Semi Annual Environmental Monitoring Report

Loan Number: 2528 IND
Reporting Period: (January – June 2013)

IND: North Eastern Region Capital Cities Development Investment Program (Tranche 1)

Project City: Agartala, Tripura

Prepared by: State Investment Program Management and Implementation Unit (SIPMIU), Agartala, Government of Tripura, Urban Development Department

Project Number: 35290-01
Loan 2528-IND

(June 2013)

India: North-Eastern Region Urban Development Program I
(Agartala, Tripura)

Prepared by :

STATE INVESTMENT PROGRAMME MANAGEMENT AND IMPLEMENTATION UNIT (SIPMIU), Agartala, Government of Tripura, Urban Development Department

I. Introduction

A. Background

1. The Government of India has proposed to implement projects to improve urban conditions in North Eastern region capital cities under North Eastern Region Capital Cities Development Investment Programme (NERCCDIP). The investment Programme will aim at improving infrastructure and urban service, and also strengthening the urban institutions for better service delivery and operation maintenance of the assets. The capital cities under the Programme are Agartala (In Tripura), Aizwal (In Mizoram), Gangtok (In Sikkim), Kohima (In Nagaland), and Shillong (In Meghalaya). This report deals with the proposed investment Programme (NERCCDIP: ADB Loan 2528-IND & 2834- IND) for Agartala, the capital city of Tripura.
2. M/s STUP Consultants P. Ltd is the Design, Construction Supervision, and Management Consultants for the present assignment.
3. The works under the investment Programme includes development of urban infrastructure facilities in the sector for Water Supply and Solid Waste Management system. The budgetary allocation for improvement in the Water Supply and Solid Waste Management components in [1]Indian currency is 1812.7 million rupees (Estimated revised cost 2557.51 Million Rupees).
4. NERCCDIP will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply, sewerage, solid waste etc) in the capital cities. NERCCDIP 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) reports (for Tr-I & II) prepared according to ADB Environment Policy (2002,2009) and Environmental Assessment Guidelines (2003).
5. This report is the **Semi Annual Environmental Monitoring Report (SAEMR) – Tranche I for the period January to June 2013** to describe the "Environmental Compliance" including status of implementation of the mitigation measures and monitoring recommended in the Initial Environmental Examination (IEE).

B. Project Profile

6. This report is for the period from January to June end. Till 30th June, 2013 under **Tranche I** only 1 environmental sensitive sub-project has been awarded. There is only one sub project under Tr-I which divided into 5 lots including one procurement lot. All 5 lots of sub projects have been awarded and out of these physical activities completed for 2 lots (including one procurement lot). Table below shows the project components under implementation, starting date of implementation, schedule date of completion etc. along with physical progress for **Tranche I.** Monitoring is carried out by visual observation, document check.

[1] Based on a conversion factor of : 1 US $ = Rs 48

Sub-project Status of Tranche – I (Upto 30th June 2013)

Location	Sub-projects components (Package 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 30.06.2013
Agartala city	**Water Supply-** Replacement of Deep Tube Wells – Lot 1 (AGT/WS01(R) /NCB/11/1/Lot1)	16.11.2011	12	16.11.2012	100% (Physical work completed)
	Water Supply- Replacement of Deep Tube Wells – Lot 2 (AGT/WS01(R) /NCB/11/1/Lot2)	04.03.2013	12	04.03.2014	Under progress- 42.51 %
	Water Supply- Replacement of Deep Tube Wells – Lot 3 (AGT/WS01(R) /NCB/11/1/Lot3)	06.03.2013	12	06.03.2014	Under progress- 13.07%
	Water Supply- Construction of Pump House for 16Tube Wells (AGT/WS01(R3)CIV./NCB/12/4)	15.06.2013	12	15.06.2014	Under progress- 3%

7. Till date scope of the sub projects are not changed.

TABLE 1 SUB PROJECT DETAILS				
S. No.	**Name of Work**	**Location**	**Description**	**Changes if any from approved scope**
1	**Water Supply-** Replacement of Deep Tube Wells – Lot 2: 8 Nos, (AGT/WS01(R) /NCB/11/1/Lot2)	**Agartala- Tripura:** Dukli III Matripally, Gazaria camper bazaar, Sripally, Srinagar, Beltoli, Pragati school and other 2 locations(not yet fixed)	○ Replacement of tube wells at **8 locations** – Dukli III Matripally, Gazaria camper bazaar, Sripally, Srinagar, Beltoli, Pragati school and other 2 locations ○ *Installation of tube wells*- Drilling of borehole; reaming, lowering of pipes including development; installation of pump, motor including Trail run and commissioning all complete ○ *Electrical works for pump house & pump and motor*	Nil
2	**Water Supply-** Replacement of Deep Tube Wells – Lot 3: 6 Nos, (AGT/WS01(R) /NCB/11/1/Lot3)	**Agartala- Tripura:** Renters colony and Mahashakti and other 6 locations (not yet fixed)	○ Replacement of tube wells at **8 locations -** Renters colony and Mahashakti ○ *Installation of tube wells*- Drilling of borehole; reaming, lowering of pipes including development; installation of pump, motor including Trail run and commissioning all complete ○ *Electrical works for pump house & pump and motor*	Nil
3	**Water Supply-** Construction of	○ **Agartala-Tripura:** At	Construction of pump house building and allied works	Nil

TABLE 1 SUB PROJECT DETAILS				
S. No.	**Name of Work**	**Location**	**Description**	**Changes if any from approved scope**
	Pump House for 16Tube Wells (AGT/WS01(R3)CIV./NCB/12/4)	above mentioned locations		

II. Environmental Assessment and Review Procedure

A. Environmental Legal Requirements

Details on National, State and local level environmental policy, law and legislation application to the project

Environmental Legislation and Pollution Control Acts

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 projects, 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	Hazardous Waste	➢ Hazardous Waste (Management and Handling) Rules, 1989 ➢ Batteries (Management and Handling) Rules, 2001 ➢ Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 ➢ Emergency Planning Preparedness and Response for Chemical Disasters Rules, 1995 ➢ Manufacturing, Use, Import, Export and Storage of Hazardous Microorganisms, Genetically Modified Engineered Organisms or Cell Rules, 1993 ➢ Hazardous Microorganisms and Genetically Modified Organisms (Manufacture, Use Import Expert and Storage) Rules, 1999 ➢ Bio- Medical Waste (Management and Handling) Rules, 2000
7	Municipal Solid Waste	Municipal Solid Waste (Management and Handling) Rules, 2000 Recycled Plastics Manufacturing and Usage Rules, 1999

Sl. No.	Sources	Legislation
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

- **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 14th 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 and Air (Prevention and Control of Pollution) Acts 1974**

    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.

8. Because of the relatively minor negative impacts of most of the types of the subproject likely to be developed under NERCCDIP, it is expected that most subproject should not fall within the scope of these legal instruments. Subprojects and activities that will need to comply with certain laws are:

   - Any components that require the acquisition of forest land;

- Water Treatment Plants (WTP);
- Composting and landfill facilities;
- Common waste management facilities, including composting, landfills, transfer stations;
- Common waste management facilities within 10 km of the boundary of protected areas (such as National Parks, Sanctuaries, Notified areas and Biosphere Reserves);
- Mobile diesel generators

B. Compliance with Environmental Regulations

Details on compliance with environmental policy, law and legislation

9. Under Program I for replacement of tube well no Clearances (Environment and Forest) are required.

Table 2: 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
Not Applicable					

C. Compliance of Environmental Loan Covenants

10. The status of compliance of ADB's major Environmental Loan Covenants shown below:

Table 3 Compliance of Environmental Loan Covenants

Project Specific Covenants	Status / Issues
Environment	
India and the States will ensure that the design, construction, operation and implementation of all sub-project facilities is carried out in accordance with the environmental assessment and review procedures and Initial Environmental Examinations (IEEs) for core sub-components agreed upon between the Government and ADB, and complies with the Government's environmental laws and regulations and ADB"s Environment Policy (2002) and Safeguard Policy Statement (SPS, 2009). Any adverse environmental impacts arising from the construction, operation and implementation of sub-component facilities will be minimized by implementing the environmental mitigation and management measures, and other	**Under compliance** All documents are prepared in accordance with ADB Environmental Policy 2002 and SPS 2009 and Environmental Assessment Guidelines 2003 Initial Environmental Examination report for **Tranche I was prepared** and **approved by ADB.** Mitigation measures applied according to project location, specific sector development and associated design requirements. EMP is prepared and incorporated in bidding document.

Project Specific Covenants	Status / Issues
recommendations specified in environmental assessment reports (e.g., IEEs). The Government will ensure environmental requirements will be incorporated in bidding documents and civil works contracts. Issuance of bid documents will be made after review and clearance of IEE/EIA by ADB and SEIAA or MOEF. GoI will prepare and submit annually to ADB an environmental monitoring report that describes progress in implementation of the EMP and EARP and issues encountered and measures adopted; and compliance with the relevant assurances and loan covenants. (FFA)	Regularly monitoring of EMP application is started for compliance as per stated mitigation measures. Till date no clearance is required for Tranche I project Quarterly report prepared regularly. Annual monitoring report for the period January to December 2012 was submitted in February 2013 and last semi-annual report for March 2013 was submitted in May 2013

D. Environmental Organization and Management

Details on the SIPMIU and DSMC environmental cell setup and personnel

11. Environmental issues of the project coordinated by an Environmental Specialist within the DSMC, who ensures that all subprojects, comply with environmental safeguards. The SIPMIU comprises of a Safeguards and Social Cell staffed with an Environmental Officer (EO). The EO is responsible for implementing the environmental safeguard provisions in the project including (i) ensuring environmental criteria for subproject selection in the EARP are followed, (ii) ensuring mitigation requirements are in contractor bidding documents, and (iii) liasing with various Central and State government agencies on compliance matters. The SIPMIU appointed and manage Construction Contractors (CC) to build elements of the infrastructure that are required to submit Environmental Implementation Plans (EIPs) for SIPMIU approval. The SIPMIU is assisted by the DSMC, who is responsible for design the infrastructure, manage tendering of contracts, and supervise the construction process.
12. An Environmental Specialist (ES) in the DSMC is responsible for addressing the environmental issues in the project components during design and implementation. The ES ensure all mitigation requirements are in contractor bidding documents and EMPs, and will supervise the effective implementation of environmental provisions during construction. In addition, the ES assist the SIPMIU on the procurement needs and other project implementation aspects and play a central role in ensuring capacity building on environmental management of the SIPMIU, Contractor and Line Departments through capacity development support and training. **Figure 1** shows institutional responsibility for implementation of environmental safeguard monitoring at different level.
13. EMP shows that most of the mitigation measures are fairly standard methods of minimizing disturbance from building in urban areas (maintaining access, planning work to avoid sensitive times, finding uses for waste material, etc), and experienced Contractors should be familiar with most of the requirements. Monitoring of such measures normally involves making observations in the course of site visits, although some require more formal checking of records and other aspects. There are also be

some surveys of residents, as most of the measures are aimed at preventing impacts on people and the human environment.

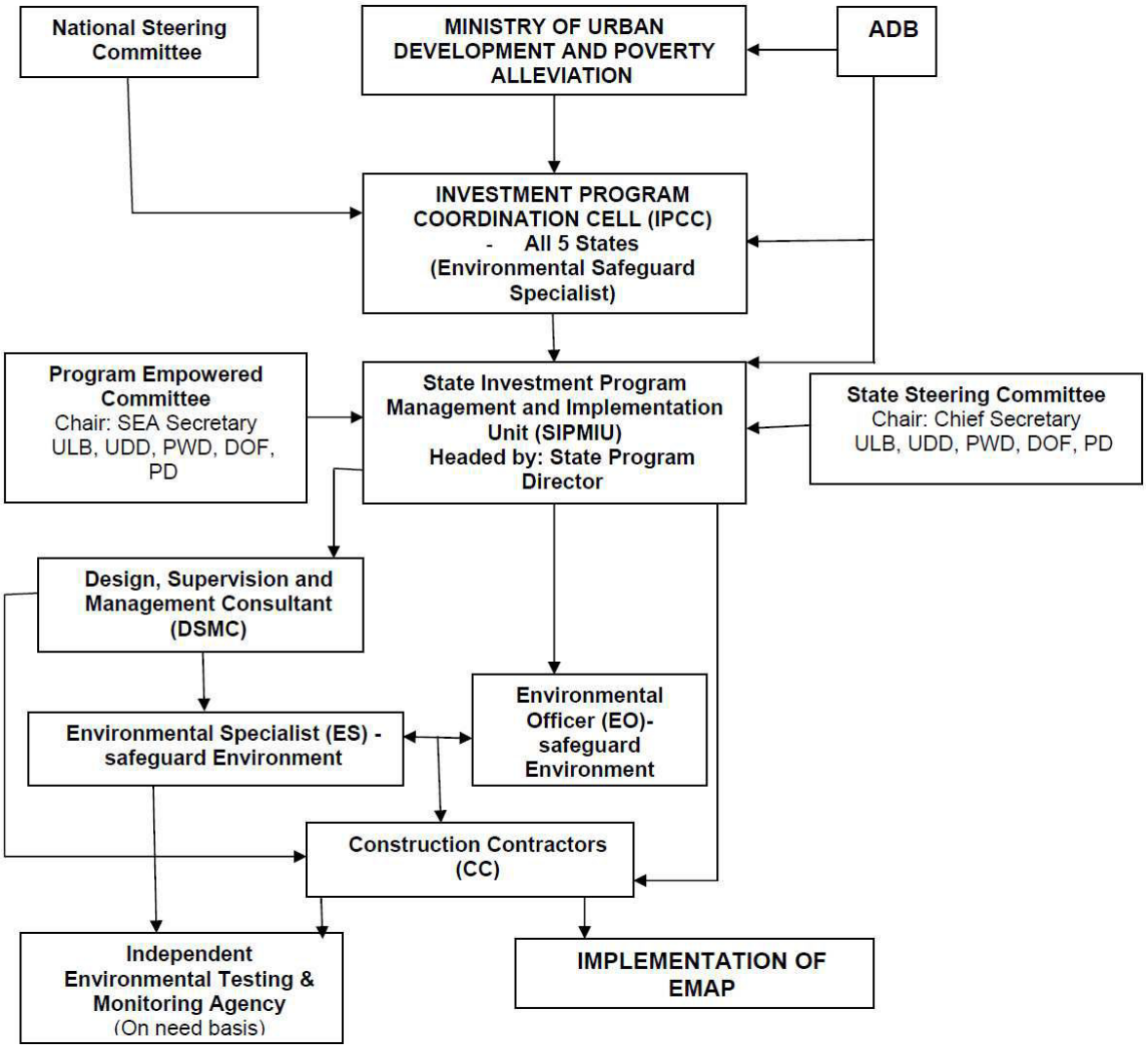


Figure 1: Institutional Responsibility- NERCCDIP

AMC = Agartala Municipal Council, DOF = Department of Forest, PHED = Public Health Engineering Department, PWD = Public Work Department, SEA = State Executing Agency- Urban Development Dept. Govt. of Tripura, ULB = Urban Local Body.

Details of third party consultants / laboratories hired for EMP

14. For effective monitoring, selected environmental parameters have been identified as indicators which may 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 sub-project corridors. The parameters identified as performance indicators are:

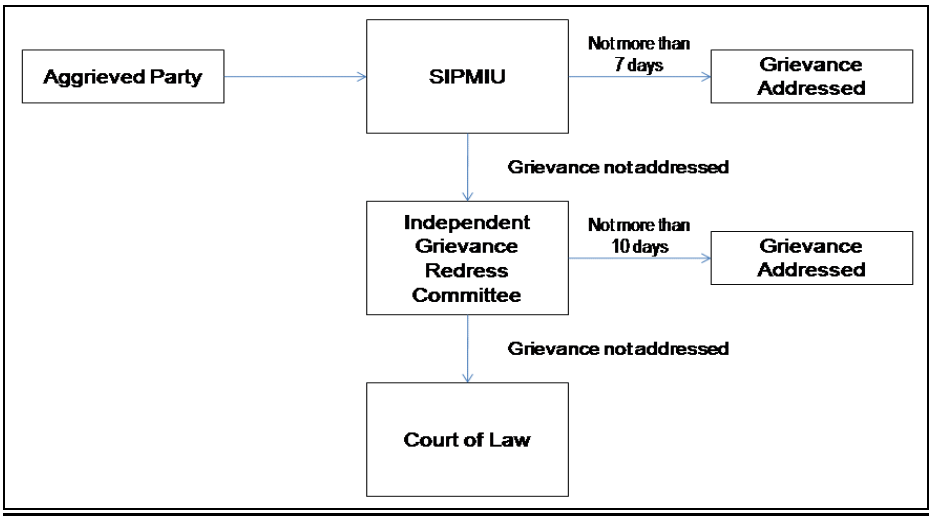
    - Air, noise and water quality

- Compliance to EMP
- Compliance to local/state/national environmental regulations

15. The present work is only replacement of tube wells. Since the work involves drilling and simple construction of pump house building chances of air, water pollution is insignificant. There is no as such requirement of air, water monitoring during construction. Only during operation of tube well water quality monitoring is necessary.
16. *At present visual monitoring is continued. There is no requirement for 3rd party consultants/laboratories.*

Grievance redressal mechanism and details of complains received and redressal.

17. **Mechanism:** Grievances of affected persons will first be brought to the attention of the SIPMIU. Grievances not redressed by the SIPMIU will be brought to the Independent Grievance Redress Committee (IGRC) set up to monitor project implementation in Agartala. The IGRC, is chaired by the Secretary, Urban Development Department[2] with representatives from the ULB, state government agencies, community-based organizations (CBOs) and NGOs. The GRC will determine the merit of each grievance, and resolve grievances within 10 days of receiving the complaint. Grievance not redressed by the IGRC will be referred to the appropriate courts of law. The DSMC will keep records of all grievances received including: contact details of complainant, date that the complaint was received, nature of grievance, agreed corrective actions and the date these were effected, and final outcome. The grievance redress process is shown in **Figure 2.** Costs involved in resolving the complaints will be borne by the SIPMIU. The GRCs will continue to function throughout the project duration. Till date there is no as such grievances are reported.



[2] The Secretary, Urban Development Department with Chief Engineer Public Works Department , PWD (Road and Bridge, R & B), Chief Engineer PWD (DWS, Drinking water & Sanitation) and Chairman cum Managing Director, Tripura State Electrical Corporation Ltd. (TSECL) as members, will chair the Independent Grievance Redress Committee (IGRC). The Project Director would be the Secretary of the Committee. The IGRC will be fully empowered to take decisions in all matters related to the Project, which will include financial and administrative approvals.

Figure 2: Grievance Redress Mechanism

18. Till date Independent Grievance Redress Committee (IGRC) is not set up in SIPMIU. The process has been initiated for establishment of GRC.

III. EMP Compliance Status

19. Status of compliance with various aspects of EMP as stated in the IEE

TABLE 4 COMPLIANCE OF EMP AND OH&S NORMS

Project: Water Supply - Replacement of Deep Tube Wells – Lot 2

Package No: AGT/WS01(R) /NCB/11/1/Lot 2

Progress: 42.51 %

Physical progress : Bore Drilling of borehole; reaming, lowering of pipes including development completed at 6 locations

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Pre Construction Design phase						
1	Site preparation work completed including necessary clearance	Tube well construction site	SIPMIU	Observation and document checking	SIPMIU/DSMC	**Yes**- All sites have been handed over to Construction Contractor
Construction						
2	Establishment of temporary camps with sanitary and solid waste management arrangement	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** Temporary camp established at site. Worker using toilet of old pump house
3	Removal of overburden and excavated material from working site and use / preservation of the same – as per mitigation measures	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** No overburden materials generated
4	Water sprinkling at construction site for arresting dust (if any during dry period)	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** Water sprinkling is not required as per nature of work
5	Materials carrying vehicle are covered	City road and Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR**- Only pipes are transported
6	All vehicles and equipments mobilized to construction site and producing emission, have Pollution Control Board certification	City road and Tube well construction site	Contractor	Record	DSMC/ SIPMIU	**Partly complied** - PUC certificates collected partly
7	At sensitive locations enclosures provided around generator set or other noise producing	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**No**- Not done by contractor

Project: Water Supply - Replacement of Deep Tube Wells – Lot 2

Package No: AGT/WS01(R) /NCB/11/1/Lot 2

Progress: 42.51 %

Physical progress : Bore Drilling of borehole; reaming, lowering of pipes including development completed at 6 locations

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	machinery					
8	Regular maintenance of noise producing equipment done	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** Done as per requirement
9	Arrangement of drainage of waste water and arresting solid waste from waste water generated at construction site	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** At all the locations arrangement have been made for discharge of waste water in nearby *nala*/ channel. No flooding is reported during testing
10	Arrangement of pit for storage of muck	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** At all the locations pit has been dug for storage of muck
11	Felling of trees done (if necessary) with mitigation measures i.e. planting of three trees for each tree fell.	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** All are free area
12	Pollution of water bodies at construction site	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NA**- No water bodies existing near the project site
13	Disposal of construction debris if any as per mitigation measures	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** No as such construction debris generated till date
14	Ensure use of Personal Protective Equipment like helmet, gumboot, gloves, and earplugs at work place Arrangement of First Aid Box at working site	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Partly complied** - Workers use PPE like helmet, gumboot, hand gloves partially. First Aid box available at site
15	Provide Health and Safety training to all personnel and implement H&S plan	Tube well construction site	DSMC/ Contractor	Record	DSMC/ SIPMIU	**Yes-** Training program have been conducted covering health & safety issue
16	Plan truck routes (for carrying construction materials including pipes) to avoid narrow or congested roads and tourist sites	City road and Tube well construction site	Contractor	Observation	DSMC/ SIPMIU	**Yes-** Materials are transported mostly at non-peak hours. No congestion is reported. Transportation of materials completed
17	Consideration of public	Tube well	Contractor	Site	DSMC/ SIPMIU	**NR-** Tube well site

Project: Water Supply - Replacement of Deep Tube Wells – Lot 2

Package No: AGT/WS01(R) /NCB/11/1/Lot 2

Progress: 42.51 %

Physical progress : Bore Drilling of borehole; reaming, lowering of pipes including development completed at 6 locations

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	safety - as per prescribed mitigation measures	construction site		observation		located at isolated place. No outside public available at site. If required it will be done at future locations
18	Employ at least 50% of workforce from communities near sites	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes**- More than 90% of labourer are from Agartala city
19	Continuous monitoring on implementation of mitigation measures	Tube well construction site	Contractor/ DSMC	Site observation and record checking	DSMC/ SIPMIU	**Yes**- Will be continued as per schedule

NA: Not Applicable, NR- Not Required

Project: Water Supply - Replacement of Deep Tube Wells – Lot 3

Package No: AGT/WS01(R) /NCB/11/1/Lot 3

Progress: 13.07 %

Physical progress: Bore Drilling of borehole; reaming, lowering of pipes completed at 6 locations. Development yet to start

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Pre Construction Design phase						
1	Site preparation work completed including necessary clearance	Tube well construction site	SIPMIU	Observation and document checking	SIPMIU/DSMC	**Yes**- All sites have been handed over to Construction Contractor
Construction						
2	Establishment of temporary camps with sanitary and solid waste management arrangement	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** Temporary camp established at site. Worker using toilet of old pump house
3	Removal of overburden and excavated material from working site and use / preservation of the same – as per mitigation measures	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** No overburden materials generated
4	Water sprinkling at construction site for arresting dust (if any during dry period)	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** Water sprinkling is not required as per nature of work
5	Materials carrying vehicle are covered	City road and Tube well	Contractor	Site observation	DSMC/ SIPMIU	**NR**- Only pipes are transported

Project: Water Supply - Replacement of Deep Tube Wells – Lot 3

Package No: AGT/WS01(R) /NCB/11/1/Lot 3

Progress: 13.07 %

Physical progress: Bore Drilling of borehole; reaming, lowering of pipes completed at 6 locations. Development yet to start

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
		construction site				
6	All vehicles and equipments mobilized to construction site and producing emission, have Pollution Control Board certification	City road and Tube well construction site	Contractor	Record	DSMC/ SIPMIU	**Partly complied** - PUC certificates collected partly
7	At sensitive locations enclosures provided around generator set or other noise producing machinery	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**No**- Not done by contractor
8	Regular maintenance of noise producing equipment done	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** Done as per requirement
9	Arrangement of drainage of waste water and arresting solid waste from waste water generated at construction site	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** At all the locations arrangement have been made for discharge of waste water in nearby *nala*/ channel. No flooding is reported during testing
10	Arrangement of pit for storage of muck	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** At all the locations pit has been dug for storage of muck
11	Felling of trees done (if necessary) with mitigation measures i.e. planting of three trees for each tree fell.	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** All are free area
12	Pollution of water bodies at construction site	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NA**- No water bodies existing near the project site
13	Disposal of construction debris if any as per mitigation measures	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** No as such construction debris generated till date
14	Ensure use of Personal Protective Equipment like helmet, gumboot, gloves, and earplugs at work place Arrangement of First Aid Box at working site	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Partly complied** - Workers use PPE like helmet, gumboot, hand gloves partially. First Aid box available at site

Project: Water Supply - Replacement of Deep Tube Wells – Lot 3

Package No: AGT/WS01(R) /NCB/11/1/Lot 3

Progress: 13.07 %

Physical progress: Bore Drilling of borehole; reaming, lowering of pipes completed at 6 locations. Development yet to start

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
15	Provide Health and Safety training to all personnel and implement H&S plan	Tube well construction site	DSMC/ Contractor	Record	DSMC/ SIPMIU	**Yes-** Training program have been conducted covering health & safety issue
16	Plan truck routes (for carrying construction materials including pipes) to avoid narrow or congested roads and tourist sites	City road and Tube well construction site	Contractor	Observation	DSMC/ SIPMIU	**Yes-** Materials are transported mostly at non-peak hours. No congestion is reported. Transportation of materials completed
17	Consideration of public safety - as per prescribed mitigation measures	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** Tube well site located at isolated place. No outside public available at site. If required it will be done at future locations
18	Employ at least 50% of workforce from communities near sites	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes**- More than 90% of labourer are from Agartala city
19	Continuous monitoring on implementation of mitigation measures	Tube well construction site	Contractor/ DSMC	Site observation and record checking	DSMC/ SIPMIU	**Yes**- Will be continued as per schedule

NA: Not Applicable, NR- Not Required

Project: Water Supply- Construction of Pump House for 16Tube Wells

Package No: AGT/WS01(R3)CIV./ NCB/12/4

Progress: 3%

Physical progress: Construction of pump houses at Beltoli, Shripally, and AMC zonal office Ward 28 is going on

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
Pre Construction Design phase						
1	Site preparation work completed including necessary clearance	Tube well construction site	SIPMIU	Observation and document checking	SIPMIU/DSMC	**Yes**- All sites have been handed over to Construction Contractor
Construction						
2	Establishment of temporary camps with sanitary and solid waste management arrangement	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** Not required till date. Local labour are employed
3	Removal of overburden	Tube well	Contractor	Site	DSMC/	**NR-** No overburden

Project: Water Supply- Construction of Pump House for 16Tube Wells

Package No: AGT/WS01(R3)CIV./ NCB/12/4

Progress: 3%

Physical progress: Construction of pump houses at Beltoli, Shripally, and AMC zonal office Ward 28 is going on

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	and excavated material from working site and use / preservation of the same – as per mitigation measures	construction site		observation	SIPMIU	materials generated
4	Water sprinkling at construction site for arresting dust (if any during dry period)	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** Water sprinkling is not required as per nature of work
5	Materials carrying vehicle are covered	City road and Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**No**- Instruction has been given to the contractor
6	All vehicles and equipments mobilized to construction site and producing emission, have Pollution Control Board certification	City road and Tube well construction site	Contractor	Record	DSMC/ SIPMIU	**No** - PUC certificates not collected
7	At sensitive locations enclosures provided around generator set or other noise producing machinery	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR**- Not required
8	Regular maintenance of noise producing equipment done	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR**- Not required at present
9	Arrangement of drainage of waste water and arresting solid waste from waste water generated at construction site	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes-** At all the locations arrangement have been made for discharge of waste water in nearby *nala*/ channel.
10	Felling of trees done (if necessary) with mitigation measures i.e. planting of three trees for each tree fell.	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** All are free area
11	Pollution of water bodies at construction site	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NA**- No water bodies existing near the project site
12	Disposal of construction debris if any as per mitigation measures	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** No as such construction debris generated till date
13	Ensure use of Personal Protective Equipment like helmet, gumboot, gloves, and earplugs at work place	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**No** - Workers not using PPE First Aid box not available at site

Project: Water Supply- Construction of Pump House for 16Tube Wells

Package No: AGT/WS01(R3)CIV./ NCB/12/4

Progress: 3%

Physical progress: Construction of pump houses at Beltoli, Shripally, and AMC zonal office Ward 28 is going on

Sr. No.	Mitigation Activities and Method	Location	Responsible for Mitigation	Monitoring Method	Responsible for Monitoring	Compliance Status/ Explanation
	Arrangement of First Aid Box at working site					
14	Provide Health and Safety training to all personnel and implement H&S plan	Tube well construction site	DSMC/ Contractor	Record	DSMC/ SIPMIU	**Yes-** Training program have been conducted covering health & safety issue
15	Plan truck routes (for carrying construction materials including pipes) to avoid narrow or congested roads and tourist sites	City road and Tube well construction site	Contractor	Observation	DSMC/ SIPMIU	**Yes-** Materials are transported mostly at non-peak hours. No congestion is reported. Transportation of materials completed
16	Consideration of public safety - as per prescribed mitigation measures	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**NR-** Tube well pump house sites are located at isolated place. No outside public available at site. If required it will be done at future locations
17	Employ at least 50% of workforce from communities near sites	Tube well construction site	Contractor	Site observation	DSMC/ SIPMIU	**Yes**- 100% labourer are from Agartala city
18	Continuous monitoring on implementation of mitigation measures	Tube well construction site	Contractor/ DSMC	Site observation and record checking	DSMC/ SIPMIU	**Yes**- Will be continued as per schedule

NA: Not Applicable, NR- Not Required

IV. Observations Recommendations and Actions Taken

20. For protection of local environment during construction phase application of mitigation measures is continued as per specified EMP. Pubic consultation during construction/implementation phase is necessary. Since present project location is confined within specific site and no as such major work ongoing, public consultation not required during the report period.
21. As per ADB's new safeguard policy the project authority will establish a mechanism to receive and facilitate resolution of affected persons' concerns, complaints and grievances about the project's environmental performance. The grievances mechanism should be scaled to the risks and adverse impacts of the project. It will be addressed affected peoples' concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to all the affected people at no cost and without retribution. The affected people will be informed by appropriate mechanism.

22. The action plan considered for satisfactory environmental compliance as per the present sub-project activities are given below.

Suggestion & Action plan consider for satisfactory Environmental Compliance

Sr. No.	Issues	Suggestion and recommendation	Action to be taken by	Time Frame
1	Application of EMP	Effective implementation of Environmental Management Plan is ensured by Contractors and the present status is varied from partially satisfactory to satisfactory but there is scope for improvement in the implementation of EMP. Instruction given to contractors and monitoring for o Proper disposal of debris and quick disposal of muck and other solid waste o Complete use of PPE o Collection of PUC certificate	Contractor under supervision of SIPMIU and DSMC	Immediately and continuous
2	Health and Safety	It has been observed during site visit that workers engaged in construction works are not always using PPE. -The contractor had been requested to insist workers to bear and use proper PPE. -The construction area should be access controlled to avoid any accident	Contractor under supervision of SIPMIU and DSMC	Immediately and continuous
3	Restoration of the construction area	Instruction has been given to contractors. - before acceptance of work site should be cleaned after disposal of all the excess materials/overburden for satisfactory restoration of the site according to the EMP.	Contractor under supervision of SIPMIU and DSMC	To be done at particular stage
4	Social relationship and public safety	Continuation of public consultation during construction	Contractor	Atleast Monthly

ANNEXURE – 1

Till date no third party monitoring agency is not involved.

Visual monitoring has been carried out by,

- ✓ Mr. Subrata Gupta, Dy TL cum Contact Management Spl, DSMC
- ✓ Mr. A. Basu, Tube well Specialist, DSMC
- ✓ Mr. B.S.Purkayastha, Resident Engineer, DSMC
- ✓ Mr. ChandraSekhar Banerjee, Engineering Assistant, DSMC
- ✓ Dr. Ardhendu Mitra, Environment Specialist, DSMC

ANNEXURE – 2

Grievances Redressal Mechanism

Till date there is no grievances has been registered in SIPMIU office

ANNEXURE – 3

Contractors Environmental Implementation Plan

Anticipated Impacts and Mitigation Measures – Pre-construction Environmental Mitigation Plan

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Monitoring of Mitigation
Construction work camps, stockpile areas, storage areas, and disposal areas.	Disruption to public movement	(i) Prioritize areas within or nearest possible vacant space in the subproject sites; (ii) If it is deemed necessary to locate elsewhere, consider sites that will not promote instability and result in destruction of property, vegetation, and drinking water supply systems; (iii) Do not consider residential areas; (iv) Take extreme care in selecting sites to avoid direct disposal to water body which will inconvenience the community.	SIPMIU and DSMC to determine locations prior to award of construction contracts.	List of selected sites for construction work camps, stockpile areas, storage areas, and disposal areas.

Anticipated Impacts and Mitigation Measures – Construction Environmental Mitigation Plan

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Monitoring of Mitigation
Air Quality	Emissions from construction vehicles, equipment, and machinery used for construction resulting to dusts and increase in	(i) Consult with SIPMIU/DSMC on the designated areas for stockpiling of clay, soils, gravel, and other construction materials;	Construction Contractor	(i) Location of stockpiles; (ii) Complaints from sensitive

	concentration of vehicle-related pollutants such as carbon monoxide, sulfur oxides, particulate matter, nitrous oxides, and hydrocarbons)	(iii) Damp down any stockpiled on site by spraying with water when necessary during dry weather; (iv) Use tarpaulins to cover sand and other loose material when transported by trucks; and (v) Fit all heavy equipment and machinery with air pollution control devices which are operating correctly.		receptors; (iii) Heavy equipment and machinery with air pollution control devices; (iv) Ambient air for respirable particulate matter (RPM) and suspended particulate matter (SPM);
Noise Levels	Increase in noise level due to earth-moving and drilling equipment, and the transportation of equipment, materials, and people	(i) Plan activities in consultation with SIPMIU/DSMC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance; (ii) Require horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach; (iii) Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers, and portable street barriers the sound impact to surrounding sensitive receptor; and (iv) Maintain maximum sound levels not exceeding 80 decibels (dbA) when measured at a distance of 10 m or more from the vehicle/s.	Construction Contractor	(i) Complaints from sensitive receptors; (ii) Use of silencers in noise-producing equipment and sound barriers; (iii) Equivalent day and night time noise levels
Landscape and Aesthetics	Solid wastes/ muck as well as excess construction materials	(i) Prepare and implement Waste Management Plan; (ii) Avoid stockpiling of excess excavated soils; (ii) Coordinate with AMC/PWD for beneficial uses of excess excavated soils or immediately dispose to designated areas; (iv) Recover used oil and lubricants and reuse or remove from the sites; (v) Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas; (vi) Remove all wreckage, rubbish; and (vii) Request SIPMIU/DSMC to report in writing that the necessary environmental restoration work has been adequately performed before	Construction Contractor	(i) Waste Management Plan; (ii) Complaints from sensitive receptors; (iii) SIPMIU/DSMC to report in writing that the necessary environmental restoration work has been adequately performed before acceptance of work.

		acceptance of work.		
Accessibility	Traffic problems and conflicts near project locations and haul road	(i) Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites; (ii) Schedule transport and hauling activities during non-peak hours; (iii) Locate entry and exit points in areas where there is low potential for traffic congestion; (iv) Keep the site free from all unnecessary obstructions; (v) Drive vehicles in a considerate manner; (vi) Coordinate with Agartala Municipal Traffic Office for temporary road diversions and with for provision of traffic aids if transportation activities cannot be avoided during peak hours; and (vii) Notify affected sensitive receptors by providing sign boards informing nature and duration of construction works and contact numbers for concerns/complaints.	Construction Contractor	(i) Traffic Management Plan; (ii) Complaints from sensitive receptors; (iii) Number of signages placed at subproject sites.
Socio-Economic - Employment	Generation of contractual employment and increase in local revenue	(i) Employ at least 50% of the labour force, or to the maximum extent, local persons within the 2-km immediate area if manpower is available; and (ii) Secure construction materials from local market.	Construction Contractor	(i) Employment records; (ii) records of sources of materials
Occupational Health and Safety	Occupational hazards which can arise during work	(i) Develop and implement site-specific Health and Safety (H and S) Plan which will include measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use Personal Protective Equipment like helmet, gumboot, gloves, nose musk and ear plugs; (c) H and S Training for all site personnel; (d) documented procedures to be followed for all site activities; and (e) documentation of work-related accidents; (ii) Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the site; (iii) Provide medical insurance coverage for workers; (iv) Secure all installations from unauthorized intrusion and	Construction Contractor	(i) Site-specific Health and Safety (H and S) Plan; (ii) Equipped first-aid stations; (iii) Medical insurance coverage for workers; (iv) Number of accidents; (v) Supplies of potable drinking water; (vi) Clean eating areas where workers are not exposed to hazardous or noxious substances; (vii) record of H and

		accident risks; (v) Provide supplies of potable drinking water; (vi) Provide clean eating areas where workers are not exposed to hazardous or noxious substances; (vii) Provide H and S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers; (viii) Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted; (ix) Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.		S orientation trainings (viii) personal protective equipments; (ix) % of moving equipment outfitted with audible back-up alarms; (xi) sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal.
Work Camps	Temporary air and noise pollution from machine operation, water pollution from storage and use of fuels, oils, solvents, and lubricants	(i) Consult with SIPMIU/DSMC before locating project offices, sheds, and construction plants; (ii) Minimize removal of vegetation and disallow cutting of trees; (iii) Provide water and sanitation facilities for employees; (iv) Prohibit employees from poaching wildlife and cutting of trees for firewood; (v) Train employees in the storage and handling of materials which can potentially cause soil contamination; (vi) Recover used oil and lubricants and reuse or remove from the site; (vii) Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas; (viii) Remove all wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; and (ix) Request SIPMIU/DSMC to report in writing that the camp has been vacated and restored to pre-project conditions before acceptance of work.	Construction Contractor	(i) Complaints from sensitive receptors; (ii) Water and sanitation facilities for employees; and (iii) SIPMIU/DSMC report in writing that the camp has been vacated and restored to pre-project conditions

Anticipated Impacts and Mitigation Measures – Operation and Maintenance Environmental Mitigation Plan

Field	Anticipated Impact	Mitigation Measures	Responsible for Mitigation	Monitoring of Mitigation
Occupational Health and Safety	Adverse impacts on the appearance of surrounding environment and exposure of workers	(i) Ensure persons employed will be provided with suitable equipment (ii) Ensure all removed material will be deposited in the municipal waste storage bins.	PWD (DWS) and O and M Contractors	(i) Records of training; (ii) H and S Plan approved by UDD