

Chapter 1. Environmental and Social Management Framework - Summary

1.1 INTRODUCTION

The proposed GEF-ESCBS project aims to promote environmentally sustainable city bus transport within Indian cities specifically within the demonstration cities of Bhopal, Chandigarh, Jaipur and Mira Bhayander, by providing efficiency and service improvements. The project is designed to complement the ongoing project, Bus Funding Scheme of the Gol under the JnNURM, through additional activities that would help realize its full potential.

The ESMF identifies the potential impacts in the project cities due to the planning, design, implementation and operation of the projects and outlines the management measures required for an effective addressal of the same. The adoption of this framework shall ensure that the projects meet the national and state level environmental and social requirements and are also consistent with the applicable safeguards policies and provisions of the World Bank.

1.2 APPLICATION OF THE ESMF

This ESMF lays down the principles and guidelines for addressal of environment and social safeguard impacts due to the implementation of the ESCBS in the selected cities, to be taken up as part of the Component 2 of the project.

The key objectives of the ESMF are to:

- Provide a framework for the integration of social and environmental aspects at all stages of the project planning, design, execution and operation of various sub-components
- Ensuring positive social and environmental impacts of sub-projects and avoid/minimize and manage any potential adverse impacts

Application of ESMF to the sub-projects enable preparation of a standardized environmental and social assessment documents for appraisal and implementation. This shall enable identification of environmental social impacts that have to be addressed in the DPRs or EA / SA.

These projects shall be subjected to necessary environmental and social assessments, as mandated by the Gol / state governments and conforming to the safeguard policies of the World Bank Environmental and Social Safeguard requirements. If any of the projects fall under CRZ, irrespective of the prior EC clearance, these projects have to obtain clearance from the State Coastal Zone Management Authority

1.3 APPLICABLE LEGISLATIONS & POLICIES

The Environment (Protection) Act, 1986 provides for protecting and improvement of overall environment in the region. While this act is applicable to the project area, several acts arising out of this legislations are applicable to the sub-projects. Some of the important acts applicable are listed below:

- Notification on Environment Impact Assessment of Development projects (and amendments)
- Wildlife Protection Act
- Water (Prevention and Control of Pollution) Act (and subsequent amendments)
- Air (Prevention and Control of Pollution) Act (and subsequent amendments)
- Noise Pollution (Regulation and Control) rules 2000
- Central Motor Vehicle Act & Central Motor Vehicle Rules
- Hazardous Wastes (Management and Handling) Rules
- Chemical Accidents (Emergency Planning, Preparedness and Response) Rules

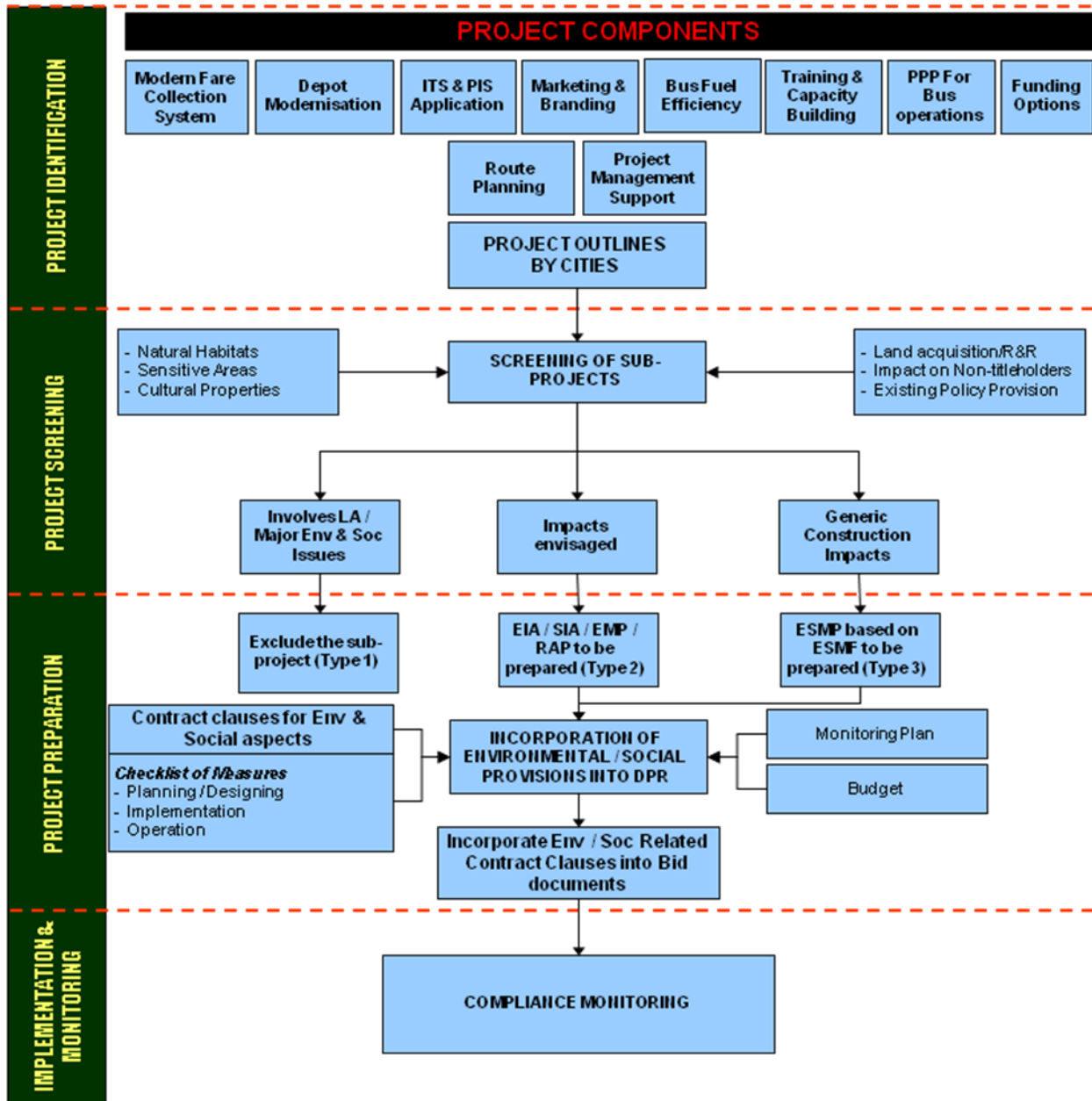


Figure 1-1: Sub-Project Management Framework

While the above acts could be judged to be applicable, the applicability of Coastal Regulation Zone (CRZ) notification, 2011 could only be determined with the finalisation of depot sites in Mira

Bhayander. If any of the sites are in this zone, the CRZ Notification, 2011 will be applicable. Other applicable legislations of the Government of India are indicated below

- The Buildings and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
- Petroleum Act, 1934; and
- The Factories Act, 1948

With respect to the social and resettlement issues, at the central level, the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 and the National Resettlement and Rehabilitation Policy, 2007 are the applicable policies. However, currently the project does not envisage any land acquisition. While at the state level, respective state governments have formulated a resettlement policy for various multilaterally funded projects being undertaken in the states and these would be applicable.

In addition, the World Bank policies such as Environmental Assessment OP 4.01, Cultural Properties OP 4.11, and Involuntary Resettlement OP 4.12 will be applicable in sub-projects involving civil construction activities and removal of squatters / encroachers.

1.4 GAPS IN REGULATORY SYSTEM

The environmental and social impacts that are likely in the project are to be addressed in accordance with the applicable policies, guidelines and legislations in force in the country and in accordance with the World Bank Guidelines. A critical review of legislative support available for addressing the identified impacts in the project indicates a comprehensive legal regulatory system that exists in India. There are no gaps identified in the regulatory system were identified in the project.

1.5 ENVIRONMENTAL AND SOCIAL SCREENING

The purpose of “environmental/social screening” is to get a preliminary idea about the degree and extent potential environmental impacts of a particular sub-project, which would subsequently be used to assess the need for further environmental/social assessment. Screening shall be undertaken to categorise the sub-projects into:

- Type 1 – The sub-projects that would involve land acquisition and/or significant social impacts. These sub-projects would need to be excluded from further consideration in the project.
- Type 2 – The sub-projects that require a full review and are likely to involve environmental impacts and impacts on non-titleholders that would require a EIA / SIA and project specific EMP / RAP.
- Type 3 – The sub-projects that would require limited review involving generic environmental and social impacts that could be addressed through a generic ESMP.

While the screening is conducted for sub-projects in all the four current project cities presently, any candidate cities and further candidate sites that would be included in the project would also need to undergo the screening process mentioned. The sub-projects that have been categorised and the magnitude of impacts, the nature of project activities and project vicinity, is worked out and presented in **Table 1-1**.

Table 1-1: Screening of Sub-Projects

City	Component	Sub-Project Category	Environmental impacts							Resettlement impacts					
			No impacts	Construction impacts					Cultural resources ¹	Sensitive areas	No impacts	LA Impacts	Structures / Assets	CPR ²	Non-titleholder impacts
				Air	Noise	Water	Soil	Ecology							
Bhopal	Modern and well equipped depots – Equipments / solar panels	Type – 3			L						√				
Chandi garh	Modern and well equipped depots – Equipments / solar panels	Type – 3			L						√				
	ITS – GPS / AVLS and PIS along with modern control room				L						√				
	Depot construction	Type – 2		M	M	M	M				√				
Jaipur	Modern and well equipped depots – Equipments / solar panels	Type – 3			L						√				
	Depot construction	Type – 2		M	M	M	M				√				
Mira - Bhaya nder	ITS – GPS / AVLS and PIS along with modern control room	Type – 3			L						√				
	Modern and well equipped depots – Equipments / solar panels				L						√				
	Depot construction	Type – 2		M	M	M	M	M		L	√				

Though no impacts linked to LA and R&R have been identified with respect to the sub projects screened currently, the likelihood for sub projects with impacts on non-titleholders cannot be ruled out

Legend:

Type – 1	Projects with Land acquisition and/or significant impacts on environmental and social aspects
Type – 2	Projects with environmental impacts and impact on non-titleholders but does not involve land acquisition
Type – 3	Projects with only generic construction impacts and no R&R impacts

Note: There are no Type – 1 candidate sub projects that exist in the GEF-ESCBS that need to be excluded. However, in future identification of any additional candidate sites if undertaken, would need to be screened for the exclusion criteria.

¹ No cultural properties are identified in the project sites proposed for development. Likelihood of chance finds though exists, needs to be addressed through the OP / BP 4.11, Physical Cultural Resources and provisions of the ESMF on chance find cultural properties will be applied.

² Common Property Resources refers to community assets as place of congregation, community halls, social facilities etc.,

1.6 POTENTIAL IMPACTS & MANAGEMENT MEASURES

No major impacts anticipated from the activities involved in undertaking the project components other than minor construction impacts associated with the erection of equipment and construction of Depots. Some of these impacts however would be of varying intensity, though minor, with respect to the location of the components.

The Impacts being analysed are associated with site selection and project location on environment related impacts as there would be no impacts on communities. In case of impacts associated with construction of depots, except in case of Mira Bhayander, only generic construction impacts limited to air pollution and noise impacts are anticipated. The management measures for identified impacts are worked out which are to be elaborated and suitable for implementation during the course of the project design. The impacts and management measures that are worked out are indicated in the Table 1-2 below.

Table 1-2: Environmental Management Matrix of Measures to be Included in ESMP / EMPs

Project Component / Activity	Environmental / Social Impact	Stage of Project where Measures are Proposed			Monitoring / Key Performance Indicators
		Planning	Construction	Operation	
Construction of Depots	Air, water, soil contamination	✓			<ul style="list-style-type: none"> Percent compliance with Checklist as per Annex-2: Checklist Of Environmental & Social Aspects for Conformance With ESMF
Central Workshop and Additional Depots	Land use incompatibility	✓			<ul style="list-style-type: none"> Distance of Site from Habitations (in km) No. of consultations conducted
	Safety of Residents	✓			<ul style="list-style-type: none"> Site inspection to determine available width of access road when close to habitation area
				✓	
	Air, water, soil contamination	✓			<ul style="list-style-type: none"> Compliance with NOC from SPCB
	Waste Generation				✓
Site Clearance at Depot sites	Loss of top soil		✓		<ul style="list-style-type: none"> Quantity of Waste Generated and Disposed per Month Percent staff attendance for training for each session
	Chance find of cultural properties / relics / archaeological properties		✓		<ul style="list-style-type: none"> Specific report to PIU / PMU on chance find immediately after discovery. Compliance with chance find procedures
Installing Depot Equipments / solar panels	Air and Noise pollution from construction activities		✓		<ul style="list-style-type: none"> Vehicular emission checks every six months
Construction of modern control room					
Storage use and disposal of new / used Oil at Depots	Potential oil spills on drains from depots reaching public storm waster drains and river			✓	<ul style="list-style-type: none"> Quantity of oil stored, reused and disposed Oil and Grease concentration in Water Quality analysis
Storage of inflammable materials (chemicals, oil a/c gas cylinders, etc.)	Fire hazard			✓	<ul style="list-style-type: none"> No. Of Safety personnel employed with contractor No. of Periodic Fire drills every six months
				✓	<ul style="list-style-type: none"> Periodic Compliance audit with safety measures specified (every quarter)
Storage, use and disposal of new / used Coolant	Contamination of storm water drains / river			✓	<ul style="list-style-type: none"> No spills affecting water quality Percent Compliance with management measures
Storage of new / used tyres	Water stagnation and mosquito breeding			✓	<ul style="list-style-type: none"> Visual check every week
Storage / disposal of Batteries	Potential leakages from stored batteries affecting soil and water			✓	<ul style="list-style-type: none"> Visual inspection for measures recommended every month

Project Component / Activity	Environmental / Social Impact	Stage of Project where Measures are Proposed			Monitoring / Key Performance Indicators
		Planning	Construction	Operation	
Storage / disposal of used cleaning Rags	Air and Water pollution			✓	<ul style="list-style-type: none"> Visual inspection as per recommended procedure every week
Storage of new / used solvents / chemicals / oil / grease	Soil & water contamination			✓	<ul style="list-style-type: none"> Storage and Handling Plan for new / used solvents / chemicals / oil / grease
Storage and disposal of other materials like parts / drums / packaging materials	Soil and water contamination			✓	<ul style="list-style-type: none"> Visual inspection as per recommended procedure every week
Storage and use of A/c gas units	Air pollution			✓	<ul style="list-style-type: none"> Storage and Handling Plan for A/c gas units
Servicing and repair work	Contamination of public storm water drains and rivers			✓	<ul style="list-style-type: none"> No. of spills affecting water quality reported
	Occupational Health and Safety			✓	<ul style="list-style-type: none"> Issuing records and Usage statistics of PPE Visual inspection of compliance with implementation of recommended measures
Use of electrical equipments, air compressors and tools	Noise			✓	<ul style="list-style-type: none"> ESO to monitor noise levels using sound level meter at the nearest residential properties to construction activities for comparison against standards No. of noise complaints received every quarter
	Electricity Consumption	✓			
	Electric shocks / fire			✓	<ul style="list-style-type: none"> Emergency Practice drills
Movement of Buses on the access road to Depot	Traffic congestion, Noise			✓	<ul style="list-style-type: none"> No. of noise complaints recorded every quarter No. of complaints investigated
Movement of Buses in the Depot	Dust generation	✓			<ul style="list-style-type: none"> Environmental Manager to undertake daily visual checks Number of dust complaints.
	Noise	✓			
Movement of materials	Noise			✓	<ul style="list-style-type: none"> No. of noise complaints recorded every quarter No. of complaints investigated
Bus washing	Depletion of ground water resources			✓	<ul style="list-style-type: none"> Regular checks of water harvesting system
	Quantity / quality of storm water drains and rivers from large quantity of waste water from depots			✓	<ul style="list-style-type: none"> No contamination of surface waters Regular visual water monitoring
Use of generators	Contamination of soil, water streams from diesel spills			✓	<ul style="list-style-type: none"> No spills affecting water quality
	Noise			✓	<ul style="list-style-type: none"> No. of noise complaints recorded every quarter No. of complaints investigated Visual inspection for compliance with implementation of recommended measures
Spray painting	Air pollution			✓	<ul style="list-style-type: none"> Staff to sign training sheet confirming attendance
Washing of maintenance shed floor	Water pollution in storm water drains and rivers			✓	<ul style="list-style-type: none"> No spills affecting water quality

The responsible entity for implementation of the management measures in Planning stage will be PIU / Project Consultant; in Construction stage, it will be the Contractor in charge of the construction works and; in Operation stage, it will be the Implementing Agency i.e., the PIU and the Depot Manager in-charge of the depot operations.

1.6.1. Involuntary Resettlement

Sub-projects conceived under ESCBSP currently do not involve any relocation of squatters and encroachers nor does it envisage large scale social and resettlement impacts. However, in the event of such impacts occurring in the project area, entitlement framework suggested as part of the ESMF will need to be adhered to. All R&R activities should be completed before the construction

activity starts, on any project. The impacts and corresponding entitlements considered in such cases have been presented in Table 1-3.

Table 1-3: Entitlement Framework for ESCBSP

Category		Type of Loss	Unit of Entitlement	Entitlement	Details
A	Non-Titleholders	Encroachers	Household		<ul style="list-style-type: none"> • Will receive no compensation for land but assistance for shifting assets to the vulnerable groups (SC, ST, Women Headed Households and poor). Such assistance shall be given only to residential and commercial properties; • Encroachers will be notified a time in which to remove their assets; • Right to salvage materials from the demolished structure.
		Squatters	Household	Assistance	<ul style="list-style-type: none"> • Right to salvage materials from the demolished structure • Shifting assistance of Rs. 10,000 for each displaced family. • Additional lump sum assistance of Rs. 10,000 per household to vulnerable groups such as – female headed households, households with disabled family members, households below poverty line, scheduled tribe and scheduled caste households etc.
B	Informal Business	Mobile and ambulatory vendors and Kiosks	Household	Assistance	<p>To be provided assistance as per the Street Vendor's Act, 2014:</p> <ul style="list-style-type: none"> • <i>Provided with a certificate to vend</i> • <i>Relocation/eviction shall be carried out by giving 30days notice</i> • <i>Relocated to a defined vending zone.</i>
C	Community infrastructure, cohesion and amenities	Common property resources	Community	Conservation, protection, compensatory replacement	<ul style="list-style-type: none"> • The common property resources and the community infrastructure shall be relocated in consultation with the community
D	Disruption	Temporary construction related impacts	Household	Assistance may be considered in special cases.	<ul style="list-style-type: none"> • Access to be maintained and when disruption occurs, losses can be substantiated, "assistance" will be considered for business losses.

1.6.2. Cultural Property Resources

Currently, there are no cultural property resources in the sub-project areas conceived in the GEF-ESCBS. If any candidate sites and candidate cities that are included in the project at later stages, all necessary and adequate care shall be taken to minimize impact on cultural properties (which includes cultural sites and remains, places of worship including temples, mosques, churches and shrines, etc., graveyards, monuments and any other important structures as identified during project preparation and all properties/sites/remains notified under the Ancient Sites and Remains Act). No work shall spill over to these properties, premises and precincts.

Civil works that involve earth excavation are likely to involve “Chance Find” of archaeological properties and remains. It should be ensured that required care is taken from the crew to not damage these relics or remains that are found eg. an idol, ancient implements, fossils etc. Procedures laid down in the framework ESMP shall be followed.

1.7 CONSULTATION FRAMEWORK

The Participation Framework envisages involvement of all the stakeholders at each stage of project planning and implementation. The PIU will be responsible for ensuring participation of the community at sub-project level. Involvement of the community is not limited to interactions with the community but also disclosing relevant information pertaining to the project tasks.

Community participation shall be undertaken at the project planning and implementation stages:

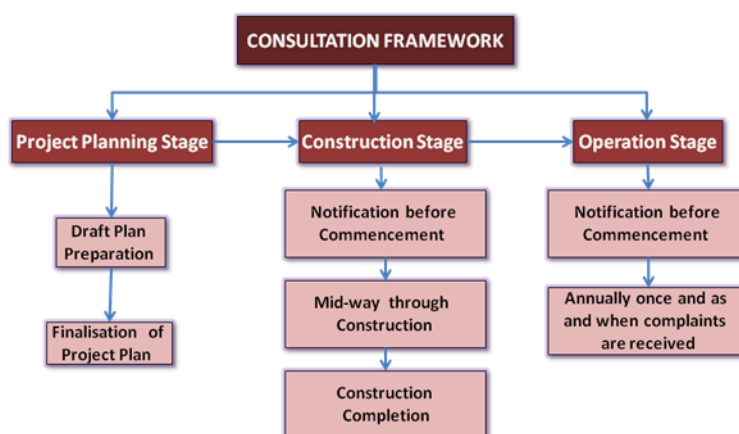


Figure 1-2: Consultation Framework

Planning Stage – for disseminating information pertaining to the project, work schedule and the procedures involved; finalisation of project components with identification of impacts, entitled persons, mitigation measures and Grievance Redressal; and

Implementation Stage –

- Construction Stage- for addressing temporary impacts during construction and monitoring for transparency in the project implementation and Grievance Redressal, if any.
- Operation Stage - for notifying commencement of project after completion of construction works and to address any grievances received during the project operation.

1.7.1. Information Disclosure

Information disclosure procedures are mandated to provide citizen centric information as well as all documentation necessary for addressing any queries under Right to Information Act that came into effect from October 2005. A computer based information management systems shall be employed to disseminate information pertaining to the project on the MoUD’s and various IA’s website. Disclosure of information will enhance governance and accountability specifically with respect to strengthening of monitoring indicators to help MoUD and the World Bank monitor compliance with the agreements and assess impact on outcomes.

A designated Information Officer shall be responsible for ensuring timely and complete dissemination in accordance with this policy. Information shall be provided in a timely and regular manner to all stakeholders, affected parties, and the general public. Access by the public to information and documentation held or generated by MoUD and IAs will facilitate the transparency, accountability, and legitimacy as well as operations overseen by them. the following information shall also be displayed / disseminated, wherever applicable:

- Project specific information need to be made available at each construction site through public information kiosk
- Project Information brochures shall be made available at all the construction sites as well as the office of IAs and the office of Engineer in charge
- Reports and publications, as deemed fit, shall be expressly prepared for public dissemination e.g., vernacular versions of the EIAs, ESMPs, RAPs as applicable along with English versions, Executive summary of the project documents in local language.

1.8 PERFORMANCE INDICATORS AND MONITORING & REPORTING

During the implementation and operation stages of the project, key performance indicators of environmental and social safeguard measures are to be monitored to provide inputs for assessing the extent of expected outcomes achieved. The Performance Indicators for assessing the ESMF Compliance during the project preparation period are indicated as below:

- **Percent compliance** with the checklist of environmental and social measures to be included in the DPRs. The percent compliance could be assessed by quantifying through a simple count of the addressed and non-addressed criteria listed
- **No. Of Consultations** with stakeholders conducted during the project preparation period.
- **Budget for ESMP Implementation** – The ESMF provided a minimum budget required for meeting the general management measures likely to be encountered. The DPR should include budget for any specific measures based on the site criteria to address the issues. Adequacy of the budget should be ascertained to implement the ESMP in the project implementation period

Assessing the ESMP / EMPs prepared across various PIUs in the project with the above indicators should be able to provide adequate basis for comparison and evaluation across the PIUs in the project.

PIUs will be responsible for compliance monitoring and reporting to the PMU at the centre. An officer in PIU shall be designated as the Environment & Social Safeguards officer to ensure compliance of the project activities with the World Bank safeguards as well as oversee implementation of environment and social provisions as per the ESMF, EMP and RAP where applicable.

The objectives of Monitoring and Evaluation include:

- Project management and timely completion;
- Successful completion of Environmental management, R&R activities identified in the EMP and R&R plan as per the implementation schedule;
- Compliance with the Environmental policy, R&R policy and entitlement framework.

The Environment and social officer shall play a key role in reporting the progress of implementation as well as compliance to the PIU, PMU and the World Bank.

1.9 GRIEVANCE REDRESSAL MECHANISM

Grievance redressal mechanism is envisaged as a forum for people to express their dissatisfaction over environmental pollution from construction or operation activities, compensation and R&R provisions.

The current proposed projects in the 4 cities do not envisage any land acquisition impacts. Impact on environment and social aspects are also limited in nature and quantum. Assessment of the current situation of grievance redressal in the selected IAs has revealed that there is a sound system in place in all the four cities. Therefore it is proposed to continue with the existing grievances redressal mechanisms of the IAs.

However, in case of new projects that may involve high environment and social impacts, a Grievance Redressal Committee (GRC) shall be constituted within the PIU to monitor and review the progress of implementation of the EMP / ESMP and rehabilitation and resettlement plan for the affected families. The GRC shall also carry out post implementation environmental and social audits wherever EMP / ESMP / resettlement activities are to be undertaken. The committee shall include the following members:

- Heads of the IAs as the Chairman
- Environment and Social officer of the PIU;
- Environment and Social officers of the PMU;
- A representative of a voluntary organization;
- Representative/s of the affected community (or communities)

The functions of the Grievance Redressal Committee shall be:

- to publicize within the city the list of affected persons, if any and the functioning of the grievance redressal procedure established hereby;
- to publicise the contact numbers of consumer cell, helpline and complaint cell at locations of high visibility to provide grievances of any environment pollution, cleanliness of operational areas, safety and accidents;
- to evaluate grievances from affected persons concerning the application of the Entitlement Policy;
- to recommend to the Environment and Social Officer, PIU as the case may be, solutions to such grievances from community and affected persons as applicable;
- to communicate the decisions to the complainants & claimants;
- to hear appeals from persons, households or groups who, not being affected persons, believe that they are qualified to be recognized as affected persons, to recommend to the PIU whether such persons should be recognized as affected persons, and to communicate the decision of the PIU in this regard to the Claimants;
- To ensure that all notices, forms, and other documentation required by Claimants are made available in local language.

The suggested Grievance Redressal Mechanism devised is applicable to all the project cities considered under the ESCBS.

1.10 CAPACITY BUILDING AND TRAINING

The Environmental and Social Officers involved in the project need to be provided the basic training required for environmental awareness followed by specific aspects of Bus Sector Projects along with Environmental implications in the project. The training should cover basic principles of environmental assessment and management; mitigation plans and programmes, implementation techniques, monitoring methods and tools. Specific issues of Urban Environmental Management

would need to be undertaken in separate sessions. Typical modules that should be present for the training session are:

- Sensitization of the project implementing agencies on environment and social aspects
- Introduction to Environment, Social and Resettlement Aspects
- Environment, social and resettlement Considerations in Urban Transport Projects with special reference to Bus Transport
- Review of EA/EMP & SIA/RAP and Integration into Design
- Improved co-ordination within Nodal Departments
- Special Issues in ESCBS
- Role during construction
- Monitoring & Reporting System

Target groups for training would be the environment and social officers of PMU and PIU for all the sessions and engineers / planners / managers for orientation sessions. The training sessions should be followed with site visits to have a ‘hands on’ approach to the program. While all the modules suggested are applicable for Chandigarh, Jaipur and Mira Bhayander, only selected modules are suggested for Bhopal, given the limited intervention in terms of construction activities.

1.11 BUDGET FOR ESMF IMPLEMENTATION

In view of the environmental and social management measures suggested above to be implemented necessary budgetary provisions should be made in the DPRs for the individual projects. Budget for each of the project should include the environmental management costs other than the good engineering practices, cost of environmental and resettlement monitoring.

Towards implementation of the ESMF, a total budget of INR 26.49 lakhs has been worked out for the four cities. Precautionary budget provision for environmental monitoring is proposed to take care of any monitoring requirements that may arise during the course of preparation of EMP. Rest of the depot sites in the cities currently in the ESCBS are not close to habitations that may cause environmental pollution.

1.12 UPDATION AND REVISION OF ESMF

The ESMF would be utilized for screening of projects as well as implementation of the specified environmental and social provisions in the sub-projects of GEF-ESCBS. Any factors that would have implications on compliance to World Bank, Government of India or respective state government environmental regulations that arise during the course of project implementation and not addressed through this ESMF would need to be addressed through updation of the ESMF.