

Semi Annual Environmental Monitoring Report

Loan Number: 2528-IND

Reporting Period: (January - June 2013)

INDIA: North Eastern Region Capital Cities Development Investment Program - Water Supply (Tranche - I)

Project City: Gangtok, Sikkim State

Implementing Agency: State Investment Program Management and Implementation Unit

Executing Agency: Urban Development Department, Government of Sikkim

January - June, 2013
Gangtok

ABBREVIATIONS

ADB	- Asian Development Bank
CC	- Construction Contractor
DOC	- Date of Completion
DOS	- Date of Start
EA	- Executing Agency
EARP	- Environmental Assessment & Review Procedure
EIA	- Environmental Impact Assessment
EO	- Environmental Officer
G o I	- Government of India
IA	- Implementing Agency
IEE	- Initial Environmental Examination
IPCC	- Investment Program Coordination Cell
MFF	- Multi-tranche Financing Facility
MLD	- Million Liters per Day
Mn	- Million
M o U D	- Ministry of Urban Development
NEA	- National Executing Agency
NERCCDIP	- North Eastern Region Capital Cities Development Investment Program
NSC	- National level steering committee
PD	- Project Director
SEA	- State level Executing Agency
UDD	- Urban Development Department
EHS	- Environmental Health and Safety
PPTA	- Project Preparatory Technical Assistance
BTA	- Bridging Technical Assistance
PAP	- Project Affected Person
SR	- Service Reservoir

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I. INTRODUCTION

A. Background

1. North Eastern Region Capital Cities Development Investment Program (NERCCDIP) is being undertaken for improvement of existing infrastructure, environmental quality and access to basic urban services of Gangtok municipal corporation area. The NERCCDIP's objective is to improve the urban environment and promote reforms for sustainable, efficient, and responsive urban service delivery. The primary drivers for the initiation of NERCCDIP have been bridging the gaps in urban infrastructure provision, supplementing financial resources and technical capacity and meeting the unmet urban public health and sanitation needs. The various Program components are Water supply, Sewerage and Sanitation, Solid Waste Management infrastructure.

2. With an overall objective of sustainable urban development, the NERCCDIP is being implemented in the five capital cities - Gangtok, Aizawl, Kohima, Gangtok and Shillong. NERCCDIP implemented over a six year period beginning in 2009, and is funded by a loan via the Multitranche Financing Facility (MFF) of the Asian Development Bank (ADB).

3. In Gangtok, capital city of Sikkim, the Executing Agency (EA) for the program is the Urban Development Department (UDD) of the Government of Sikkim (GoS); and the Implementing Agency (IA) is the State-level Investment Program Management and Implementation Unit (SIPMIU), created within the UDD, specifically for the Investment Program implementation. At central level Investment Program Coordination Cell (IPCC) is established in MOUD. IPCC is responsible for overall management of the Investment Program and is support Program Management & Monitoring Consultants (PMMC).

4. Under the program the physical investments include improvements to water supply, sanitation and sewerage, and solid waste management infrastructure. The physical improvements are being coupled with urban governance, finance, and service delivery reforms and a capacity building program to support the implementation of the investment program and the urban reform agenda. The Investment Program is being implemented in three tranches of funding; began in 2009 the Program will be implemented in 6 years through 2015.

5. ADB requires the consideration of environmental issues in all aspects of ADB's operations, and the requirements for Environmental Assessment are described in ADB SPS 2009. This states that ADB requires environmental assessment of all project loans, program loans, sector loans, sector development program loans, loans involving financial intermediaries, and private sector loans.

6. Environmental Safeguards Categorization: The nature of the environmental assessment required for a project depends on the significance of its environmental impacts, which are related to the type and location of the project, the sensitivity, scale, nature and magnitude of its potential impacts, and the availability of cost-effective mitigation measures. Projects are screened for their expected environmental impact is assigned to one of the following four categories:

(i) **Category A.** Projects could have significant adverse environmental impacts. An EIA is required to address significant impacts.

(ii) **Category B.** Projects could have some adverse environmental impacts, but of lesser degree or significance than those in category A. An IEE is required to determine whether significant environmental impacts warranting an EIA are likely. If

an EIA is not needed, the IEE is regarded as the final environmental assessment report.

(iii) **Category C.** Projects are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.

(iv) **Category FI.** Projects involve a credit line through a financial intermediary or an equity investment in a financial intermediary. The financial intermediary must apply an environmental management system, unless all Projects will result in insignificant impacts.

7. Tranche-1 water supply subproject has been classified as Category B as per the ADB Environmental Policy, and accordingly IEE report was prepared during PPTA/BTA and was approved by the ADB. During this implementation stage, the IEE was updated and reapproved by the ADB.

8. Environmental Management Plan: An EMP which addresses the potential impacts and risks identified by the environmental assessment has been included in the IEE report. The level of details and complexity of the EMP and the priority of the identified measures and actions are commensurate with the Project's impact and risks. The EMP is part of bidding and contract documents.

B. Project Profile

9. At present, Tranche-1 of the project is under implementation in Gangtok and focuses on water supply improvements. This subproject covers

- (i) Construction of Distribution Network of 17.75 km length for Burtuk Zone-1, 10.57km length for Burtuk Zone-2 and 15.87km length for Chandmari Zone
- (ii) Construction of Pump House and installation of pumps of capacity 1930 lpm for a head of 101m, at Selep Water Treatment Plant
- (iii) Construction of New R.C.C Reservoir of 11.50 LL capacity located at All India Radio (AIR) Transmission Station Road for Burtuk Zone-1 and Chandmari Zone,
- (iv) Supply and Installation of Electromagnetic Flow meters at outlet of Pump house at Selep, outlet of storage reservoir for Burtuk Zone-1 and at outlet of storage reservoir for Chandmari Zone.

10. Information on the implementation progress of the project activities under Tranche-1 as of June 2013 is presented in the following Table.

Table 1: Sub Project Details

Name of Work	Location	Description	Changes if any from approved scope
Tranche-1			
ADB/SIPMIU/01 of 2011: Supplying and Laying distribution system in Burtuk and Chandmari, construction of pump house, installing pump sets and allied	Burtuk Zone 1 Burtuk Zone 2 Chandmari Zone GLSR at Bulbuley Pump house at Selep	(i) Distribution system for Burtuk Zone 1: <ul style="list-style-type: none"> • 63mm -3.52 km (HDPE) • 90mm– 2.16 km (HDPE) • 110mm: 0.19 km (HDPE) • 80mm: 0.94 m (DI) • 100mm: 0.61 km (DI) • 150mm: 3.31 km 200mm: 4.55 km (ii) Distribution system for	Nil

Name of Work	Location	Description	Changes if any from approved scope
works in Gangtok, Sikkim		<p>Burtuk Zone 2:</p> <ul style="list-style-type: none"> • 63mm -3.26 km (HDPE) • 90mm– 0.63 km (HDPE) • 80mm: 0.89 m (DI) • 100mm: 1.65 km (DI) • 150mm: 1.14 km (DI) • 200mm: 1.38 km (DI) <p>(iii) Distribution system for Chandmari Zone:</p> <ul style="list-style-type: none"> • 63mm -3.50 km (HDPE) • 90mm– 0.76 km (HDPE) • 80mm: 0.62 m (DI) • 100mm: 1.9 km (DI) • 150mm: 3.86 km (DI) • 200mm: 0.39 km (DI) • 250mm: 2.15 km (DI) <p>(iv) Pumping main for Burtuk Zone I and Chandmari Area</p> <ul style="list-style-type: none"> • 200mm: 1.18 km (DI) <p>(v) Ground level service reservoir (1,150 KL RCC Tank)</p> <p>(v) Pump house</p> <ul style="list-style-type: none"> • Centrifugal pumps (50 HP) <p>(vi) Electromagnetic full bore meters</p>	

DI- Ductile Iron; HDPE – High Density Poly Ethylene; GLSR - Ground Level Service Reservoir; HP – Horse Power; KL – Kiloliter; km – kilometer; RCC – Reinforced Cement Concrete

11. Civil works under Tranche-1 commenced on December 6, 2011 and the estimated duration of works is 18 months. Physical progress as of June 2013 is 72.00 %. Construction of Pump house and Ground Level Service Reservoir and laying of pumping main for Burtuk Zone I and Chandmari area have been completed. Laying distribution system for Burtuk Zone 1, Zone 2 and Chandmari Zone is under progress.

12. The Semi Annual Environmental Monitoring Report presents the status of sub project implementation, details of compliance with environmental regulations of the Government and policies of ADB, details of compliance with environmental loan covenants, details of complaints received and their redressal and the status of compliance with various aspects of EMP as stated in the IEE reports.

13. Monitoring of compliance with EMP is a continuous activity carried out by the DSMC and SIPMIU. Guidelines on general construction EHS measures to be followed / implemented by the Contractor have been issued to the Contractor. A reporting format to be filled by the Supervisory staff of DSMC on a daily basis on compliance with EMP by the Contractor has been implemented and they are being compiled on a monthly basis. This is the consolidated report on implementation of Environmental Management Plan (EMP) from January to June 2013, and is prepared in compliance with the ADB Policies.

II. ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURE

A. Environmental Legal Requirements

14. Following Regulations are currently in force in India that deals with environmental issues that could apply to infrastructure development. Acts and Rules related to monuments and archeological sites are also listed herein.

- (i) The Water (Prevention and Control of Pollution) Act, 1974, amended 1988
 - The Water (Prevention and Control of Pollution) Rules, 1975
 - The Water (Prevention and Control of Pollution) Cess Rules, 1971
- (ii) The Air (Prevention and Control of Pollution) Act 1981, amended 1987
 - The Air (Prevention and Control of Pollution) Rules, 1982
- (iii) The Environment (Protection) Act, 1986, amended in 1991 and including the following Rules/Notification issued under this Act
 - The Environment (Protection) Rules, 1986, including amendments
 - The Municipal Solid Wastes (Management and Handling) Rules, 2000
 - The Hazardous Wastes (Management and Handling) Rules, 1989
 - Eco Sensitive Zone Notification, Doon Valley, 1989
 - The Bio-Medical Waste (Management and Handling) Rules, 1998
 - Noise Pollution (Regulation and Control) Rules, 2000,
 - Wild Life (Protection) Amendment Act, 2002
 - Environmental Impact Assessment Notification, 2006
 - Environmental Standards of Central Pollution Control Board (CPCB)
- (iv) The Indian Wildlife (Protection) Act, 1972, amended 1993
 - The Wildlife (Protection) Rules, 1995
- (v) The Indian Forest Act, 1927
- (vi) Forest (Conservation) Act, 1980, amended 1988
 - Forest (Conservation) Rules, 1981 amended 1992 and 2003
 - Guidelines for Diversion of Forest Lands for Non-Forest Purpose under the Forest (Conservation) Act, 1980
- (vii) Ancient Monuments and Archaeological Sites and Remains Act 1958
 - Ancient Monuments and Archaeological Sites and Remains Rules 1959
 - Government of India Notification of 1992 under the above-stated Rules

B. Compliance with Environmental Regulations

15. The GoI, EIA Notification of 2006 sets out the requirement for Environmental Assessment in India. The water supply improvement subprojects under Tranche-1 do not fall under the ambit of the EIA Notification, and therefore do not require environmental clearance.

16. Since the Ground Level Service Reservoir (GLSR) at Bulbuley is constructed in forest land, forest clearance under the Forest (Conservation) Act, 1980 is applicable to the water supply subproject under Tranche-1. Tree cutting permission from the State Forest department is also required for this sub project. These clearances have already been obtained.

17. Following Table shows the regulatory requirements of subprojects/components under Tranche-1 and the present status of compliance.

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
Tranche -1					
Gangtok	Storage reservoir (GLSR) for Burtuk and Chandmari wards (ADB/SIPMIU/01 of 2011)	The GLSR site is located on a forest land; transfer of land from Forest Department to Implementing Agency and permission to construct GLSR is required under the Forest (Conservation) Act, 1980	Director of Forests – Himalayan Zoological Park vide letter dated 30.01.12	Nil	Nil
		Tree cutting permission from the Forest Department is required under the Sikkim Private and other Non Forest land Tree Felling Rules, 2006	Divisional Forest Officer, East Territorial Division vide letter dated 14.03.12	Nil	Nil
	Laying distribution system in Burtuk and Chandmari wards (Package No. GTK/WA-1/Tr-1)	Permission from Border Roads Organization and Forest Department for laying pipes along NH 31A	Vide agreement dated 05.06.12 between Border Roads Organization and Water Security & Public Health Engineering Department, Govt. of Sikkim, Vide 500/ED/T, Dated 20/6/12	Nil	Nil

GLSR – Ground Level Service Reservoir

C. Compliance of Environmental Loan Covenants

18. Table 3 shows the environmental safeguard related loan covenants and their compliance status in implementation. All the covenants are being complied in implementation.

19. Tranche-1 subproject has been classified as Category B as per the ADB Environmental Policy, and accordingly IEE report was prepared during PPTA/BTA and was

approved by the ADB. During this implementation stage, the IEE was updated and reapproved by the ADB.

Table 3: Compliance of Environmental Loan Covenants

S. No	Project Specific Covenants (Environmental)	Status / Issues
1	<p>GOI 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).</p> <p>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 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.</p> <p>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</p>	Being complied

ADB – Asian Development Bank; EARP – Environmental Assessment & Review Procedures; EIA – Environmental Impact Assessment; IEE – Initial Environmental Examination; MOEF – Ministry of Environment and Forest; SEIAA – State Environmental Impact Assessment Authority

D. Environmental Organization and Management

20. The main agencies involved in managing and implementing the subproject are:

- (i) The national-level Executing Agency (NEA) for the Investment Program is MOUD;
- (ii) Investment Program Coordination Cell (IPCC) is established in MOUD. IPCC is responsible for overall management of the Investment Program in the city and they include social/environmental safeguard specialists whose tasks include monitoring Program implementation and reviewing and screening the subprojects submitted by State in accordance with subproject selection criteria, including the environmental provisions;
- (iii) National level Steering Committee (NSC) set up by GOI to monitor the use of funds under MFF and overall implementation performance of the Investment Program;
- (iv) State-level Executing Agency (SEA) is responsible for executing the part of the loan falling under the State Government;
- (v) State Investment Program Management and Implementation Unit (SIPMIU) established in SEA and headed by a Program Director (PD). SIPMIU will oversee the Program's environment and resettlement planning. This includes the preparation of all documentation needed for decision-making, contracting, and supervision of work and providing progress-monitoring information to the PD;

- (vi) The SIPMIU shall comprise of a Safeguards and Social Cell staffed with an Environmental Officer (EO). The EO shall be 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) liaising with various Central and State government agencies on compliance matters. The SIPMIU will appoint and manage Construction Contractors (CC) to build elements of the infrastructure who are required to submit Environmental Implementation Plans (EIPs) for SIPMIU approval
- (vii) The SIPMIU is assisted by the DSMC, who is responsible for design the infrastructure, manage tendering of contracts, and supervise the construction process;
- (viii) An Environmental Specialist (ES) in the DSMC is responsible for addressing the environmental issues in the project components during design and implementation. The ES will ensure all mitigation requirements are in contractor bidding documents and EIPs, and will supervise the effective implementation of environmental provisions during construction. In addition, the ES will assist the SIPMIU on the procurement needs and other project implementation aspects and shall play a central role in ensuring capacity building on environmental management of the SIPMIU, Contractor and Line Departments through capacity development support and training;

21. No grievances were received during the reporting period. A grievance redress procedure is being established. 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 Gangtok. 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. Details of grievance redressal mechanism for the sub project are presented as **Annexure 1**.

III. EMP COMPLIANCE STATUS

22. This section presents the compliance status of Environmental Management and Monitoring Plans of tranche-1 subproject under implementation.

23. Under this subproject, at present pipe laying activities are in progress. No environmental quality monitoring was conducted during the reporting period. The Contractor has not prepared any Environmental Implementation Plan. He is following the EMP, which is part of the IEE and Contract document. In addition to that, guidelines on general construction EHS measures to be followed / implemented by the Contractor have been issued to the Contractor.

Table 4: Compliance of EMP and OH&S Norms

Mitigation Measures and Location	Compliance	Remarks	Follow Up Actions Proposed
Construction Phase			
<p>Location of GLSR in Zoological Park Area</p> <ul style="list-style-type: none"> • Obtain permission from forest department for SR site • Sensitive site layout design: develop the layout design such that minimum trees are cut • Include in the design/construction any conditions/suggestions by Zoo Authority • Provide proper fencing of the site before start of excavation work; this will avoid any entry of animals into the site • Inform Zoo Authorities before start of construction work and require contractors to store materials required for the work outside the zoo area and limit construction work to day-light hours, and, • Plant two trees for each tree removed 	Satisfactory	<p>Permission obtained from Forest Department</p> <p>Tree plantation done within the GLSR site</p> <p>No fencing is provided around the site</p> <p>Retaining wall has been constructed on the hill side to resist land sliding/soil erosion</p>	Contractor is instructed to provide adequate measures as per the EMP
<p>Sources of Materials</p> <ul style="list-style-type: none"> • Use quarry sites and sources permitted by government;; • Verify suitability of all material sources and obtain approval of State Investment Program Management & Implementation Unit (SIPMIU); and • Submit to DSMC on a monthly basis documentation of sources of materials. 	Satisfactory	Construction material is being procured from government approved mining/quarry site	-
<p>Air Quality</p> <ul style="list-style-type: none"> • Consult with SIPMIU/DSMC on the designated areas for stockpiling of clay, soils, gravel, and other construction materials; • Excavate the Storage Reservoirs (SR) foundations at the same time as the access roads (if needed) are built so that dug material is used immediately, avoiding the need to stockpile on site; • Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather; • Bring materials (aggregates) as and when required; • Use tarpaulins to cover sand and other loose material when transported by vehicles; 	Satisfactory	<p>Excavated material is being mostly used in the construction. Surplus earth is transported to far away areas and disposed off safely. Others being done</p> <p>Materials transported from source to site through the city should be covered properly.</p>	Contractor instructed to follow dust suppression measures

Mitigation Measures and Location	Compliance	Remarks	Follow Up Actions Proposed
<ul style="list-style-type: none"> • Fit all heavy equipment and machinery with air pollution control devices which are operating correctly; and • Clean wheels and undercarriage of vehicles prior to leaving construction site. 			
<p>Surface water quality</p> <ul style="list-style-type: none"> • Avoid stockpiling of earth fill especially during the monsoon season unless covered by tarpaulins or plastic sheets; • Prioritize re-use of excess spoils and materials in the construction works. If spoils will be disposed, consult with SIPMIU/DSMC on designated disposal areas; • Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies; • Place storage areas for fuels and lubricants away from any drainage leading to water bodies; • Dispose any wastes generated by construction activities in designated sites; and • Conduct surface quality inspection according to the Environmental Management Plan (EMP). 	Partially satisfactory	Entry of runoff into the GLSR site observed which is being diverted by forming drains.	Contractor instructed to construct a temporary/kutcha unlined drain
<p>Noise levels</p> <ul style="list-style-type: none"> • 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; • Provide prior information to the local public about the work schedule; • Require horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach; • Ensure that there are no old and sensitive buildings that may come under risk due to the use of pneumatic drills; if there is risk, cut the rocks manually by chiseling; • 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 • Maintain maximum sound levels not exceeding 80 decibels (dB) when measured at a distance of 10 m or more from the vehicle/s. 	Satisfactory	No noise generating works are being conducted at present	-

Mitigation Measures and Location	Compliance	Remarks	Follow Up Actions Proposed
<p>Landscape and Aesthetics</p> <ul style="list-style-type: none"> • Avoid stockpiling of excess excavated soils; • Avoid disposal of any debris and waste soils in the forest areas and in or near water bodies/rivers; • Coordinate with GMC for beneficial uses of excess excavated soils or immediately dispose to designated areas; • Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas; and • Request SIPMIU/DSMC to report in writing that the necessary environmental restoration work has been adequately performed before acceptance of work. 	Satisfactory	Excess material is being utilized within the sites.	-
<p>Accessibility & Traffic</p> <ul style="list-style-type: none"> • Plan pipeline work in consultation with the traffic police; • Conduct work during light traffic; • Plan work such that trench excavation, pipe laying, and refilling including compacting, at a stretch is completed in a minimum possible time; • Provide for immediate consolidation of backfilling material to desired compaction to avoid future settlement risk - this will allow immediate road restoration and therefore will minimise disturbance to the traffic movement; • Do not close the road completely, ensure that work is conducted onto edge of the road; allow traffic to move on one line; • In unavoidable circumstances of road closure, provide alternative routes, and ensure that public is informed about such traffic diversions; • In case of closure of main roads, provide information to the public through media – daily news papers and local cable television (TV) services, about the need and schedule of road closure, and alternative routes; • At all work sites public information/caution boards shall be provided – information shall inter-alia include: project name, cost and schedule; executing agency and contractor details; nature and schedule of work at that road/locality; traffic diversion details, if any; entry restriction information; competent official's name and contact for public complaints. 	Satisfactory	Work is being conducted at the edge of road without disturbing the traffic	<p>Work is currently conducted in the outer areas of the city with less traffic; contractor is instructed to follow the instructions strictly in the city area with roads carrying considerable traffic</p> <p>Contractor is instructed to provide information and caution boards</p>

Mitigation Measures and Location	Compliance	Remarks	Follow Up Actions Proposed
<p>Socio-Economic – Income</p> <ul style="list-style-type: none"> • Leave space for access between mounds of excavated soil; • Provide wooden planks/footbridges for pedestrians and metal sheets for vehicles to allow access across trenches to premises where required; • Consult affected businesspeople to inform them in advance when work will occur; • Provide prior public information about the work schedule in particular locality and the traffic diversions/changes in any – information shall disseminated through local papers and cable television services; • Provide sign/caution/warning boards at work site indicating work schedule and traffic information; prevent public entry into work sites through barricading and security; and • Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints. 	Satisfactory	Presently work is being conducted in the outer areas where there are no commercial areas/ habitation	-
<p>Socio-Economic - Employment</p> <ul style="list-style-type: none"> • Employ at least 50% of the labour force, or to the maximum extent, local persons if manpower is available; and • Secure construction materials from local market. 	Satisfactory	Local unskilled labour has been employed	-
<p>Occupational Health and Safety (Hand S)</p> <ul style="list-style-type: none"> • Implement measures such as: (a) excluding public from the site; (b) ensuring all workers are provided with and use Personal Protective Equipment; (c) Health and Safety Training (H and S) for all site personnel; (d) documented procedures to be followed for all site activities; and (e) documentation of work-related accidents; • Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the site; • Secure all installations from unauthorized intrusion and accident risks; • Provide supplies of potable drinking water; • Provide clean eating areas where workers are not exposed to hazardous or noxious substances; • Provide H and S orientation training to all new workers to ensure 	Partially Satisfactory	Contractor is not following proper health & safety measures	Contractor is instructed to follow the standard safety procedures

Mitigation Measures and Location	Compliance	Remarks	Follow Up Actions Proposed
<p>that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;</p> <ul style="list-style-type: none"> • 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; • Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas; • Ensure moving equipment is outfitted with audible back-up alarms; • Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate; and • 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. 			
<p>Community Health and Safety.</p> <ul style="list-style-type: none"> • The construction contractor will be required to: • Plan routes to avoid times of peak-pedestrian activities. • Liaise with SIPMIU/DSMC in identifying risk areas on route cards/maps. • Maintain regularly the vehicles and use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure. • Provide road signs and flag persons to warn of dangerous conditions, in case of location near the road. 	Partially satisfactory	Contractor is not following proper health & safety measures	Contractor is instructed to follow the standard safety procedures
<p>Work Camps</p> <ul style="list-style-type: none"> • Consult with SIPMIU/DSMC before locating project offices, sheds, and construction plants; • Minimize removal of vegetation and disallow cutting of trees; • Provide water and sanitation facilities for employees; 	Satisfactory	Most of the workers are drawn from local communities; outside workers are provided with rented accommodation in the city with all basic facilities	-

Mitigation Measures and Location	Compliance	Remarks	Follow Up Actions Proposed
<ul style="list-style-type: none"> • Prohibit employees from poaching wildlife and cutting of trees for firewood; • Train employees in the storage and handling of materials which can potentially cause soil contamination; • Recover used oil and lubricants and reuse or remove from the site; • Manage solid waste according to the following preference hierarchy: reuse, recycling and disposal to designated areas; • Remove all wreckage, rubbish, or temporary structures which are no longer required; and • Request SIPMIU/DSMC to report in writing that the camp has been vacated and restored to pre-project conditions before acceptance of work. 			
<ul style="list-style-type: none"> • Consult the city authorities to identify any buildings at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity; • Complete work in these areas quickly; • Consult municipal authorities, custodians of important buildings, cultural and tourism authorities and local communities in advance of the work to identify and address key issues, and avoid working at sensitive times, such as religious and cultural festivals. 	Satisfactory	Work at present is conducted at outer areas of the city where there are no buildings nearby	-

DSMC – Design, Supervision and Management Consultant; GMC – Gangtok Municipal Corporation; SIPMIU – State Investment Program Management and Implementation Unit; SR – service reservoir;

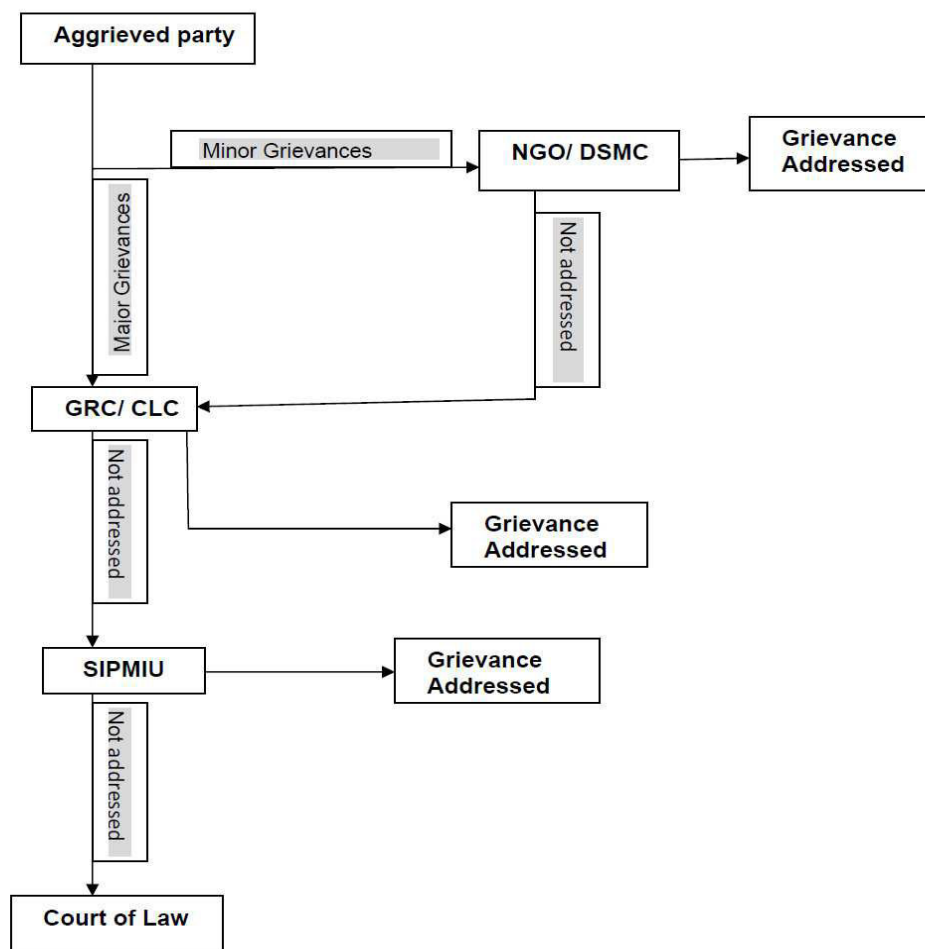
IV. OBSERVATIONS, RECOMMENDATIONS AND ACTIONS TAKEN

24. As presented in this report, tranche-1 of this Investment Program is being implemented in compliance with the loan covenants, subproject selection criteria and overall EARF. There are some non-compliant EMP activities (construction safety related) noticed in the monitoring report; proper actions need to be initiated for compliance of those items. No ambient air quality monitoring was conducted by the contractor during the period.

25. Necessary instructions have been given to the contractor by DSMC/Project Manager to specifically focus on safety aspects, and in general on EMP measures to improve the compliance.

Appendices

Appendix 1: Grievance Redressal Mechanism



CLC: City Level Committee, GRC: Grievance Redress Committee, NGO: Non- Government Organisation, DSMC: Design Supervision Management Consultant, SIPMIU: State Investment Program Management and Implementation Unit

Appendix 2: Site Photographs

	
<p>Side wall work in progress – GLSR at Bulbuley</p>	<p>Reinforcement in Roof Slab</p>
	
<p>Pipe laying at Burtuk-II– 150 mm DI pipes</p>	<p>Pipe laying at Chandmari – 150 mm DI pipes</p>
	
<p>HDPE Pipe after jointing</p>	<p>Two HDPE pipes are being jointed</p>



Road restoration in progress



Road restoration in progress



Break Pressure Tank work in progress








Break Pressure Tank work in progress



Pipe laying in Burtuk zone-1, 200 mm Dia pipes



Pipe laying between WTP at Selep and Tashi view point for Burtuk Zone-1

	
<p>Roof Slab Concrete Work –GLSR site Bulbuly</p>	<p>Roof slab concrete work-GLSR site Bulbuley</p>
	
<p>GLSR, Base slab work progress</p>	<p>Base slab work progress</p>
	
<p>150 mm DI Pipe Laying Works in Chandmari Zone-Between 2nd Mile and Chandmari Forest Check Post</p>	<p>150 mm DI Pipe Laying Works in Chandmari Zone-Between 2nd Mile and Chandmari Forest Check Post</p>



Pipe Laying in Chandmari Zone-150 mm DI Pipes



Pipe Laying in Chandmari Zone-150 mm DI Pipes



Hydrostatic Tests Conducted in Chandmari Zone



Hydrostatic Tests Conducted in Chandmari Zone



Notice Board with Project Details at the WTP site at Selep



GLSR Site at Bulbuley- Work of retaining wall in progress



GLSR Site at Bulbuley- GLSR completed and Retaining Wall construction in progress



GLSR Site at Bulbuley- GLSR completed and Retaining Wall construction in progress