

# INTEGRATED SAFEGUARDS DATA SHEET

## CONCEPT STAGE

**Report No.: ISDSC12582**

**Date ISDS Prepared/Updated:** 02-Apr-2015

**Date ISDS Approved/Disclosed:** 14-Apr-2015

### I. BASIC INFORMATION

#### A. Basic Project Data

Country:	India	Project ID:	P148775
Project Name:	National Waterways Development Project (P148775)		
Task Team Leader(s):	Arnab Bandyopadhyay,Charles Kunaka		
Estimated Appraisal Date:	08-Feb-2016	Estimated Board Date:	26-May-2016
Managing Unit:	GTIDR	Lending Instrument:	Investment Project Financing
Sector(s):	Ports, waterways and shipping (90%), General industry and trade sector (10%)		
Theme(s):	Trade facilitation and market access (30%), Other rural development (50%), Other environment and natural resources management (20%)		
Financing (In USD Million)			
Total Project Cost:	600.00	Total Bank Financing:	200.00
Financing Gap:	0.00		
Financing Source			Amount
Borrower			400.00
International Bank for Reconstruction and Development			200.00
Total			600.00
Environmental Category:	A - Full Assessment		
Is this a Repeater project?	No		

#### B. Project Objectives

The PDO for the project is to enhance the transport capacity and reliability of National waterway 1 and augment institutional capacity for the development and management of India's inland waterway transport system.

#### C. Project Description

The World Bank has received a request from the Government of India (GOI) in December 2014 for a

loan assistance of USD 200 million, including project preparatory technical assistance and limited investments, for the Haldia to Varanasi stretch of NW-1. Based on current estimates, it is estimated that the total project cost for the Haldia-Varanasi stretch could be about USD 600 million. Once the feasibility and preliminary detailed engineering studies are undertaken, it would be possible to arrive at a more accurate estimation. Pending the outcome of the study, the earlier estimate and project structure is being maintained.

The project envisages two components, namely: (i) Improving the Navigability of NW-1 (Haldia to Varanasi) at an estimated cost of USD 565 million; and (ii) Market Development and Institutional Strengthening at an estimated cost of USD 30 million. The description and sub-components/elements of the components are given below.

Component 1: Improving the Navigability of NW-1 (Haldia to Varanasi) (Estimated Cost US\$ 565 million): This component would be divided into the following sub-components:

- i. River Works (including implementation of EMPs and RAP, as required)
  - a) Preparation and Technical Assistance (Estimated Cost US\$ 10 million)
  - i) Upfront Surveys, including digital terrain modeling (using airborne LiDAR) for environmental and flood monitoring, land-use mapping and engineering design purposes;
  - ii) Feasibility Studies, Options Analysis and Front-End Engineering and Design for river navigability improvement works;
  - iii) Environmental Studies.
  - b) Improvement of River Fairways (Estimated Total Cost US\$ 400 million)
    - i) Channel Realignment (cut-off) works in the meandering parts of the Hooghly/ Bhagirathi River;
    - ii) Backlog Maintenance and upgrade works at the Farakka Ship Lock (and potential future doubling);
    - iii) Backlog maintenance and finishing works at the Jangipur Ship Lock, including approach canal works (to the Ganga/Padma River linking to Bangladesh);
    - iv) River training works, including channel realignment and contraction works, on the Ganga between Farakka (chainage 560 km) and Patna (1,020 km);
    - v) Fairway extension to Varanasi through river training works between Patna and the confluence of Ganga and Ghaghara rivers, the creation of barrage-locks at (or near) Ballia (chainage 1,140 km) and Ghazipur (Chainage 1,250 km).
- ii. Terminal and Immediate Access Works (Estimated Cost US\$ 155 million) (including implementation of EMPs and RAP, as required)
  - a) Preparation Works (Estimated Cost US\$ 5 million)
    - i) Options Analysis and Detailed Design;
  - b) Terminal and Access Infrastructure Works (Estimated Cost US\$ 150 million)
    - i) Construction of common user terminals at major centers e.g. Varanasi, Haldia and Sahibgunj with the potential of evolving as market clusters. The location, layout and equipping of the IWT terminals would depend on the outcome of the detailed feasibility and preliminary design and the business and market development studies. Further, when developing these new terminals, a broad strategic approach, modelled on freight villages or logistics clusters, would be adopted.

Component 2: Market Development and Institutional Strengthening (Estimated Cost US\$ 30 million): This component would be divided into the following sub-components:

- i. Market Development
  - a) Undertaking Market Development Studies and Preparation of Business Cases (by location,

industry and cargo type);

- b) Undertaking public/private stakeholder consultations to encourage investment in modern shipping technology through review of fiscal and other barriers hindering ship construction and operation;
- c) Investigating arrangements for private sector participation in the construction and operation of terminals.
- ii. Institutional Strengthening
  - a) Undertaking a review of current IWAI staffing, future institutional options and enhanced staffing/skill needs including on areas such as health, safety and environmental (HSE) management;
  - b) Undertaking a review of Government and State roles and responsibilities in respect to River Conservancy, Environmental Management and Trade;
  - c) Undertaking review and alignment of laws and regulations in respect to IWT vessel design, construction, manning, operation, maintenance, insurance and multi-modal transport;
  - d) Exploring the option of developing a Research and Development Unit/Center for IWAI and Enhancement of Training institutions (NINI);
  - e) Developing a robust communication engagement strategy for the project (that encompasses beneficiary surveys), for enabling stakeholder involvement and outreach.
  - f) Providing facilities for Search and Rescue;
  - g) Providing facilities to respond distress or casualty incidents;
  - h) Upgrading vessel and river monitoring arrangements; and
  - i) Improving the availability of aids to navigation.

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

The National Waterway 1 or NW1 passes through the states of Uttar Pradesh, Bihar, Jharkhand and West Bengal, and is located between Allahabad (Uttar Pradesh) to Haldia (West Bengal) on a 1,620km stretch on the Ganga (between Allahabad to Farakka), on the Bhagirathi (between Farakka to Jangipur) and on the Hooghly (downstream of Jangipur) river system. While the Ganga and the Hooghly are natural rivers, the Bhagirathi is a regulated river primarily influenced by the barrages at Farakka and Jangipur. The Feeder Canal and the navigation lock at Farakka become the link between the Bhagirathi and the Ganga upstream of the barrage.

The notified waterway includes the whole flow zones of the rivers; but navigation channels are narrower (does not and need not use the entire width of the river), and best navigation width at any stretch is defined by the IWAI (and used by the operators based on navigation aid provided by IWAI). The Allahabad-Varanasi stretch (237km) of the river Ganga has low flow condition except in the monsoon, and it is difficult to maintain an least available depth (LAD) of more than 1.2 m. The Varanasi-Patna (363km) and the Patna-Farakka (460km) stretches include several braided portion of the river, and substantial regular dredging is carried out each year to maintain 1.8 to 2m of LAD. The Farakka-Tribeni stretch (364km) has river erosion and shoal issues, and requires bandalling and regular dredging to maintain a 2.5m LAD, except that in the Bhagirathi river stretch due to the controlled discharge from the Farakka Barrage and due to the river conservancy work a navigable depth of at least 2m is maintained throughout the year. The Tribeni-Haldia stretch (196km) is tide dominated, and a 3m LAD is usually maintained by the natural tidal processes. Overall, however, maintenance of navigational channels in all the stretches is a complex task, due to large variation in discharge (where peak flows are very large, and low flows very low), unstable morphological condition of bank and bed, heavy sediment load, continuous braiding and meandering of the river upstream of Farakka.

Of the two biosphere reserves in the Ganga basin, one (Sundarban in West Bengal) is located on the NW1. Of the 29 national parks in the Ganga basin, one (Sundarban) is close to the NW1. Of the 75 wildlife sanctuaries, 2 are on the NW1 (Turtle Sanctuary at Varanasi/Uttar Pradesh, and Vikramshila Gangetic Dolphin Sanctuary at Bhagalpur/Bihar) is located on the NW1, and 8 more are close to the NW1 (Kanwarijheel at Begusarai and Surha Tal, Balia/Bihar; Udhawa Lake at Sahebganj/Jharkhand; Bibhutibhusan, Haliday Island, Lothian, Narendrapur and Sajnekhali – all in West Bengal). The NW1 currently has 5 fixed terminals (Haldia, Kolkata, Pakur, Farrakka and Patna) and 15 floating terminals (at Haldia, Kolkata, Diamond Harbour, Katwa, Tribeni, Baharampur, Jangipur, Bhagalpur, Semaria, Doriganj, Ballia, Ghazipur, Varanasi, Chunar and Allahabad). Each of these could be expanded and augmented in the project, but are all located within urban settings.

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

The IWAI including its regional offices, although not familiar with the Bank's safeguards policies, are implementing projects within the national and state environmental policy and legal frameworks, which are, in many cases, close to the Bank Safeguard Policies. The Government of India (the borrower) has a number of institutions dealing with social and environmental safeguards, albeit with mixed records of implementation and enforcement. Usually, a project of this scale and magnitude goes through a process of environmental due diligence. However, inland navigation is exempt from the requirements under the EIA Notifications, and unless there are massive civil construction works, this project will not require mandatory EIA clearance from the Government of India (even if at the state level, there will be need for specific approval from regulatory institutions with respect to Water Act, Hazardous Material (Transport, Handling and Storage) Notification, etc.). IWAI is already attempting to develop and implement standards for occupational health, safety and pollution management, akin to applicable national and international standards. However, IWAI itself will need to augment its capacity so as to be able to implement the standards among all potential future (private sector) operators on the NW1.

To initiate the capacity building for management of environmental and social issues in the project, IWAI (the implementing agency) has already designated a few staff (albeit with turnover issues) at the project management unit (PMU) who would be expanded and trained during the project preparation period. The environmental and social assessments and the institutional strengthening studies of the project will propose capacity building plans for the IWAI at the HQ and its regional/field offices, which would then be duly implemented by the project. Project staff will be trained in the planning and implementation of the environmental and social management plans and frameworks. Further, the curricula of the national level training institute(s) are being revamped to incorporate HSE issues, and augmentation of such capacity building initiative (targeting the future cadre of operators) is expected to be part of the EMP.

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

Mridula Singh (GSURR)

Tapas Paul (GENDR)

## **II. SAFEGUARD POLICIES THAT MIGHT APPLY**

<b>Safeguard Policies</b>	<b>Triggered?</b>	<b>Explanation (Optional)</b>
Environmental Assessment OP/BP 4.01	Yes	The project, unless carefully designed and implemented may result in unintended impacts both in near and long term. Potential major environmental

		<p>issues to be considered include: (i) modifications to the riverbed, riverbanks and the flood plains, and the consequent impacts; (ii) potential modifications to the river and sediment flow, especially during the lean season and the associated impacts; (iii) potential damage to the aquatic fauna including dolphins, turtles, fishes, and to the nesting and breeding grounds and sanctuaries on and along the river bed; (iv) construction related impacts including impacts from dredging; disposal of dredged materials; siting of terminals, logistics parks, bank protection works and jetties; (v) potential pollution of the waterway and safety and health issues arising during operation from regular operations or by accidental spills. Further, there is a need in this project to complement the parallel initiatives of the government for clean-up of the Ganga (which is a national priority issue). These issues will be examined as part of the cumulative impact analysis (CIA) and the EA, and will be addressed through incorporation in the project design and the EMP.</p>
Natural Habitats OP/BP 4.04	Yes	<p>Although the nearest national park (Sundarbans) is more than 50km away from the NW1, the project and its operation might have potential adverse impacts on the 2 aquatic wildlife sanctuaries which are located within the river bed (Turtle Sanctuary at Varanasi/ Uttar Pradesh, and Vikramshila Gangetic Dolphin Sanctuary at Bhagalpur/Bihar). Indirect impacts might occur on the 8 other wildlife sanctuaries located within 50km of the NW1 and are connected by smaller waterways, or on a biosphere reserve (Sundarban), or on 6 important bird areas located close by (Surha Taal//Barh, Danapur Cantonment, Mokama Taal in Bihar, Kurseala River Course and Diyara Floodplain, Gogabil and Baldia Char in Jharkhand, and Farakka barrage areas in West Bengal). Further, Gangetic dolphin (the recently declared national aquatic animal) has most of its population in the middle Ganga stretches (from upstream of Allahabad down to Farakka), and conservation of the Gangetic Dolphin will be a key issue during operation of the project. Conservation needs of the natural habitats will be an important part of the ongoing CIA and EA, and required measures will be incorporated in the project design and the EMP.</p>
Forests OP/BP 4.36	No	<p>The project activities including its operation are not</p>

		expected to involve any logging, forestry activities or any other activity that may impact quality of the forests.
Pest Management OP 4.09	No	The project activities including its operation do not use or encourage any use of pesticides.
Physical Cultural Resources OP/BP 4.11	Yes	The Ganga river itself is a national physical cultural resource; and the project will need to complement the ongoing parallel government programs of cleaning and rejuvenating the Ganga including its cultural dimensions. In addition, important heritage assets lie on either bank of the Ganga throughout the NW1 stretch including built structures, bathing ghats and crematoria. Impacts on any of these protected sites will need to be minimized during design and operation of the project; and the EA/EMP will seek opportunities to undertake in the project activities which are complementary to the need of conservation of the cultural resources.
Indigenous Peoples OP/BP 4.10	Yes	The policy is triggered given the fact that the geographical location of the project covers tribal areas of Jharkhand and pockets of settlements in Bihar and West Bengal. There may be other vulnerable communities belonging to Scheduled Castes (SCs) and other disadvantaged groups. A Social Assessment (SA) has been commissioned and based on the findings, the project will develop a Tribal Development Framework/Plan and to ensure that tribal and other disadvantaged groups are able to restore if not improve their livelihood if adversely affected.
Involuntary Resettlement OP/BP 4.12	Yes	The project envisages development of common user terminal and improving access to these terminals is likely to lead to land acquisition, potential adverse impacts on livelihoods of fishermen, and passenger movement to islands inhabited by communities fishing. A Social Assessment has been commissioned and project will prepare a Resettlement Action Plan (RAP).
Safety of Dams OP/BP 4.37	TBD	There is a chance that the project or studies carried under the project recommends construction of barrages (dissimilar to ship-locks) that will create seasonal pondage. If such cases arise, the policy will be triggered, and the IWAI will ensure, through (i) compliance with national mandatory requirements, and (ii) retention of an expert panel on dam/construction safety, that such barrages (or any such



		other dam-like structures) are designed and implemented at the appropriate safety standards.
Projects on International Waterways OP/BP 7.50	Yes	Ganga is an international river. As per OP/BP 7.50, riparian countries of the basin (China, Nepal and Bangladesh) will need to be notified.
Projects in Disputed Areas OP/BP 7.60	No	No part of the project influence area is disputed.

### III. SAFEGUARD PREPARATION PLAN

**A. Tentative target date for preparing the PAD Stage ISDS: 08-Feb-2016**

**B. Time frame for launching and completing the safeguard-related studies that may be needed.**

**The specific studies and their timing<sup>1</sup> should be specified in the PAD-stage ISDS:**

(i) The IWAI has initiated the process of undertaking the cumulative impact analysis (CIA) and the environmental assessment (EA). These works will be done together. Independent EA and CIA consultants have been selected, and the assignments are expected to start immediately (and are expected to be completed in next 6-10 months). IWAI finalized the terms of reference for the EA and CIA based on (i) a series of consultation with stakeholders including current and potential operators, users, government officials organized during October-November 2014, (ii) inputs received from civil society organizations, and (iii) inputs received from national level consultations (with experts, academia, civil society and government agencies) titled “Ganga Manthan” ” (i.e., “brainstorming about the Ganga”) organized by the Ministry of Water Resources, River Development and Ganga Rejuvenation in late 2014. Parallel to the CIA and EA undertaken for the project, IWAI is discussing with two other World bank financed projects/ programs - the National Mission for Clean Ganga (NMCG) on the ways of complementing activities to ensure improved water quality in the river; and with the Dedicated Freight Corridor Limited on the cumulative impacts from development and integration of multi-modal transportation systems along the NW1 stretch of the Ganga river. In addition, the issues of capacity building on occupational health, safety and environmental management issues are part of the feasibility studies and institutional capacity building studies currently underway.

(ii) OP/ BP 4.10 and OP/BP 4.12 are triggered under the project. A Social Assessment (SA) has been commissioned and based on the findings, the project will develop a tribal development framework/plan and Resettlement Action Plan and likely to be completed by October 2015.

### IV. APPROVALS

Task Team Leader(s):	Name: Arnab Bandyopadhyay,Charles Kunaka	
<b>Approved By:</b>		
Safeguards Advisor:	Name: Zia Al Jalaly (SA)	Date: 02-Apr-2015
Practice Manager/ Manager:	Name: Karla Gonzalez Carvajal (PMGR)	Date: 14-Apr-2015

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