

# Semi-Annual Environmental Monitoring Report

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Project number: 41603-023  
January 2015

Period: July to December 2014

## IND: Bihar Urban Development Investment Program – Tranche 1

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**Bihar Urban Infrastructure Development Corporation Ltd**



**Bihar Urban Development Investment Program  
TRANCHE 1  
ADB Loan 2861-IND**

**SEMI ANNUAL ENVIRONMENT MONITORING  
REPORT  
(Period July to Dec 2014)**

**January 2015**

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**ABBREVIATIONS**

ADB	Asian Development Bank
BSPCB	Bihar State Pollution Control Board
BUDIP	Bihar Urban Development Investment Program
BUIDCo	Bihar Urban Infrastructure Development Corporation
CB	capacity building
CPHEEO	Central Public Health and Environmental Engineering Organization (MoUD, GoI)
DBO	design-build-operate (contract)
DPR	detailed project report
DSC	Design and Supervision Consultant
EARF	Environment Assessment Review Framework
EIA	Environmental Impact Assessment
ESMC	Environment and Social Management Coordinator
FFA	Framework Financing Agreement (between India and ADB, 31 January 2013)
FS	Feasibility study
GIS	Geographical Information System
IEE	Initial Environmental Examination
IPF	Indigenous People Framework
MFF	multi-tranche financing facility
MoEF	Ministry of Environment & Forest
NGO	non-governmental organization
NRW	non-revenue water
O&M	operation and maintenance
OHT	overhead (storage) tank
PD	Project Director
PHED	Public Health Engineering Department
PIU	Project Implementation Unit
PMC	Program Management Consultant
PMU	Project Management Unit
PPMS	Project Performance Monitoring System
PPTA	project preparatory technical assistance
PUC	Pollution Under Control
RF	Resettlement Framework
SAR	Sub-project appraisal report (feasibility study)
SC	Steering Committee
SIP	system improvement plan
SPCB	State Pollution Control Board
SPUR	Support Program for Urban Reform
STP	Sewage treatment plant
Sw	Solid waste
SWM	Solid waste management
TC	Town Committee
UDHD	Urban Development and Housing Department
ULB	Urban local body- <i>municipality corporation</i>
ws	Water supply
WTP	Water treatment plant
ww	Wastewater (or sewage)

## I. INTRODUCTION

### A. Background

1. The Bihar Urban Development Investment Program (BUDIP) is expected to improve the urban environment and living conditions in targeted urban areas. It will: (i) improve and expand urban infrastructure and services in urban areas; and (ii) strengthen urban institutional, management, and the financing capacity of the institutions, including the urban local bodies (ULBs). The project will be implemented in four urban areas: Bhagalpur, Darbhanga, Gaya, and Muzaffarpur in the state of Bihar. The improvement in urban infrastructure will include rehabilitation, improvement, and expansion of: (i) water supplies; and (ii) sewerage and sanitation. Due to requirement of huge investment, the Govt. of Bihar have availed external funding assistance in order to address the situation and improve the basic service levels. ADB agreed to co-finance implementation of certain components of the road map in Bihar's four largest towns (other than the state capital Patna), i.e. in Bhagalpur, Darbhanga, Gaya and Muzaffarpur. The project will be implemented using a multi-tranche financing facility.

2. Bhagalpur, Darbhanga, Gaya and Muzaffarpur are the four largest towns with the highest economic growth potential in Bihar after the state capital, Patna. Despite being the economic centers of Bihar, the urban service levels in the four towns are unable to achieve not only the national goals but also many of the national averages in India. These towns have not been able to sustain the water supply and sewerage services because the infrastructure is not adequate in size and condition. This was mainly attributed to inadequate new investment, and operations and maintenance (O&M). The investment program will improve and expand the water and sewerage infrastructure in the four towns. It will also assist the urban local bodies (ULB) of the four towns in bringing about operational discipline and structure, which will ensure sustainable O&M.

3. On 31 January 2012, the Government of India (GoI) and the ADB concluded a framework financing agreement for a multi-tranche financing facility (MFF) for the Bihar Urban Development Investment Program (BUDIP). On 29 March 2012 ADB approved the MFF and on 13 April 2012 it approved the loan for the first tranche under the MFF. On 25 March 2013 the Loan Agreement between GoI and ADB for Tranche 1 of BUDIP (Loan 2861-IND) was signed. The loan became effective on 6 June 2013.

4. The overall BUDIP undertaking is scheduled over a nine year period. The first loan 2861-IND is a 5 year period. Loan closing date is 30 June 2017. The total value of BUDIP is \$286 million. The MFF is for a loan amount not exceeding \$200 million. Loan 2861-IND is for an amount of \$65 million.

5. The Program is carried out by the Govt. of Bihar (GoB) acting through the State's Urban Development and Housing Department (UDHD) and its Bihar Urban Infrastructure Development Corporation Ltd (BUIDCo).

6. Location of project towns is given hereunder.



Figure 1: Location of project towns

## B. Project & Report Purpose

7. Sub projects under **Tranche 1** has been classified by ADB as environmental assessment category B (some negative impacts but less significant than category A) and the impacts of subprojects were assessed through Initial Environmental Examination (IEE), prepared according to ADB Safeguard Policy (SPS 2009). IEE will be updated after complete designing by the DBO contractor.

8. Subprojects under different tranches aim to improve environmental conditions and quality of life in urban areas, the proposed improvement of infrastructure may result in some adverse environmental impacts.

9. This report is the “Semi Annual Environment Monitoring Report” for the period July to December 2014 to describe the present compliance status (mostly documentation part). Implementation of the mitigation measures, monitoring and reporting as per EMP of the IEE will be considered after commencement of physical activity.

## C. Project Profile Tranche 1

10. For Tranche 1 selection of contractor has been done & Letter of Acceptance has been issued for the sub project, “Rehabilitation, Construction, Operations, Maintenance and Management of Bhagalpur Water Supply Project 1 (BWSP1)”. Contract has been signed with M/S Pan India & Ranhill Pvt Ltd, Mumbai on 11.7.2014 and contract commenced on 01.10.2014

11. List of identified sub projects under **Tranche 1** is given hereunder:

**Table 1: Sub Project status under Tranche 1 of BUDIP**

Town	Code	Sub project
<b>Water Supply System (WS)</b>		
Bhagalpur	BH/WS/01	Rehabilitation, Construction, Operations, Maintenance and Management of Bhagalpur Water Supply Project 1 (BWSP1) – DBO contract

12. List of sub projects under Tranche 2 will be finalized with advancement of the Program

13. **Table 2** shows the status of sub project awarded and physical progress.

**Table 2: Status of Sub-project Awarded/Implementation under Tranche-1 (Upto 31<sup>st</sup> December 2014)**

Location	Component, name of the sub project (Code No.)	Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress (%) as on 31.12.2014
Bhagalpur Town	<b>Water Supply-</b> Rehabilitation, Construction, Operations, Maintenance and Management of Bhagalpur Water Supply Project 1 (BWSP1) – DBO contract (BH/WS/01)	01.10.2014	96 months	01.10.2022	2%

## II. IMPLEMENTATION PROGRESS

### A. Major works and progress

14. Work program submitted by the contractor. Contractor has started preliminary activities to design the components under **Tranche 1**. **Table 3** shows the work progress status for the sub projects.

15. Phase 1<sup>1</sup> of the Bhagalpur water supply sub-project is a DBO contract where the contractor shall, during the first year, prepare a system improvement plan (SIP) and designs for the distribution network, overhead tanks and renovation of the existing water treatment plant (WTP). 3.5 years are allowed for construction. He will take over operation and management of the entire water supply system after half a year from contract commencement date and will remain responsible for this till contract end in 8 years. DBO contractor will be responsible for updation of Initial Environmental Examination after their finalization of the design.

16. Monitoring and reporting on Environmental safeguard will be started after commencing of physical activity in field.

<sup>1</sup> In many of the BUDIP-related documentation, the two subprojects in Bhagalpur are referred to as “Tranche 1” and “Tranche 2”. This is confusing because the second subproject, concerning a new WTP of which the construction shall be completed by the middle of 2018, shall certainly be financed in part from the Tranche 1 loan. We suggest to use the terms “Phase 1” and “Phase 2” instead.

**Table 3: Major Works under Sub project and Progress – Tranche 1**

Location	Component, Name of Sub Projects (Code No.)	List of major works under the sub project	Type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
<b>Bhagalpur Town</b>	Rehabilitation, Construction, Operations, Maintenance and Management of Bhagalpur Water Supply Project 1 (BWSP1) – DBO contract (BH/WS/01)	To be decided after detail design	<ul style="list-style-type: none"> <li>✓ A workshop was organised on 24-25 November 2014 to elaborate the work plan</li> <li>✓ Work program submitted by the contractor</li> <li>✓ Contractor has started preliminary activities to design the components</li> <li>✓ Work started for preparation of System Improvement Plan</li> </ul>	-	-	-



### III. ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURE

#### A. Environmental Legal Requirement – Environmental Legislation and Pollution Control Acts

17. The Government of India has formulated various policy guidelines; acts and regulations aimed at the sustenance of environment in general, which are briefly summarized and applicable acts with the programs, are described in the following sub-sections.

Sl. No.	Sources	Legislation
1	Water Pollution	The Water (Prevention and Control of Pollution) Act, 1974, as amended in 1988
2	Air Pollution	The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987
3	Noise Pollution	The Noise Pollution (Regulation and Control) Rules, 2000
4	Environment	The Environment (Protection) Act, 1986
5	Public Liability	The Public Liability Insurance Act, 1991 The Public Liability Insurance Rules, 1991
6	Conservation, construction and reuse in and around the protected monuments	The Ancient Monuments and Archaeological Sites and Remains Act, 1958, and the rules, 1959
7	Hazardous Waste	<ul style="list-style-type: none"> <li>➤ Hazardous Waste (Management and Handling) Rules, 1989</li> <li>➤ Manufacture, Storage and Import of Hazardous Chemical Rules, 1989</li> <li>➤ Emergency Planning Preparedness and Response for Chemical Disasters Rules, 1995</li> <li>➤ Hazardous Microorganisms and Genetically Modified Organisms (Manufacture, Use Import Export and Storage) Rules, 1999</li> </ul>
8	EIA Notification	The Ministry of Environment and Forests has revised the EIA notification, 1994, and issues the revised EIA notification on 14th September 2006
9	Use and Management of Explosive	The Explosives Act, 1884 and The Explosives Rules, 1983

18. Prominent Acts are discussed below.

#### ▪ THE ENVIRONMENT PROTECTION ACT, 1986 AND THE EIA NOTIFICATION, 1994

The Environmental (Protection) Act, 1986 is the umbrella legislation providing for the protection of environment in the country. This Act provided for the Environment (Protection) Rules, which have been formulated under the act “The Environmental Impact Assessment Notification, 1994 and the Amendments / Revised EIA notification on 14<sup>th</sup> September 2006”.and Year 2009.

### ▪ THE FOREST (CONSERVATION) ACT, 1980

The Forest (Conservation) Act, 1980 pertains to the cases of diversion of forest area and felling of roadside plantation. Depending on the size of the tract to be cleared, clearances are applied for at the following levels in the governments:

- If the area of forests to be cleared or diverted exceeds 20 ha (or, 10ha in hilly area), the prior permission of the Central Government is required;
- If the area of forest to be cleared or diverted is between 5 to 20 ha, the Regional Office of Chief Conservator of Forests is empowered to approve;
- If the area of forest to be cleared or diverted is below or equal to 5 ha, the State Government can give permission;
- and If the area to be clear-felled has a forest density of more than 40%, permission to undertake any work is needed from the Central Government, irrespective of the area to be cleared.

### ▪ THE WILDLIFE (PROTECTION) ACT, 1972

The Wildlife Protection Act has allowed the government to establish a number of National Parks and Sanctuaries over the past 25 years, to protect and conserve the flora and fauna of the state.

### ▪ THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT 1974 AND AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981

The water (Prevention and Control of Pollution) Act, 1974 resulted in the establishment of the Central and State level Pollution Control Boards whose responsibilities include managing water quality and effluent standards, as well as monitoring water quality, prosecuting offenders and issuing licenses for construction and operation of certain facilities. The SPCB is also empowered to set air quality standards and monitor and prosecute offenders under the air (Prevention and Control of Pollution) Act, 1981.

19. The specific requirements to ensure compliance by these components and subprojects are shown in **Table 4**.

**Table 4: Action Required Ensuring Subprojects Comply with National Environmental Laws**

Component	Applicable Legislation	Compliance	Action Required
1. All components that require acquisition of forest land	Forest (Conservation) Act 1980; Wildlife (protection) Act 1972	Approval from State Principal Chief Conservator of Forest Government of Bihar and Ministry of Environment and Forests (MoEF), Government of India	Identification of non-forest land and formulate an afforestation program.
2. Water Treatment Plant (WTP) – Surface water and Sewage Treatment Plant (STP)	Water (Prevention and Control of Pollution) Act 1974	Consent to Establish (CTE) and Consent to Operate (CTO) from Bihar State Pollution Control Board (BSPCB), Government of Bihar	Based on project review and site inspection, Bihar State Pollution Control Board (BSPCB) provides CTE before construction, and stipulates the disposal standards to be met during operation. After completion of construction, Consent to

Component	Applicable Legislation	Compliance	Action Required
			Operate (CTO) will be issued confirming compliance with the CTE conditions, if any
		Renewal of CTO during operation of surface Water Treatment Plant (WTP) and Sewage Treatment Plant (STP)	Based on the performance of the WTP/STP and its compliance with the disposal standards CTO to be renewed every year.

**B. Compliance with Environmental Regulations**

20. Before implementation of the project compliance with environmental policy, law and legislation is necessary

21. Under **Tranche 1** present status of Environment, forest and other clearances are mentioned below.

**Table 5: Present Status of Environment & Forest and Other Clearances**

Town	Work (Package No.)	Applicable Legislation/ Type of clearance	Clearance given by and date	Subject / Issue	Remarks/ Action needed
Bhagalpur	Rehabilitation, Construction, Operations, Maintenance and Management of Bhagalpur Water Supply Project 1 (BWSP1) – DBO contract (BH/WS/01)	Water (Prevention and Control of Pollution) Act. 1974/ Consent to Establish (CTE) for rehabilitation of WTP from Bihar State Pollution Control Board Consent to operate will be required before operation The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987 Also for setting up hot mix plant, batching plant and use of diesel generator Consent to Establish (CTE) and Consent to Operate (CTO)	To be applied after finalization of design and before commencement of physical activity	-	-

22. **Annexure 1** shows Environment Forest and other Compliance format.

**C. Compliance of Safeguard Loan Covenants**

23. The status of compliance of ADB’s major Loan Covenants related to Safeguard issues is shown below:

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
<b>Environment</b>		
3	<p>The Borrower shall ensure or cause the EA to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project, and all Project facilities comply with (a) all applicable laws and regulations of the Borrower and the State relating to environment, health, and safety; (b) the Environmental Safeguards; (c) the Environment Assessment &amp; Review Framework (EARF); and (d) all measures and requirements set forth in the respective IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report</p>	<p><b>Under compliance</b></p> <p>Document is prepared/ or under preparation by complying all relevant State and National Laws, Safeguard Policy Statement (SPS 2009) of ADB, Environment Assessment Review Framework (EARF) for Tranche-1 program. Same will be followed for subsequent Tranches.</p> <p>Initial Environmental Examination (IEE), Environment Management Plan (EMP) report prepared and approved by ADB for Bhagalpur (Water supply Package: BWSP 1). IEE will be updated by DBO contractor and in case of any change of scope and locations IEE will be revised subsequently. Documentation, particularly preparation of EIA report (Bhagalpur Water Supply BWSP2, ADB's category A project) for next tranche is continued. Rest of the preparation of IEE/EIA for Tranche 2 will be continued along with the development of project activity.</p> <p>As per National Rules Clearance of the BWSP2 from wildlife Board, MoEF obtained. Final clearance from Supreme Court of India is also obtained.</p> <p>All measures and requirements as prescribed in IEE/EIA and EMP will be considered during implementation.</p> <p>Corrective or preventive action plans will be reflected in Environment Monitoring Report and project implementation authority will be taken care.</p>
<b>Human and Financial Resources to Implement Safeguards Requirements</b>		
7.	<p>The Borrower shall cause the State to make available necessary budgetary and human resources to fully implement the EMPs</p>	<p><b>Complied</b></p> <p>Budgetary provisions have been included in EMP of Tranche 1 sub project</p> <p>Environment and Social Management Coordinator of Program Management Unit</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
		<p>is in place</p> <p>Human resource (project consultant, i.e Environmental Specialist of PMC) for implementation of EMPs is in place for regular compliance.</p>
<p><b>Safeguards – Related Provisions in Bidding Documents and Works Contracts</b></p>		
<p>8.</p>	<p>The Borrower shall cause the State to ensure that all bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>(a) comply with the measures and requirements relevant to the contractor set forth in the IEEs, the EMPs, and any corrective or preventative actions set out in a Safeguards Monitoring Report;</p> <p>(b) make available a budget for all such environmental measures;</p> <p>(c) provide the PMU with a written notice of any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMPs;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and</p> <p>(e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p>	<p><b>Under compliance</b></p> <p>(a) Approved IEE, EMP for BWSP1 are attached in Bidding documents. This process will be followed for all the sub projects.</p> <p>In case of any change of scope, revised IEEs, EMPs will be prepared and corrective measures will be disclosed to contractor and same will be reflected in the “Environment Monitoring Report”</p> <p>(b) IEE indicates budgetary provisions for implementation of EMP</p> <p>(c) With the development of sub project and implementation, in case of additional impacts/risks due to change in scope/area, that will be reflected in the revised IEEs, EMPs and Environment Monitoring Report and accordingly project Executing Agency will inform the Construction Agency for taking relevant corrective measures.</p> <p>(d) Haul roads will be marked properly (by avoiding residences and agricultural land) before commencement of transportation of materials.</p> <p>(e) Pathways, land which are likely to be affected for a short period during implementation of the sub project will be restored by concerned construction agency before acceptance of the work. Restoration status will be reflected in post construction monitoring report</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
<b>Safeguards Monitoring and Reporting</b>		
10	<p>The Borrower shall cause the State to do the following:</p> <p>(a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMPs, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p> <p>(c) report any breach of compliance with the measures and requirements set forth in the EMPs, promptly after becoming aware of the breach.</p>	<p><b>Under compliance</b></p> <p>(a) Generally Environmental Monitoring Report is to be prepared after starting of implementation of the project but as per action plan of ADB 3<sup>rd</sup> semi-annual Safeguards Monitoring Report is prepared upto December 2014, which mainly cover loan covenant part and monitoring format etc.</p> <p>(b) With the development of project and implementation, in case of additional impacts/risks due to change in scope/area, will be reflected in revised IEEs, EMPs and accordingly Executing Agency (EA) will inform the ADB along with corrective action plan which will be reflected in the Monitoring Report.</p> <p>(c) in case of any breach of compliance with the measures and requirements set forth in the EMP; EA will promptly inform ADB and suitable corrective action plan will be planned.</p>
<b>Prohibited List of Investments</b>		
11	<p>The Borrower shall ensure or cause the State to ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.</p>	<p><b>Complied</b></p> <p>Under Tranche -1, there is no violation of prohibited investment activities as per ADB SPS (2009) Appendix 5.</p> <p>Same will be followed in subsequent project.</p>
<b>Labor Standards</b>		
13.	<p>The Borrower shall cause the State to ensure that Works contracts follow all applicable labor laws of the Borrower and the State and that these further include provisions to the effect that contractors (i) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety</p>	<p><b>Complied in document and to be complied during implementation</b></p> <p>Provision are included (as per EMP &amp; BID document) to carry out HIV/AIDS awareness programs for construction contractor, application of all relevant labour laws for health and safety including child labour law and engagement of local</p>

Serial no. as per loan agreement	Program Specific Covenants	Status / Issues
	measures for those employed during construction; (ii) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions; and (iii) maximize employment of women and local poor and disadvantaged persons for construction purposes, provided that the requirements for efficiency are adequately met. Such contracts shall also include clauses for termination in case of any breach of the stated provisions by the contractors.	labours (preferably from economically backward group) covering women labours.  In case of any breach of provision, necessary corrective measures as per contract clauses shall be taken.  All activities including awareness program will be reflected in "Monitoring Report".

#### **D. Environmental and Social Organization and Management along with Implementation Arrangements**

24. The Urban Development and Housing Department (UDHD) of Government of Bihar is the Executing Agency (EA) for the Project, which will receive strategic directions from a state-level Steering Committee. The Project Management Unit (PMU) within BUIDCo have an Environment and Social Management Coordinator (ESMC). Bihar Urban Infrastructure Development Corporation (BUIDCo), a company fully owned by GOB, which specializes in implementation of investment projects, will house the Project Management Unit (PMU) at state-level (Patna). PIU field offices have been set up in each project town to manage the implementation of sub-projects. In addition, Town Committees needs to be set up in each project town. Presently town committee has been set up at Bhagalpur Municipal Corporation for periodical review of subproject progress, facilitate smooth implementation and finalize proposals for any legal, operational and financial changes required, in discussion with the PMU and UDHD.

25. The PMU, with support from PIU field offices will ensure mitigation of negative environmental and social impacts due to the subproject, if any. The PMU will be assisted by Program Management Consultants (PMC) who will provide project management support, assure the technical quality of design and construction, prepare IEE/EIA/RP/IPP reports and provide advice on policy reforms.

##### *Responsibilities of Environment and Social Management coordinator ( ESMC) of Project Management Unit (PMU)*

Environment and Social Management Coordinator within BUIDCo as PMU is to address environmental and social safeguards issues. The ESMC will be assisted by the PMC on environmental and social issues. The ESMC will oversee implementation the EARF/RF/IPF by the PIU/implementing NGO. The PMU will endorse subproject IEEs/EIAs and RPs/IPPs prepared by the Project Management Consultants and will have financing and monitoring responsibilities. It will co-ordinate with national and state agencies to resolve inter-departmental issues, if any. It will also monitor physical and non-physical activities under the

investment plan and will monitor implementation of safeguards plans and guide PIU as and when necessary.

Program Management Consultants (PMC)

26. The Program Management Consultants (PMC) will have an Environment Specialist (ES) and Resettlement/Social Development Specialist who will be responsible for the preparation of IEE/EIA and RP/IPP reports respectively. The Environment Specialist and Resettlement/Social Development Specialist of PMC will review and finalize all reports in consultation with the ESMC of PMU. The Environment Specialist (ES) and Resettlement/Social Development Specialist of PMC will submit periodic monitoring and implementation reports to PMU, who will take follow-up actions, if necessary.

27. The ESMC of PMU will endorse/submit periodic monitoring reports received from PMC to the Program Director, PMU who will then submit these to ADB. The monitoring report will focus on the progress of implementation of the IEE/EIA and EARF, RP/RF and IPP/IPF, issues encountered and measures adopted, follow-up actions required, if any, as well as the status of compliance with subproject selection criteria, and relevant loan covenants. The PMU will seek GoB clearance for submission and disclosure of the environmental and social monitoring report to ADB.

Project Implementation Unit (PIU)

28. The PIU is primarily tasked with the day-to-day implementation of safeguards plans. The PIU shall have safeguard officer at town level. They will be responsible for implementing and monitoring safeguards compliance activities. Safeguard officer will undertake surveys and record their observations throughout the construction period to ensure that safeguards and mitigation measures are provided as intended. It will be responsible for obtaining statutory clearances and obtaining NOCs from government agencies/other entities and entering into agreements with them for use of their land. It will also co-ordinate for obtaining right of way clearances with related State and National agencies. The PIU through the Implementing NGO will be responsible for delivery of entitlements to APs.

29. Safeguard implementation arrangement for the program is shown below.



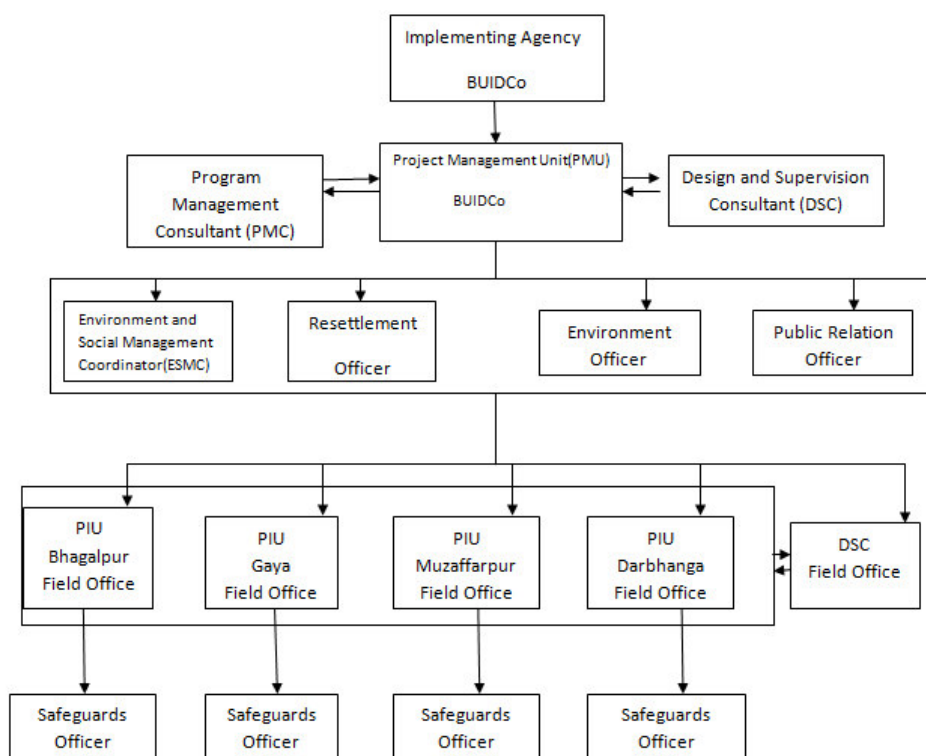


Figure 2: Safeguards Implementation Arrangement

#### IV. IMPLEMENTATION STATUS OF ENVIRONMENT MEASURES

##### A. EMP Compliance Status

30. Field activities are not yet started under the **Tranche 1**. Application of EMP will be commenced as per final IEE report. Site specific EMP will be prepared by concerned contractor of the package. The compliance monitoring format for application of mitigation measures against impacts on air, water, soil environment, social and safety aspects is enclosed in **Annexure 2**. Summary compliance status of EMP application and actions/corrective measures needs to be presented after commencement of monitoring work. Blank table format is shown in **Table 6** below.

**Table 6: Format for Summary Compliance status of Environment Management and Monitoring Plan**

Location	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)	Actions Proposed or continued/Additional Corrective Measures Required

#### V. ENVIRONMENTAL MONITORING AND EVALUATION

31. For effective monitoring, selected environmental parameters have been identified as indicators which will be qualitatively and quantitatively measured and compared over a period of time in order to assess/ensure the compliance of EMP. The environmental

performance indicators are physical, biological and social characteristics identified as most important in affecting the environment at critical locations all along the subproject locations. The parameters identified as performance indicators are:

- Air, noise and water quality
- Compliance to EMP
- Compliance to local/state/national environmental regulations

32. During implementation process, performance monitoring fact sheet will be prepared against each possible environmental impact and will be attached with the monitoring report. **Annexure 3** shows the blank Performance Fact Sheet for implementation of EMP.

33. Base line air and noise quality monitoring will be carried out at working areas as per scope of work. Result format of ambient air quality data is presented in **Table 7**.

**Table 7: Base line Ambient Air Quality Monitoring Data at working sites**

Locations	Parameters					
	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	CO µg/m <sup>3</sup>	Lead (Pb) µg/m <sup>3</sup>
<b>Standard as per CPCB</b>	<b>80.0</b>	<b>80.0</b>	<b>60.0</b>	<b>100.0</b>	<b>2000</b>	<b>1.0</b>

34. Result format for noise level monitoring data is presented in **Table 8**.

**Table 8: Base Line Noise Level Monitoring Data at Working Sites**

Locations	Sound Level in Leq dB(A)
	<b>Standard as per CPCB</b> Industrial area:75 Commercial: 65 Residential area: 55

35. “During construction” monitoring will be carried out as per Environment Management and Monitoring Plan.

## VI. MAJOR PROJECT ISSUES AND PROBLEMS ENVIRONMENTAL CONTEXT

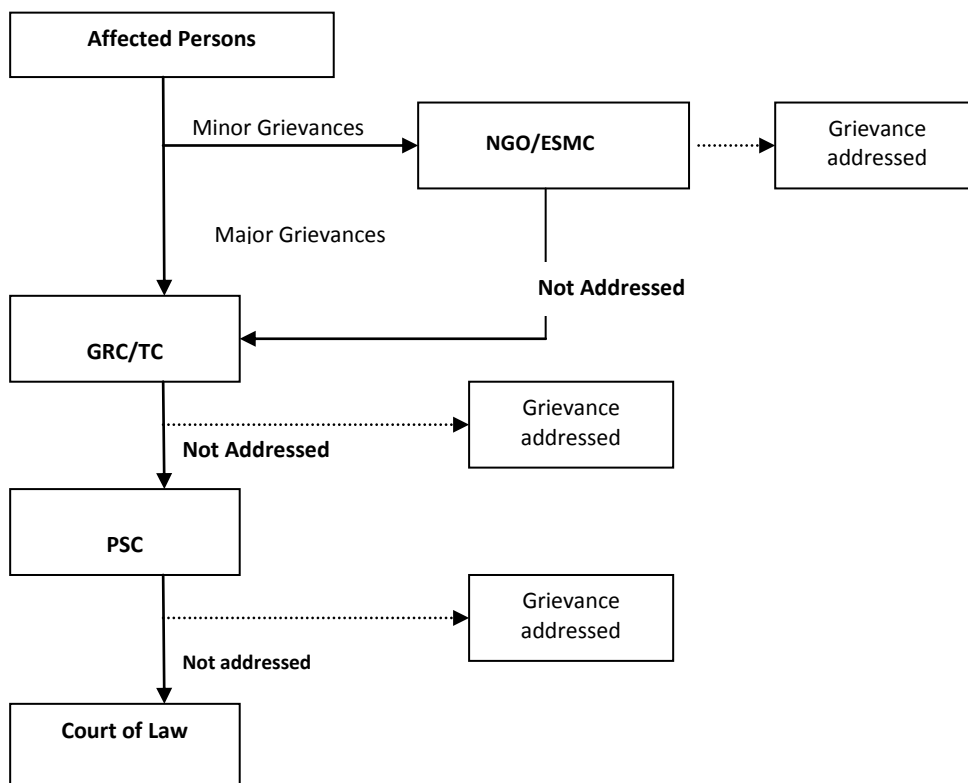
36. Field activity of the sub-project under **Tranche 1** yet to start. Till date, no major issues and problems have been encountered with, at the sub project locations.

## VII. CONSULTATIONS AND RECOMMENDATIONS ENVIRONMENTAL CONTEXT

37. For protection of local environment during construction phase, application of mitigation measures will be done as per specified EMP. Pubic consultation during construction/ implementation phase will be planned as per the requirement. **Annexure 4** shows the blank consultation format for recording.

### VIII. GRIEVANCE REDRESSAL

38. A project Grievance Redressal Mechanism (GRM) have to be established as per Environment and Social Assessment Review Framework to receive, evaluate and facilitate the resolution of affected people’s concerns, complaints and grievances about the social and environmental performance at the level of the Project. The GRM will aim to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the project. The grievance redressal mechanism and procedure is depicted in **Figure 2** below. **Annexure 5** shows the sample Grievance Registration Form and Action taken report in English and Hindi (local language).



TC- Town Committee, ESMC-Environment and Social Management Coordinator, GRC- Grievance Redress Mechanism, NGO-Non Government Organization, PSC-Project Steering Committee

**Figure 2: Grievance Redressal Mechanism**

39. Till date no GR committee is set up in BUDIP. As per project Executing Agency process has been initiated for setting up GR committee and which will be completed before commencement of physical activity.

### IX. ISSUES AND ACTION PLAN

40. Urbanization has increased at a rapid pace in India over the recent years, much faster than the increase in urban infrastructure facilities to support them. Also, pressure of population has been more on larger towns/cities putting enormous pressure on the resources of municipalities so much so that most are unable to keep up with the provision of even basic services and infrastructure resulting in irregular availability of water, sanitation and public amenities. In extreme cases, this has aggravated risks to public health and safety. Bihar is no exception and 4 towns selected under this program are in direct need of

upgradation of such urban infrastructure facilities which includes augmentation of water supply and sewerage network.

41. Experience from ADB-funded urban projects show complex social, economic, legal, institutional, and management issues in urban development – largely derived from realities of urban life in developing countries like India. Urban projects typically consist of a variety of infrastructure such as roads, water, sewerage, solid waste, and slum improvement/upgrading activities. It is important to mention in this context that the final detailed engineering design in each sub project of BUDIP will be prepared keeping in mind to avoid or minimize social and environmental impact as far as possible. However, since all the developments foreseen are city/town centric, it is difficult to avoid any impact whatsoever in densely populated towns or cities.

42. With the development of project the action plan will be considered for timely and satisfactory environmental compliance. Sample suggestion & action plan format is shown in **Table 9**.

**Table 9: Suggestion & Action plan considered for satisfactory Environmental Compliance**

Sr. No.	Issues	Suggestion recommendation	and Action to be taken by	Time Frame
1	Application of EMP			
2	Health and Safety			
3	Restoration of the construction area			
4	Social relationship and public safety			

**ANNEXURE 1: ENVIRONMENT FOREST AND OTHER COMPLIANCE**

Project	EIA Clearance	CRZ Clearance	Wet Land	Forest Clearance	Wild Life Act applicability	Tree Cutting Permission	Permission from State/ National Archaeological dept.	Consent for establishment of crusher from quarry material supplier	CTE/CTO	Authorization	Ground Water Permission	PUC	Date of Environmental Monitoring	Permission for Chlorinization (storage of Chlorine cylinder) at WTP

NR: Not Required, NA: Not Applicable

**ANNEXURE –2: FORMAT FOR COMPLIANCE OF APPLICATION OF EMP  
(SAMPLE)**

<b>Project: Water Supply -</b> <b>Package No:</b> <b>Progress: 0 %</b> <b>Physical progress :</b>
--

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
<b>Pre Construction Design phase</b>						
1	Site preparation work completed including necessary clearance	Construction site	DSC/PIU	Observation and document checking	DSC/PIU/ PMC	
2	Shifting of affected utilities like electric and telephone poles, pipe lines	Construction site	DSC/PIU	Observation and document checking	DSC/PIU/ PMC	
3	Planning for Traffic Management	Construction site	DSC/PIU	Observation and document checking	DSC/PIU/ PMC	
4	Planning for setting up worker camps, hot mix plant, stockpile area, storage and disposal areas	Construction site	DSC/PIU	Observation and document checking	DSC/PIU/ PMC	
<b>Construction</b>						
5	Use of Govt. approved quarry sites for procurement of materials	Construction site	Contractor	Site observation	DSC/PIU/ PMC	
6	Establishment of temporary camps with drinking water, sanitary and solid waste management arrangement	Construction site	Contractor	Site observation	DSC/PIU/ PMC	
7	Removal of overburden and excavated material from working site and use / preservation of the same – as per mitigation measures	Construction site	Contractor	Site observation	DSC/PIU/ PMC	
8	Water sprinkling at construction site for arresting dust (if any during dry period)	Construction site	Contractor	Site observation	DSC/PIU/ PMC	
9	Materials carrying vehicle are covered- Reducing dust hazard	Construction site & town road	Contractor	Site observation	DSC/PIU/ PMC	
10	All vehicles and equipments mobilized to construction site and producing emission, have Pollution Control Board	Construction site & town road	Contractor	Record	DSC/PIU/ PMC	

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	certification					
11	At sensitive locations enclosures provided around generator set or other noise producing machinery	Construction site	Contractor	Site observation	DSC/PIU/PMC	
12	Regular maintenance of noise producing equipment done	Construction site	Contractor	Site observation	DSC/PIU/PMC	
13	Arrangement of drainage of waste water and arresting solid waste/silt from waste water generated at construction site	Construction site	Contractor	Site observation	DSC/PIU/PMC	
14	Felling of trees done (if necessary) with mitigation measures i.e. planting of three trees for each tree fell.	Construction site	Contractor	Site observation	DSC/PIU/PMC	
15	Disposal of construction debris if any as per mitigation measures	Construction site	Contractor	Site observation	DSC/PIU/PMC	
16	Ensure use of Personal Protective Equipment like helmet, gumboot, gloves, and earplugs at work place Arrangement of First Aid Box at working site	Construction site	Contractor	Site observation	DSC/PIU/PMC	
17	Provide Health and Safety training to all personnel and implement H&S plan	Construction site	DSC/ Contractor	Record	DSC/PIU/PMC	
18	Plan truck routes (for carrying construction materials including pipes) to avoid narrow or congested roads and tourist sites	Construction site	Contractor	Observation	DSC/PIU/PMC	
19	Consideration of public safety - as per prescribed mitigation measures	Construction site	Contractor	Site observation	DSC/PIU/PMC	
20	Employ at least 50% of workforce from communities near sites	Construction site	Contractor	Site observation	DSC/PIU/PMC	
21	Continuous monitoring on implementation of mitigation measures	Construction site	Contractor/ DSC	Site observation and record checking	DSC/PIU/PMC	

NA: Not Applicable, NR- Not Required

**ANNEXURE 3: ENVIRONMENT PERFORMANCE FACT SHEET**

S. No.	Sub project Code	Name of Sub Project	Name of Contractor	EMP Part of contract Document (Yes / No)	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent, Satisfactory, Partially Satisfactory, Below Satisfactory)	Environmental Consents / Clearances Required						Nomination of Environmental & Social Safeguard Officer by Contractor (Nominated / Yet to be Nominated)	Dust Control (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction)	Labour Camp Management (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction )	Workers Safety Measures (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction )	Traffic Safety Measures (Excellent, Satisfactory, Partially Satisfactory, Below Satisfaction )
							Tree Cutting	Crusher	Batching Plant	Hot Mix Plant	Diesel Generator Set	Pollution Under Control (PUC) Certificates for Contractor's Vehicles					
<b>Bihar</b>																	
1																	
2																	



**ANNEXURE 4: PUBLIC CONSULTATION ON ENVIRONMENTAL ISSUES  
DURING CONSTRUCTION/ IMPLEMENTATION**

<b>PLACE OF CONSULTATION</b>	
<b>DATE OF CONSULTATION</b>	
<b>PROJECT NAME</b>	
<b>PACKAGE NO.</b>	
<b>NAME OF THE FIELD SUPERVISORS</b>	
<b>NAME OF THE PERSONS</b>	
<b>ADDRESS</b>	

<b>S.No.</b>	<b>POINTS DISCUSSED</b>	<b>REMARKS</b>
01.		
02.		
03.		
04.		
05.		
06.		
07.		
08.		
09.		
10.		

**Consultation Summary**

**Participants**

**ANNEXURE 5: SAMPLE GRIEVANCE REGISTRATION FORM**

(To be available in Hindi and English or local language, if any)

The **Bihar Urban Development Investment Program (BUDIP)** welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing **\*(CONFIDENTIAL)\*** above your name. Thank you.

<b>Date</b>		<b>Place of registration</b>			
<b>Contact Information/Personal Details</b>					
<b>Name</b>		<b>Gender</b>	<b>Male</b> <b>Female</b>	<b>Age</b>	
<b>Home Address</b>					
<b>Village / Town</b>					
<b>District</b>					
<b>Phone no.</b>					
<b>E-mail</b>					
<b>Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below:</b>					
If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

**FOR OFFICIAL USE ONLY**

<b>Registered by: (Name of official registering grievance)</b>	
<b>If – then mode:</b>	
<input type="checkbox"/> <b>Note/Letter</b> <input type="checkbox"/> <b>E-mail</b> <input type="checkbox"/> <b>Verbal/Telephonic</b>	
<b>Reviewed by: (Names/Positions of Official(s) reviewing grievance)</b>	
<b>Action Taken:</b>	
<b>Whether Action Taken Disclosed:</b>	<input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>
<b>Means of Disclosure:</b>	

**GRIEVANCE REDRESS REGISTAR  
GRIEVANCES RECORD AND ACTION TAKEN**

Sr. No.	Date	Name and Contact No. of Complainer	Type of Complain	Place	Status of Redress	Remarks

**परिशिष्ट 8: नमूना शिकायत पंजीकरण फार्म**

(हिंदी, उर्दू और अंग्रेजी या स्थानीय भाषा में उपलब्ध हो, यदि कोई हो, )

बिहार शहरी विकास निवेश कार्यक्रम (BUDIP) शिकायतें, सुझाव, प्रश्नों और परियोजना के कार्यान्वयन के बारे में टिप्पणियों का स्वागत करता है। हम लोगों को शिकायत के साथ उनके नाम और संपर्क जानकारी प्रदान करने के लिए प्रोत्साहित करते हैं ताकि हम स्पष्टीकरण और प्रतिक्रिया के लिए आप के साथ संपर्क कर सकें।  
आपको अपने व्यक्तिगत विवरण शामिल करने चाहिए लेकिन उस जानकारी को गोपनीय रखा जायगा। आपका नाम ऊपर (गोपनीय) \* लेखन / टाइपिंग द्वारा हमें सूचित करें धन्यवाद

तारीख		पंजीकरण का स्थान			
संपर्क करने संबंधी जानकारी / व्यक्तिगत विवरण					
नाम		लिंग	पुरुष महिला	आयु	
घर का पता					
गांव / शहर					
जनपद					
फोन नं.					
ई मेल					
शिकायत / सुझाव / टिप्पणी / प्रश्न नीचे अपनी शिकायत का विवरण (जो, क्या, कहां और कैसे) प्रदान करें: सलगनक / नोट / पत्र के रूप में, शामिल हैं, कृपया यहाँ टिक करें					
हम आप तक प्रतिक्रिया के लिए कैसे पहुँच संकते हैं या अपनी टिप्पणी / शिकायत पर नवीनीकरण?					

केवल कार्यालय उपयोग के लिए

द्वारा पंजीकृत: (सरकारी पंजीकरण शिकायत का नाम)						
यदि -फिर विधि:						
<input type="checkbox"/> नोट / पत्र <input type="checkbox"/> ई मेल <input type="checkbox"/> मौखिक / टेलीफोन						
से समीक्षित: (नाम / अधिकारी की पोजिशन समीक्षा शिकायत)						
की गई कार्रवाई:						
की गई कार्रवाई का खुलासा:			<input type="checkbox"/> हां <input type="checkbox"/> नहीं			
प्रकटीकरण का मतलब:						
शिकायत रिकॉर्ड और की गई कार्रवाई क्रम संख्या	तारीख	नाम और complainer का संपर्क नंबर	शिकायत के प्रकार	जगह	निवारण की स्थिति	टिप्पणियाँ