 percent in 1992 to 3.2 percent in 2012, with tens of millions of people having escaped poverty;
- Exports continued their rapid growth, increasing in value by 22 percent in 2015 to reach US\$174 billion (90 percent of GDP), compared to US\$37 billion in 2005. The top six exports being oil, garments and textiles, footwear, aqua products, wood products, and electronics; and
- Foreign direct investment reached US\$11.8 billion in 2015, more than 6 times its 2005 level.

Vietnam's high rate of investment in infrastructure has been a major enabler of, and catalyst for, this economic progress. Indeed, Vietnam has been among the world's leaders in infrastructure investment with annual expenditures reaching an equivalent of a 9-10 percent of GDP, about half of which is in transport.

The rapid growth in transport infrastructure and services over the past two decades, and especially over the past decade, however, has created new demands and challenges for the transport sector. Bottlenecks to business activities caused by infrastructure constraints are already appearing in several areas. The fast economic growth has contributed to high rates of urbanization, rising traffic accidents, new capacity constraints, and a large increase in asset preservation requirements to meet the fast expansion of transport assets. In addition, institutional impediments have resulted in inefficient allocation of resources with waterways and rail lagging behind the roads sector.

Sectoral and institutional Context

Inland Waterway Transport (IWT) is critical to the everyday functioning of the Vietnamese economy. It captures a significant share of the freight market and provides the backbone for the movement of bulk commodities like construction materials, coal, fertilizer, and rice. Among all freight modes. Investments to promote the use of IWT and coastal shipping enable the use of larger vessels. This generates economies of scale in both unit-level transport costs and emissions. Modal efficiency and competitiveness can be further enhanced through better linkages between waterways and other modes, such as through investments in river ports. These are the goals that have been supported by the Project Development Objective of the Northern Delta Transport Development Project.

After more than seven years in the project implementation period, all civil works and consulting services activities financed by the original credit have been completed except for the DNC canal, which is the focus of the proposed additional credit, and the pilot maintenance contract, which will be excluded from the project scope under the AF. Based on the above progress, the project is already generating the expected economic and social impacts sought at appraisal, in accordance with the PDO. Specifically, the interventions financed under the project have resulted in (a) improved connectivity and navigating conditions at well-targeted areas of Corridors 1 and 3

of the Red River Delta inland waterway network; (b) improved cargo handling and storage conditions at two river ports; (c) improved access to market, health, education, and recreation facilities for local communities across 14 provinces in the target region through the provision of safer, more accessible ferry boat stages; and (d) knowledge transferred through the provision of technical assistance to VIWA and MoT. The list of completed civil works includes the construction of the bypass access channel at the Lach Giang estuary (the most transformational and technically complex construction activity financed under the original credit. Beyond improving connectivity by providing sea-going vessels with year-round access to the inland waterway network at Corridor 3, construction of this structure resulted in the creation of significant technical capacity among the Vietnamese contractors that built the facility, none of whom had prior exposure to civil works in the open ocean.

C. Proposed Development Objective(s)

Original Project Development Objective(s) - Parent

The Project's development objective is to enhance the efficiency, environmental sustainability and safety of transport infrastructure and services, through the alleviation of physical and institutional bottlenecks in two major waterway corridors in the Northern Delta Region.

Key Results

D. Project Description

The original credit of SDR104.4 million (US\$170 million at the time of approval) was approved by the Board of Executive Directors on June 24, 2008 and its Financing Agreement was signed on November 10, 2008. The credit became effective on February 6, 2009.

The project comprises 3 main components:

Component A (Multimodal Transport Corridor Investments, which consists of improvements to two major waterway corridors in the project region to increase the efficiency of multimodal transport and supply chains, and to enhance the environmental sustainability of the waterway system. Component A has five subcomponents: (i) improvements to two national waterway corridors, known as Corridor 1 and Corridor 3, by expanding the navigational capacity of these corridors through the provision of dredging, bend corrections, bank protection, river training, and the provision of aids to navigation, with the aim of increasing the ability of the target waterways to carry larger vessels and reduce navigation times; (ii) improvements to the Ninh Co river estuary, by providing a bypass access channel from the ocean into the river system at the estuary, and the provision of an inter-connecting canal between the Day and Ninh Co Rivers with a navigational lock; (iii) improvements to the provincial river ports of Viet Tri and Ninh Phuc, to increase the ports (berthing and warehousing capacity and their environmental sustainability; (iv) a small pilot maintenance activity to test the viability of using performance-based contracts for the delivery of routine maintenance at selected waterways in the project region; and (v) the provision of detailed engineering design and construction supervision for subcomponents (i) to (iii).

Component B (Investments in Ferry Boat Stages, which includes physical improvements to 28

ferry boat crossing stations located in the 14 provinces that comprise the project's target region (2 ferry boat stages per province).

Component C is Institutional Support to the Ministry of Transport (MoT), the Vietnam Inland Waterway Administration (VIWA), and the Provinces, which comprises the delivery of several consulting services, including: (i) technical assistance to VIWA on the management of ports, landing stages, ferry boat crossings, and waterway maintenance schemes; (ii) technical assistance to VIWA on the role of community participation in, and supervision of, infrastructure development projects in the waterway sector; (iii) training and capacity building services provided to staff of MoT, VIWA, and other government agencies, including the Waterway Transport Vocational College No. 1 in Hai Duong; (iv) integrated project implementation audit services; (v) independent financial audit services; and (vi) the development of a Feasibility Study (FS) for a potential future transport project in the Red River Delta inland waterway sector.

The proposed AF operation will comprise a single activity: construction of the DNC canal complex. The proposed credit will finance 100 percent of civil works and 100 percent of construction supervision and financial audit services, at an estimated cost of US\$83 million, excluding VAT payments. The GoV will provide counterpart funding, in the estimated amount of US\$28.5 million, to finance land acquisition, resettlement compensation, Value-added Tax (VAT) payments, and other administrative costs. The scope of civil works comprises: (a) construction of a new navigation canal to connect the Day and Ninh Co rivers, approximately 1.5 kilometers long, 6.0 meters deep, and inclusive of flood protection dikes; (b) construction of a 160-meter navigational lock for low loaded river-coastal vessels up to 3,000 DWT in capacity to facilitate passage from the Ninh Co to the Day river and on to Ninh Phuc port and associated return trips; (c) construction of the Day - Ninh Co fixed-span bridge over the canal, 780 meters in length and with a 15-meter vertical clearance, to preserve continuous traffic along Provincial Road No. 490C between the two sides of the crossing canal and to allow sufficient vertical clearance for the passage of seagoing vessels; (d) construction of an approximately 1.2-kilometer long (12-meter wide) approach road to the bridge; and (e) replacement of facilities impacted by canal construction works (e.g., electricity and telecommunication poles, irrigation canals), and complementary landscape and environmental works.

Component Name

Component A is Multimodal Transport Corridor Investments

Comments (optional)

Component Name

Component B is Investments in Ferry Boat Stages

Comments (optional)

Component Name

Component C is Institutional Support to the Ministry of Transport (MoT), the Vietnam Inland Waterway Administration (VIWA), and the Provinces

Comments (optional)

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

The project area is located in Northern Vietnam, approximately 150 kilometers southeast of Hanoi. The scope of civil works for the DNC canal activity remains largely the same as originally described in the Project Appraisal Document (PAD) of the Parent project: the construction of a canal to link the Day and Ninh Co rivers, which are tributaries of the Red River with a navigational lock. The facility will also be equipped with a bridge sitting directly atop the lock to provide through connectivity to a road serving the communities located in close proximity to the canal. The only change in the nature of civil works relative to original descriptions at appraisal is a change that was introduced at the detailed design stage during project implementation is that the bridge will be a fixed-span bridge rather than a lifting-span bridge as originally envisaged. This change was deemed necessary to accommodate increased traffic flow both on the road and across the canal. The change in engineering design for the bridge from a lifting-span to a fixed-span is not expected to have any additional environmental or social impacts.

The project area is predominantly agricultural and/or urban. Aquatic and terrestrial ecosystems in the DNC area have been impacted by heavy anthropogenic intrusion. No protected areas or sensitive ecological habitats lie within the Project area of influence, nor are there endangered or protected species identified in the area of influence of the project.

The impacts of the DNC canal will eliminate a length of 250 m of riverbank on the Day River side and 650 m of riverbank on the Ninh Co River side. However, this impact will be mitigated by the project's adoption of an innovative ecological engineering approach (a mixed bank protection scheme, based on ecological bank protection (vegetation capacity to fix the banks) and classical bank protection (rip rap), which will enhance biodiversity and protect against the effect of waves and erosion on the river banks and adjoining wetland, creating and/or restoring approximately 9 ha of aquatic and wetland habitats (an area 18 times greater than the lost habitat).

Environmental and Social Safeguards Implementation Performance of the Parent Project. Under the parent project, the World Bank team's environmental specialists regularly visited sub-project sites, including but not limited to Dai Ban commune (Package A1h); Lach Giang estuary (Packages CV-A2.4 and CV 2.2b); Dong Lac commune (Package CV-A1g); Viet Tri port (Package CV-A3i); Ninh Phuc port (package CV-A3ii); and Loi ferry boat stage, Phu Tho province. The Bank team on the whole found that supervision of environmental management and occupational health and safety was an example of international best practice. PMU-W and contractor performance in regular on-site monitoring, detailed reporting through the submission of Supervision Observation Forms, training in safety and environmental management, and follow-up on recommendations was of high quality. While there was, on occasion, opportunity for improvements on certain sub-projects (environmental and safety management, the diligence and commitment of the whole team, and the experience and knowledge brought to the project by Environmental Management and Construction Supervision Consultant, and follow-up and enforcement undertaken by PMU-W, was clearly reflected in the generally good environmental and safety management practices in civil works across various sub-projects. The ranking of

contractors based on environmental performance is a good practice, and this information should be retained for future GoV and Bank-financed projects. The occasional use of a delay in payments (effected as a penalty for environmental non-compliance) also appears to have been an efficient means of effecting change.

Monitoring of SEMP implementation is performed regularly at all sites and illustrated project progress reports are prepared on a monthly basis. Innovative environmental measures were proposed by the Environmental Management and Construction Supervision Engineer, some of which are being considered in the Additional Financing. These measures include the promotion of ecological measures to protect embankments (encouraging mangrove plantation, use of Vetiver to prevent erosion); the proposal to reduce concrete use for embankment construction; and the proposal to maintain islands created by the bifurcation of water channels as ecological habitats.

The implementation of land acquisition and resettlement compensation activities under the project have generally met the required pace of construction, with a few exceptions. Findings from past implementation support missions confirm that the timing of site readiness at Corridor 3 was consistent with agreed timetables for construction completion under the original credit. At Corridor 1, all parent project civil works have been completed and the resulting infrastructure improvements has been put into operation. However, Corridor 1 works were exposed to a number of land acquisition challenges that will require the attention of PMU-W, MoT, and the World Bank such that they can be avoided under the proposed additional credit, such as documentation delays and delays towards reaching agreement on compensation packages with affected households. While these challenges were ultimately resolved under the parent project, PMU-W's experience in confronting them will be valuable towards preventing similar delays under the additional credit.

F. Environmental and Social Safeguards Specialists

Ly Thi Dieu Vu (GEN2B)

Noreen Beg (OPSPF)

Thang Duy Nguyen (GSU02)

II. Implementation

Institutional and Implementation Arrangements

This Project seeks the approval of an additional credit in the amount of US\$83 million equivalent to the Socialist Republic of Vietnam for the Northern Delta Transport Development Project (NDTDP) (P095129; Cr. 4474-VN). The proposed additional credit will be used solely to help finance an activity that has always been part of the project scope since inception—a canal to connect two rivers with a navigational lock, known as the Day-Ninh Co interconnecting canal (DNC canal) but for which there are insufficient funds remaining in the original credit due to cost overruns incurred during project implementation.

Provision of AF funds to build the DNC canal is justified for two primary reasons. First, despite increases in its cost, the DNC canal remains an economically viable investment that is directly aligned with the project development objective. And second, since project inception the DNC canal was conceived as an integrated connectivity solution together with the original credit-financed capacity improvements at Ninh Phuc port and the coastal shipping bypass access channel at Lach Giang. These three infrastructure interventions, together, enable a through-access corridor to/from

Ninh Phuc port and the coast: seagoing vessels on the Gulf of Tonkin destined for the port can more efficiently access it by entering the river network on a 24/7/365 basis through the Lach Giang access channel at the estuary of the Ninh Co river, then switch to the Day river (where Ninh Phuc port is located) via the DNC canal. Construction of the canal would complete this corridor, thereby leveraging the Ninh Phuc port and Lach Giang estuary improvements already delivered under the project and enhancing their economic potential. The Government of Vietnam (GoV) remains strongly committed to building the DNC canal as an economic catalyst and as a contributor to the sustained use of the region's inland waterways for freight transportation purposes. Provision of additional funds to construct the canal will deepen project development impacts, allow the project to finish all major civil works (and therefore reach all target beneficiaries and locales) as originally planned, and contribute to further modernizing vital inland waterway infrastructure in one of the regions of the world most exposed to the risks of climate change.

The only proposed change to the project by this Additional Financing (AF) operation is the removal of a small activity, originally estimated at US\$1 million, to finance the implementation of a pilot performance-based waterway maintenance contract, as there is insufficient time under the project period, including over the duration of the proposed additional credit, to adequately implement a performance-based contract as originally intended. In addition, the Project Results Framework will be expanded to include performance indicators specifically focused on the DNC canal. It is expected that construction of the canal will further contribute to achieving the project development objective by reducing transport and logistics costs along a major waterway corridor in the Red River Delta region.

Implementation arrangements for the original credit are functioning satisfactorily and will be retained for the proposed AF.

III. Safeguard Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	OP 4.01 Environmental Assessment (EA) is triggered because construction of the DNC canal may have significant direct adverse environmental impacts on associated riverine ecosystems (estuarial areas, inland waterway corridors, and land) primarily due to significant dredging. Updated Environmental Impact Assessment (EIA), Environmental Management Plan (EMP), and Resettlement Action Plan (RAP) documents have been prepared in accordance with World Bank policy. These documents, which have also been approved by the Ministry of Natural Resources and the Environment (MONRE), include a current evaluation of environmental impacts and reflect latest adjustments to the detailed engineering design. In addition, the Corridor 3 Dredged and Excavated Materials Disposal Plan (DEMDP) that was prepared under the original credit (and duly approved by MONRE) remains fully adequate for use under the AF credit

		and is compliant with Bank policy. All of these documents are compliant with applicable Vietnamese environmental regulations and social policies, as well as World Bank operational policies, and have been disclosed locally in Vietnamese (as of August 9th, 2016) and in English at the World Bank InfoShop (as of August 8th, 2016).
Natural Habitats OP/BP 4.04	Yes	<p>OP4.04 is triggered as dredging activities under the project may impact aquatic biodiversity.</p> <p>To mitigate possible impacts on aquatic life, the Project will adopt the following approach insofar as possible:</p> <p>Dredging close to the bank and in wetlands (the most important places for aquatic life) and on spawning areas will be carried out between October to May, avoiding the peak of biological activity during the flood/rainy season.</p> <p>The disposal sites for excavated and dredged materials will be managed following adaptive methods - reducing the release of Total Suspended Solids by sedimentation in temporary ponds and through the frequent monitoring of surface and ground water quality.</p> <p>Construction of the DNC canal will eliminate a length of 250 m of riverbank on the Day River side and 650 m of riverbank on the Ninh Co River side. However, this impact will be mitigated by the project's adoption of an innovative ecological engineering approach which will enhance biodiversity and protect against the effect of waves and erosion on the river banks and adjoining wetland, creating and/or restoring approximately 9 ha of aquatic and wetland habitats (an area 18 times greater than the lost habitat.</p>
Forests OP/BP 4.36	No	The project will not involve any forest restoration, plantation development, changes in forest use or management or protection. There are no forest areas that could be affected, hence OP/BP 4.36 is not triggered.
Pest Management OP 4.09	No	The nature of the civil works does not require the use of pesticides, either directly or indirectly.
Physical Cultural Resources OP/BP 4.11	Yes	Given that the Project involves large excavation

		activities, chance find procedures are detailed in the ESIA, and will be incorporated into bidding documents. Moreover, the proposed investment under the additional credit will require the relocation of a small temple for bend correction. A total of 14 tombs will also be relocated by the project, under appropriate religious and cultural norms. Extensive public consultation was conducted with local community on its relocation plan and modalities.
Indigenous Peoples OP/BP 4.10	No	OP 4.10 was not triggered under the parent project, although an EMPF was developed in accordance with OP 4.10 for the unlikely event that EMs may have been affected by future sub-projects. However, during implementation, no EMDP was prepared as it was confirmed that none of the project's interventions took place in ethnic minority (EM) areas. This policy will not be triggered under the AF, as it has been confirmed that there are no EM communities living in the area of the DNC canal.
Involuntary Resettlement OP/BP 4.12	Yes	OP 4.12 remains triggered given the land acquisition and involuntary resettlement impact caused by the project due to the construction of the DNC canal structure, which comprises the excavation of the canal and construction of a navigational lock and a bridge directly connected to the canal. A resettlement action plan (for DNC canal to be financed under the AF) has been prepared in accordance to requirements of OP 4.12 as well as the latest regulations of Vietnam.
Safety of Dams OP/BP 4.37	No	The project will not finance the construction/ rehabilitation of any dams nor will the project rely on any existing dams.
Projects on International Waterways OP/BP 7.50	Yes	OP 7.50 on Projects on International Waterways was triggered under the original credit but it falls under the exception to the notification requirements set out in paragraph 7 of OP 7.50. The project's investments under both the original and additional credits are located predominantly on the Red River (and its tributaries), an international waterway as defined by OP7.50, as the Red River system originates in China. Vietnam is the lowest downstream riparian user of this river system as the river system empties itself into the South China Sea from within the territory of Vietnam without entering any other country's territory. Both the original and additional credits involve rehabilitation of

		<p>existing schemes. They do not comprise works and activities that would exceed the original scheme, change its nature, or alter and expand its scope and extent to make it appear a new or different scheme. Moreover, neither the parent project nor the proposed AF will (a) adversely affect the quality or quantity of water flows to the other riparians; or (b) be adversely affected by other riparians' water use. Consequently both the original credit and proposed additional credit fall within the exception to the notification requirement set forth in paragraph 7(a) of OP 7.50. The works at the Ninh Co River estuary (including the DNC canal) concern tributaries of the Red River's international waters that run exclusively in Vietnam and as such the AF project would fall within the exception to the notification requirement set forth in paragraph 7(c) of OP 7.50 as Vietnam is the lowest downstream riparian and neither the parent project nor the AF credit cause appreciable harm to other states.</p>
Projects in Disputed Areas OP/ BP 7.60	No	There are no Disputed Areas within the Project boundaries. The policy is not triggered.

IV. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

<p>1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:</p> <p>There is no change to the environmental category under the AF, which remains an A. OP 4.04 is triggered, as dredging activities will have an impact on aquatic biodiversity.</p> <p>The project's detailed design incorporates an innovative ecological engineering approach (a mixed bank protection scheme, based on ecological bank protection (vegetation capacity to fix the banks) and classical bank protection (rip rap), which will enhance biodiversity and protect against the effect of waves and erosion on the river banks and adjoining wetland, creating and/or restoring approximately 9 ha of aquatic and wetland habitats. Ecological bank protection is based on (a) the planting of indigenous plants into the rip rap holes; and (b) incorporating into project design the creation of friendly habitats for birds, small mammals, reptiles, batrachians, terrestrial and aquatic invertebrates, and fish. This environmentally friendly approach to bank protection has social and financial benefits. Depending on the choice of vegetation, local people can generate income by harvesting part of the vegetation and also maintain the fish catch due to improved habitats for fish. In addition, a combination of rip-rap and ecological bank protection is significantly less costly than the classical concrete plots usually used for bank protection in Vietnam.</p> <p>The most significant environmental impact will be caused by dredging activities. These activities could significantly impact physical environment, biologic environment and socio-economic environment. The impacts are attributed to large extraction of (more than 2 million cubic meters) of sediment particularly from bend cutting as well as the need to ensure safe and environmentally</p>

sound disposal of dredged/excavated materials, To mitigate possible impacts on aquatic life, the following measures are proposed:

- Dredging close to the bank and in wetlands and spawning areas should be carried out between October to May, avoiding the peak of biological activity that occurs during the flood/rainy season.

- Although dredging of the center of the channel can be undertaken throughout the year, contractors must take into consideration in their construction schedules that during the dry season, the Total Suspended Solids (TSS)/turbidity levels downstream of the dredging areas will be much lower than during the rainy season.

- The EA process concluded that all environmental risks associated with dredging works are to be managed through the implementation of the Dredge and Excavated Material Disposal Plan (DEM DP).

Cumulative impacts. Apart from the World Bank-financed activities under NDTDP, there are no additional existing or planned activities in the project area within the projected period of implementation of the AF credit that would have a negative cumulative impact on Valuable Ecological Components relevant to project activities (namely, water quality, aquatic biodiversity, and the quality of life of agricultural communities in the project area and downstream. The environmental impact of the DNC canal project itself has long term positive environmental impacts. The project will adopt an innovative ecological engineering approach. A mixed bank protection scheme is proposed for the Project, based on ecological bank protection (vegetation capacity to fix the banks) and classical bank protection (rip-rap), which will enhance biodiversity and protect against the effect of waves and erosion on the river banks and adjoining wetland, creating and/or restoring approximately 9 ha of aquatic and wetland habitats (an area 18 times greater than the lost habitat. Moreover, the transfer of a significant portion of dredged/excavated material to Lach Giang's Southern Disposal area will expedite the filling (and subsequent closure) of the disposal site, allowing for the plantation of income generating Casuarina trees on 30 ha of the disposal site. During the tree maturation period, this will provide favorable habitat for birds and invertebrates. It is anticipated that these ecological approaches to riverbank protection and disposal site closure (in providing examples of cost-effective and environmentally friendly mitigation solutions) will lead to a positive cumulative impact on green construction practices in Vietnam.

All sub-projects under the parent project are already completed and operational. As such, there will be no additional cumulative environmental or social impacts ensuing from these sub-projects.

Involuntary Resettlement (OP 4.12). The Construction of the DNC canal complex would lead to resettlement impacts due to required land acquisition for rehabilitation, improvement and widening of national waterways, provincial waterways, bridges and ship lock. This activity would have adverse impacts on private assets, including small businesses and households (incomes in addition to temporary impacts on private land during groin construction and river bend corrections. Temporary land acquisition would also be needed for depositing spoils from dredging of rivers. Although physical displacement of large number of households is not envisaged, many households stand to lose part of their agricultural land and household income due to the proposed rehabilitation and improvements. The land acquisition required for DNC component is estimated at 368,819 m² (permanent) and 79,664 m² (temporary), affecting 264 households (HHs) (1,061

<p>people), of which 30 HHs will be relocated. The project will also have impacts on some public facilities, including 1 ferry, 2 transmission lines (110kV and 35kV), 300m of provincial road No. 490, 260m of dyke on Day (s right bank, some inter-village roads and 300m of underground communication cable. All impacts will be Nghia Lac, Nghia Son communes of Nghia Hung district, Nam Dinh province. The impact on public facilities may cause non-safeguard impact that local communities may be exposed to, especially in terms of local transportation and access to the local irrigation system.</p> <p>Indigenous People (OP 4.10). Screening results confirmed that there is no EM community living in the project areas.</p> <p>The EA process showed there would be relocation of a small temple for bend correction. A total of 14 tombs will also be relocated under the project. Therefore, extensive and inclusive public consultation was conducted with local community on its relocation plan and modalities. This will be conducted closely with the resettlement process under appropriate religious and cultural norms, and OP4.11 Physical Cultural Resources has been triggered.</p>
<p>2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:</p>
<p>The modification of solid flow due to dredging near all seven of the original project areas and the modification of Lach Giang estuary could bring some modification in the sediment reparation along the coast. The major potential long-term environmental impacts will be associated with hydrological changes in drainage patterns of certain sections of the northern Delta watershed area with implications for flood management, and also from morphology of the Lach Giang estuary. However, the findings of the morphological studies indicate the difficulty in identifying and quantifying the possible long term impacts, especially because sediment transport is already heavily modified due to significant changes in the river flows, partly caused by changes in the built environment, but also attributable to increasing sea levels and increases in storms and storm surges that are a consequence of global climate change. The specific, isolated impacts caused by the DNC project cannot be accurately assessed because of the importance of other disturbance factors both in the waterways and in coastal areas, whether or not linked to the Parent project. In general, the proposed activity would likely to have a net positive environmental and social impact due to:</p> <ul style="list-style-type: none"> - Significant increased efficiency of inland waterway navigation with improved and diversified economic activities generating potential increases in income. - The transfer of a significant portion of dredged/excavated material to Lach Giang (s Southern Disposal area will permit the completion of the fill site and the plantation of Casuarina trees on 30 ha (that can be exploited later (1 to 15 years) for the wood. It will also permit -, at a minimum during the tree maturation period, favorable habitats for birds and invertebrates. - From social perspective, the most obvious indirect impact is the inconvenience that the local communities may suffer during the project construction, especially in terms of local transportation, access to irrigation system.
<p>3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.</p>
<p>Proposed project design alternatives were analyzed based technical, economic, social and environmental aspects:</p>

➤(Without project➤(

The ➤(no project➤(scenario would mean that coastal shipping, even with the existence of the newly built and Project-financed Lach Giang estuary channel, would still be unable to pass from Ninh Co to Day Rivers and so would prohibit transport from the sea to the Port of Ninh Binh. A ➤(no project➤(scenario would virtually eliminate the benefits from the already completed project-financed investments on Corridor 3 and eliminate the economic and environmental benefits that are expected to be derived from improving the Day-Ninh Co Rivers and embankments.

➤(Only with canal and ship lock➤(

If the canal is built but without road relocation or without a crossing bridge, it will isolate the downstream part of the area between Day River, Ninh Co River and the sea. It means that the land connections will be blocked and the population living there will be strongly disturbed. A no action plan for the road and bridge will block any economic development in this area and, most of all penalize the actual economic conditions based on the trade of agricultural goods.

➤(With project➤(

(a) 1st alternative: Lock or no Lock and Gate or no gate for the lock?

The alternative was based on 3 possibilities:

- No lock;
- Lock with gate open most of the time;
- Lock with gate open only when boats are present.

No lock: The difference of water levels between the two rivers will create velocity constraints for navigation with risk of damage to boats or difficulties for navigation in the canal, therefore a lock is necessary.

Lock with gate mostly open: Because of the frequent salinity intrusions by the Ninh Co River, high flow of saline water from the Ninh Co would enter in the Day River when Ninh Co Level is higher than Day River; therefore a lock with gate opening only when boats need to cross the lock is necessary.

Lock with gate open only when boats are present: The selected alternative (canal with lock and gate open only when boats need to cross) ensures adequate navigation conditions in the canal and prevents the high flow of saline water to intrude from the Ninh Co River to the Day River.

(b) 2nd alternative: which kind of crossing bridge?

For the bridge, the initial option considered was a mobile bridge to permit the circulation of low intensity local traffic. The alternative of a fixed bridge with 15 m of air clearance was selected by the MoT, following the request of local population, Province and Districts. The fixed bridge options allows for the absorption of projected increased traffic flow, both for the road and the waterway.

(c) 3rd alternative: Location of the canal?

The initial location of the canal ➤(fixed by the 2008 feasibility study ➤(would have destroyed more than 50 houses, a church and a cemetery (out of 2 cemeteries in the project area). The Detailed Design phase has modified the location and angles of the canal with the 2 rivers permitting the boats to enter and exit the canal while minimizing the impacts on houses and preserving the church. The updated design of the project in 2015 identified 14 tombs that need relocation and this has been included in the Resettlement Action Plan. The Detailed design of the road and bridge has also reduced from 12 to 5 the number of houses to be destroyed and relocated.

The surface of lands impacted by the project was estimated in 2013 at 62 ha, but the 2015 updated design, based on the detailed design of the Canal and the preliminary Design of the Road and Bridge reduces the impacted land to 47 ha. The final design proposed a solution to reduce from 62 houses to 33 the number of affected houses, across 32 households, and preserves the church and the cemetery from destruction. A total of 14 tombs will need relocation. The project has been adapted from Feasibility study design to ensure that the works do not destroy or affect access to cultural and religious heritage sites. The church and the 2 cemeteries will be preserved and 14 tombs will be relocated.

(d) 4th alternative: Concrete bank protections vs. ecological/mix bank protections

➤(Classical➤(Vietnamese concrete bank protections (concrete plots) designed in accordance with Vietnamese standards, overestimates the magnitude of protection needed. ➤(Mixed bank protection➤(, based on ecological bank protection (vegetation capacity to fix the banks) and classical bank protection (rip rap) is proposed and will enhance biodiversity and protect against the effect of waves and erosion. This alternative is not referenced by the Vietnamese standards but it is based on more than 20 years of experience on the Rhône and the Rhine Rivers as on other major waterways in Europe. This kind of ecological bank protections permits the planting of adapted local plants into the Rip Rap holes and to create friendly habitats for birds, small mammals, reptiles, batrachians, terrestrial and aquatic invertebrates and also fishes. Depending of the choice of vegetation, local people can get some income from harvesting part of the vegetation and also by improvement of the fishing production due to the better habitats for fishes. In addition to the ecological interests, the alternative 2 (rip-rap + ecological bank protection) is much cheaper than the classical concrete plots usually used in Vietnam.

Consultations with the potentially affected beneficiary communities and key stakeholders, carried out during the Social Assessment, natural habitat relocation and resettlement plan preparation, provided useful suggestions and feedback that was taken into account in considering design alternatives and formulating design parameters for this subproject.

Finally, the feasibility study showed that alternatives were considered for the management of dredged materials and how the ports should be designed to better handle loading and unloading of bulk cargo material.

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

With respect to the environment issues, updated Environmental Impact Assessment (EIA), Environmental Management Plan (EMP), and Resettlement Action Plan (RAP) documents have been prepared in accordance with World Bank policy. In addition, the Corridor 3 Dredged and

Excavated Materials Disposal Plan that was prepared under the original credit remains fully adequate for use under the AF credit and is compliant with Bank policy. All of these documents are compliant with applicable Vietnamese environmental regulations and social policies and World Bank Operational Policies.

Resettlement Action Plan (RAP). A Resettlement Action Plan has been prepared to address adverse social impacts due to involuntary resettlement and lays down the principles and objectives, eligibility criteria of the affected persons (APs), entitlements, legal and institutional framework, modes of compensation and rehabilitation, stakeholder participation, grievance procedures, and monitoring. The RAP includes measures to ensure that displaced people are: (i) informed about the options regarding resettlement; (ii) consulted and offered alternative resettlement choices; and (iii) provided with effective compensation and livelihood restoration. The RAP was prepared in accordance with the guidelines set forth in the requirements of OP 4.12 as well as the latest regulations of Vietnam. During RAP preparation, two rounds of consultations were conducted to collect communities' feedbacks on project design as well as proposed mitigation plans. The project implementing agency will continue to organize consultation events during project implementation. The estimated budget for RAP implementation is approximately VND120 billion (US\$5.4 million).

With regard to the Borrower's capacity to address environment and social safeguards issues, it is deemed that the Borrower's institutional capacity to comply with these measures will be sufficient for the following reasons:

Project implementation will be undertaken by the Project Management Unit for Waterways (PMU-W), a national-level agency of the Ministry of Transport that has accumulated significant experience by implementing the original Credit. They also have experience from preparing and implementing other Bank-financed projects, including the Mekong Delta Transport Infrastructure Development Project (MDTIDP) and the Inland Waterways and Port Rehabilitation Project (IWWP). Therefore, PMU-W already has experience preparing and implementing World Bank projects.

PMU-W has built capacity through the best practice environmental management, preparation, and supervision undertaken by the Parent Project Environmental Management and Construction Supervision Consultant, Compagnie Nationale du Rhône, (CNR) and their local affiliate, VIPO. As required by OP 4.01 in instances wherein the environmental safeguards documentation is prepared by the same company undertaking detailed design (as is the case here), an independent expert reviewed the updated EIA prepared by CNR for the DNC Canal.

- Supervision of environmental management is conducted regularly by high-level local (VIPO) and international (CNR) technical experts.
- Illustrated and technically detailed progress reports are provided regularly, with follow-up recommendations which are monitored by VIPO/CNR.
- Environmental health and safety measures follow good practice, and are also regularly monitored, with lapses noted and corrective action taken.
- CNR regularly undertakes "safeguards plus" measures, such as proposing the use of ecological banks, based on more than 20 years of experience on the Rhône and the Rhine Rivers as on other major waterways in Europe, and the monitoring of water quality to assess pollution from upstream sources (such as illegal cement plants).
- CNR is committed to training local Vietnamese staff in best practice environmental management

and Health and Safety practices.
5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.
Two rounds of consultations were organized through which the affected people and communities and other relevant stakeholders, such as local authorities, have been consulted on the safeguard instruments. The feedback from the consultations have been incorporated into the project design, and are reflected in the final draft of the ESIA, EMP, and RAP safeguards documents. Draft versions of these documents have been disclosed locally in Vietnamese (as of August 9th, 2016) and in English at the World Bank InfoShop (as of August 8th, 2016).

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	12-Jul-2016
Date of submission to InfoShop	08-Aug-2016
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	
"In country" Disclosure	
Vietnam	09-Aug-2016
<i>Comments:</i>	
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	24-Jul-2016
Date of submission to InfoShop	08-Aug-2016
"In country" Disclosure	
Vietnam	09-Aug-2016
<i>Comments:</i>	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why:	

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment	
Does the project require a stand-alone EA (including EMP) report?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]
OP/BP 4.04 - Natural Habitats	

Would the project result in any significant conversion or degradation of critical natural habitats?	Yes [] No [<input checked="" type="checkbox"/>] NA []
If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?	Yes [<input checked="" type="checkbox"/>] No [] NA []
OP/BP 4.11 - Physical Cultural Resources	
Does the EA include adequate measures related to cultural property?	Yes [<input checked="" type="checkbox"/>] No [] NA []
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [<input checked="" type="checkbox"/>] No [] NA []
OP/BP 4.12 - Involuntary Resettlement	
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes [<input checked="" type="checkbox"/>] No [] NA []
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [<input checked="" type="checkbox"/>] No [] NA []
Is physical displacement/relocation expected?	Yes [<input checked="" type="checkbox"/>] No [] TBD []
120 Provided estimated number of people to be affected	
Is economic displacement expected? (loss of assets or access to assets that leads to loss of income sources or other means of livelihoods)	Yes [<input checked="" type="checkbox"/>] No [] TBD []
1061 Provided estimated number of people to be affected	
OP 7.50 - Projects on International Waterways	
Have the other riparians been notified of the project?	Yes [] No [] NA [<input checked="" type="checkbox"/>]
If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent?	Yes [<input checked="" type="checkbox"/>] No [] NA []
Has the RVP approved such an exception?	Yes [<input checked="" type="checkbox"/>] No [] NA []
The World Bank Policy on Disclosure of Information	
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [<input checked="" type="checkbox"/>] No [] NA []
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [<input checked="" type="checkbox"/>] No [] NA []
All Safeguard Policies	
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [<input checked="" type="checkbox"/>] No [] NA []
Have costs related to safeguard policy measures been included in the project cost?	Yes [<input checked="" type="checkbox"/>] No [] NA []
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures	Yes [<input checked="" type="checkbox"/>] No [] NA []

related to safeguard policies?	
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] NA [<input type="checkbox"/>]

V. Contact point

World Bank

Contact: Luis C. Blancas Mendivil

Title: Sr Transport. Spec.

Borrower/Client/Recipient

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Contact:

Title:

Email:

Implementing Agencies

Name:

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VII. Approval

Task Team Leader(s):	Name: Luis C. Blancas Mendivil	
Approved By		
Safeguards Advisor:	Name: Peter Leonard (SA)	Date: 28-Sep-2016
Practice Manager/ Manager:	Name: Gerald Paul Ollivier (PMGR)	Date: 28-Sep-2016
Country Director:	Name: Ousmane Dione (CD)	Date: 03-Nov-2016