

Resettlement Plan

July 2014

**IND: Kolkata Environmental Improvement
Investment Program (Tranche 1) – Sewerage and
Drainage Subproject (Packages SD04 and SD06)**

Prepared by the Kolkata Municipal Corporation for Asian Development Bank

This is an updated version of the draft originally posted in May 2012 and revised on Jun 2013 available on <http://www.adb.org/projects/documents/kolkata-environmental-improvement-investment-program-t1-rp>

CURRENCY EQUIVALENTS

(as of 15 August 2012)

Currency Unit	=	Indian rupee/s (Re/Rs)
Re1.00	=	\$0.0181
\$1.00	=	Rs55.175

ABBREVIATIONS

AAI	—	Airport Authority of India
ADB	—	Asian Development Bank
AP	—	affected person
C&P	—	consultation and participation
CBO	—	community-based organization
CSTC	—	Calcutta State Transport Corporation
CTC	—	Calcutta Tramways Company
DMA	—	district-metered area
DSC	—	design and supervision consultant
EMP	—	environmental management plan
FGD	—	focus group discussion
GAP	—	gender action plan
GIS	—	Geographic information system
GOI	—	Government of India
Govt.	—	government
GoWB	—	Government of West Bengal
GRM	—	Grievance Redress Mechanism
HH	—	household
IPP	—	Indigenous Peoples Plan
KEIIP	—	Kolkata Environmental Improvement Investment Program
KEIP	—	Kolkata Environmental Improvement Project
Km	—	kilometer
Km ²	—	square kilometer
KMC	—	Kolkata Municipal Corporation
KMDA	—	Kolkata Metropolitan Development Authority
LAA	—	Land Acquisition Act
LHS	—	Left-hand side
M/F	—	male/female
m	—	meter
M ²	—	square meter
MLD	—	million liters per day
MM	—	Maheshtala Municipality
Mm/mm	—	millimeter
MS	—	mild steel
NA	—	not applicable
NGO	—	nongovernment organization
No.	—	number
NRRP	—	National Rehabilitation and Resettlement Policy
NRW	—	nonrevenue water
OBC	—	other backward classes
PAF	—	project affected family
PAH	—	project affected household
PCB	—	Pollution Control Board
PD	—	Project Director

PDS	—	public distribution system
PHE	—	Public Health Engineering
PID	—	Project Implementation Director
PMU	—	project management unit
PS	—	pumping station
PST	—	pre-setting tanks
R&R	—	resettlement and rehabilitation
RHS	—	right-hand side
ROW	—	right-of-way
Rs.	—	Rupees
S&D	—	sewerage and drainage
SC	—	scheduled caste
SSU	—	Social Safeguard Unit
SIA	—	Social Impact Assessment
SPS	—	Safeguard Policy Statement
ST	—	scheduled tribe
STP	—	sewerage treatment plant
WBPCB	—	West Bengal Pollution Control Board

NOTES

- (i) The fiscal year (FY) of the Government of India and its agencies begins on 1 April and ends on 31 March. "FY" before a calendar year denotes the year in which the fiscal year ends, e.g., FY2011 begins on 1 April 2011 and ends on 31 March 2012.
- (ii) In this report, "\$" refers to US dollars.

The resettlement plan (RP) prepared based on preliminary designs was reviewed and approved by KMC and ADB in May 2012. The draft has been updated in June 2013 to include land acquisition for access road to a pumping station. Both versions have been disclosed in ADB's website (<http://www.adb.org/projects/documents/kolkata-environmental-improvement-investment-program-tranche-1>).

This updated RP is prepared based on detailed design and census of affected persons in in the sewerage and drainage subproject (packages SD04 and SD06) under KEIIP Tranche 1.

This RP is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

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EXECUTIVE SUMMARY

1. The city of Kolkata is the seventh largest metropolis in India, and had 4.5 million residents in 2011. The continuous improvement in the city's urban environment is necessary to increase labor productivity through better health status of the urban population, especially when it has been experiencing lower population growth. There have been, however, geographical disparities in access and quality of the water supply and sewerage services, because the Kolkata Municipal Corporation (KMC), an urban local body with a mandate to provide these services under the KMC Act (1980), has an aging water supply system, and has inadequate sewer coverage in the city's peripheral areas.

2. The Asian Development Bank (ADB) loans have assisted KMC in the expansion of the sewerage coverage through the Kolkata Environmental Improvement Project¹ (KEIP) since 2000. The Kolkata Environmental Improvement Investment Program (KEIIP) will help KMC not only to continue sewer network expansion on a larger scale, but also to gradually improve efficiency in water supply operations, which will enable KMC to generate operating surplus for capital investment in water supply and sewerage.

3. KEIIP is a continuation of the KEIP. It is envisaged that KMC will implement the investment program in three projects, in phases. The first project under the investment program will be considered the second phase of the KEIP. Likewise, the second and the third projects under the investment program will be the third and fourth phases of the KEIP. The proposed investment activities under the investment program will include: (i) water supply, including pumping and transmission system, and (ii) sewerage and drainage (S&D), including dry weather flow (DWF) and storm water flow (SWF) pumping stations and sewage treatment plants (STPs). The investment program will be financed by a multitranche financing facility (MFF).

4. The proposed construction and operation of infrastructure will bring about improvement in environmental conditions in and around each project area under the investment program, but such improvement may be associated with some adverse impacts on the local inhabitants, including loss of land, (temporary) loss of livelihood, etc. ADB requires the consideration of social safeguard issues in all aspects of its operations, and the requirements for involuntary resettlement are described in ADB's Safeguard Policy Statement (SPS), 2009.

5. This resettlement plan for the S&D subproject under Tranche 1 aims to (i) provide critical facts and significant findings; (ii) present the national and local legal and institutional framework within which the social impact assessment has been carried out; (iii) identify mitigation measures and any residual negative impacts that cannot be mitigated; (iv) describe the set of mitigation measures to be undertaken to avoid, reduce, mitigate, or compensate for any resettlement impacts; (v) describe the grievance redress mechanism for resolving complaints; and (vi) describe the implementation arrangements, monitoring measures and reporting procedures.

6. Tranche 1 S&D subproject components includes (i) S&D network within Diamond Harbour Road catchment 1 ; (ii) Micro-tunneling work on Sewer line along Diamond Harbour Road; (iii) Micro tunneling work on pressure main between Santoshpur MPS and Gardenreach

¹ ADB. 2000. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Calcutta Environmental Improvement Project*. Manila (Loan 1813-IND, \$250 million, approved on 15 November 2000). The project completion date is 30 June 2012.

STP; (iv) construction of pumping stations of Begore khal at Behala Airport and Joka Tram Depot. This updated RP covers packages SD04² and SD06, with the following components: (i) SD04 covers sewer works along Diamond Harbor Road; and (ii) SD06 covers micro-tunneling works on pressure main for Santoshpur-Garden Reach. The resettlement plan will be implemented by the present Social Safeguard Unit (SSU), with the resettlement and rehabilitation consultant and community mobilizers.

7. The S&D lines in packages SD04 and SD06 will not require any land acquisition as it will be undertaken within the existing rights of-way (ROW) which is also government land. The impacts are categorized as temporary impacts due to the loss of livelihood during construction resulting from the loss of access to small shops. Efforts have been made to further minimize these potential temporary impacts by adopting micro-tunneling for laying of sewer lines; therefore no involuntary resettlement impacts for this S&D packages SD04 and SD06.

8. To address the potential short-term temporary impacts during construction, socioeconomic surveys and rapid assessment of businesses/shops within the subproject impact area have been conducted, and an entitlement matrix has been developed. Businesses facing income loss due to disruption of access during construction phase will be compensated for lost income. Mobile hawkers and vendors will be assisted in moving to alternative locations during the period of construction, and entitled to return once work is declared complete by the contractor. Compensation eligibility is limited by a cut-off date as set for this project, which is on the day of the income survey prior to commencement of civil works.

9. Potential temporary impacts on livelihood and access have been mitigated through engineering designs that will ensure routing of pipelines and mains within the ROW, ensuring that work is done through stretches where there are no structures, and adapting micro-tunnelling for laying of pipelines. The micro-tunneling pits will also be located at positions where they will not disrupt access to the various businesses and structures. **Therefore there are no anticipated resettlement impacts for package SD04 and SD06.** Project management unit's social safeguard officer, together with resettlement specialist in the design and supervision consultant team, will closely monitor the implementation and ensure location of pits for micro-tunnelling works will not cause loss of access to businesses/shops in SD04 and SD06 areas. In the event construction works results to resettlement impacts not covered in this document, ADB will be notified immediately and updated RP will be submitted for review and disclosure.

10. The subproject's grievance redress mechanism will provide the citizens with a platform for redress of their grievances, and describes the informal and formal channels, time frame, and mechanisms for resolving complaints about environmental performance.

² Procurement plan indicates implementation with water supply subproject and recorded as WS&SD04. The RP for water supply project has been updated separately to provide resettlement impacts for pipelaying works in WS04 areas.

I. PROJECT DESCRIPTION

A. Background

1. The city of Kolkata is the seventh largest metropolis in India, and had 4.5 million residents in 2011. It is the largest city in the state of West Bengal, and has been the biggest contributor to West Bengal's gross state domestic product, which was ranked sixth largest among all states in India in 2010. The continuous improvement in the city's urban environment is necessary to increase labor productivity through better health status of the urban population, especially when it has been experiencing lower population growth. There have been, however, geographical disparities in access and quality of the water supply and sewerage services, because the Kolkata Municipal Corporation (KMC), an urban local body with a mandate to provide these services under the KMC Act (1980), has an aging water supply system, and has inadequate sewer coverage in the city's peripheral areas.³ The Asian Development Bank (ADB) loans have assisted KMC in the expansion of the sewerage coverage through the Kolkata Environmental Improvement Project 4 (KEIP) since 2000. The Kolkata Environmental Improvement Investment Program will help KMC not only to continue sewer network expansion on a larger scale, but also to gradually improve efficiency in water supply operations, which will enable KMC to generate operating surplus for capital investment in water supply and sewerage.

2. On successful execution of KEIP under 2 Loans (1813-IND and 2293-IND) KMC has decided to secure further loan from ADB in multi-tranche financing facility (MFF) for infrastructural development. In the first tranche of the Investment Program under the S&D scope the following S&D subprojects have been included : (i) S&D network within Diamond Harbour Road catchment 1 ; (ii) Micro-tunneling work on Sewer line along Diamond Harbour Road; (iii) Micro tunneling work on pressure main between Santoshpur MPS and Gardenreach STP; (iv) construction of pumping stations of Begore khal at Behala Airport and Joka Tram Depot.

3. Tranche 1 S&D subproject and its components are to comply with relevant safeguard requirements of the loan agreement, the Government of India, the state government of West Bengal, and the ADB Safeguards Policy Statement (SPS), 2009. This resettlement plan for the S&D subproject under Tranche 1 aims to (i) provide critical facts and significant findings; (ii) present the national and local legal and institutional framework within which the social impact assessment has been carried out; (iii) identify mitigation measures and any residual negative impacts that cannot be mitigated; (iv) describe the set of mitigation measures to be undertaken to avoid, reduce, mitigate, or compensate for any resettlement impacts; (v) describe the grievance redress mechanism for resolving complaints; and (vi) describe the implementation arrangements, monitoring measures, and reporting procedures.

³ The 1899 Calcutta Municipal Act defined the administrative domain of the municipal authority as covering 25 wards and 48.5 km². Many boundary changes followed, the latest one in January 1984 when Boroughs XI, XII, XIII, XIV, and XV were annexed to KMC. These boroughs are popularly known as the "added areas."

⁴ ADB. 2000. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Calcutta Environmental Improvement Project*. Manila (Loan 1813-IND, \$250 million, approved on 15 November 2000). The project completion date is 30 June 2012.

ADB. 2006. *Report and Recommendation of the President to the Board of Directors: Proposed Supplementary Loan to India for the Kolkata Environmental Improvement Project*. Manila (Loan 2293-IND: \$80 million, approved on 20 November 2006). The project completion date is 30 June 2012.

B. Project Components

4. Tranche 1 S&D subproject components include (i) S&D network within Diamond Harbour Road catchment 1 ; (ii) Micro-tunneling work on Sewer line along Diamond Harbour Road; (iii) Micro tunneling work on pressure main between Santoshpur MPS and Garden Reach STP; (iv) Construction of pumping stations of Begore khal at Behala Airport and Joka Tram Depot in KMC area. This updated RP covers packages SD045 and SD06, with the following components: (i) SD04 covers sewer works along Diamond Harbor Road; and (ii) SD06 covers micro-tunneling works on pressure main for Santoshpur-Garden Reach.

5. Through this subproject, KMC plans to establish and upgrade essential infrastructure and service levels to develop an efficient S&D system. The specific objectives of this subproject are (i) to improve the overall sanitary conditions in the subproject area; (ii) to improve environmental conditions in the subproject area to reduce health risks and economic loss to the citizens directly and indirectly; and (iii) to provide quick relief from waterlogging conditions in the subproject area. This subproject will have poverty reduction impacts and benefits due to increased service levels of basic amenities.

6. The subproject components are located within the Monikhali and Churial basins. These basins are located in the southern and southwestern part of Kolkata. Churial Basin serves a present population of 132,504, and Monikhali basin, a population of 56,878. Churial Basin is moderately populated but currently growing very fast, while Monikhali is a developed area and has higher population densities than Churial. With the metro being routed through these basins, a project currently under implementation, coupled with the recent improvements in road connectivity to the core city, these two basins are expected to grow at a rapid pace. This rapid growth in population with grossly inadequate S&D infrastructure will definitely put the citizens at great risk and discomfort. Therefore, there is a need to provide an organized S&D system in these areas in line with the existing system in the core city areas.

7. Execution of S&D subproject packages SD04 and SD06 construction activities will be located in the following areas i) S&D pipe-laying works along Diamond Harbour Road catchment in parts of Borough XIV; ii) construction of trunk sewer along Diamond Harbour Road; and iii) construction of pressure main between Santoshpur main pumping station and Garden Reach STP.

8. SD04 and SD06 locations are in Churial basin and description of the location is provided below.

- (i) trunk sewer along Diamond Harbour Road from Sakher Bazaar in the north to Churial Canal in the south on the western alignment within public ROW, which has very heavy traffic and is lined with shops and commercial structures on both sides. Presently the metro construction is also underway along this stretch;
- (ii) The pressure main between Santoshpur main pumping station and Garden Reach sewerage treatment plant was planned to be constructed as part of the KEIP project, but could not be taken up. It is the only missing link in a system that is otherwise completely operational after completion of KEIP. Construction of this

⁵ Procurement plan indicates implementation with water supply subproject and recorded as WS&SD04. The RP for water supply project has been updated separately to provide resettlement impacts for pipelaying works in WS04 areas.

sewer main will ensure that the S&D system constructed by the KEIP in this area will become fully operational, and all anticipated benefits will be achieved. In view of the difficult site conditions, the construction will be by micro-tunneling with only two entry pits, of which one will be within the premises of Santoshpur pumping station. The other will be located in a waterlogged area on KMDA land that is under transfer to KMC.

Table 1: Location of Subproject Components and Number of Beneficiaries

Component	Description	Municipality and Ward No.	Location of Subproject Component	Service Area/ Population
Churial Basin (served by Suti canal, Kalagachia canal, Churial canal/Churial extension canal)				
Trunk sewer along Diamond Harbour Road from Sakher Bazaar to Churial canal along western side (PackageSD04)	3.9 km of road	Parts of KMC wards 122-127	Within ROW of existing road Very heavy traffic and lined with shops and commercial structures. Presently the metro construction is also underway along this stretch.	Trunk sewer will serve a present population of 132,504.
Trunk sewer on Diamond Harbour Road from Joka tram depot to Churial canal by micro-tunneling (eastern side) (PackageSD04)	0.3 km of road	As above	Within ROW of existing road Very heavy traffic and lined with shops and commercial structures. Presently the metro construction is also underway along this stretch.	Included in above
S&D mains (600 mm and above) in Diamond Harbour catchment (first stage) side (PackageSD05)	A total of 7 km will be covered in 17 lanes	As above	Located in a part of the Diamond Harbour Road catchment area that is mostly affected by flooding. The lanes selected are located within residential area. Pipes will be within ROW of existing roads.	Included in above
Pressure main between Santoshpur main pumping station and Garden Reach STP side (PackageSD06)	650 m length located in Maheshtala municipality. The pressure main is designed as an 800 mm-diameter HDPE sewer of 580 m length.	Serves the population of KMC Borough XV in Hooghly and Garden Reach basins.	The largest section (525 m) is to be constructed by micro-tunneling in a casing pipe passing under a busy railway line and highly populated slum area.	
	Construction of this sewer main will ensure that the S&D system constructed by KEIP in this area will become fully operational, and all anticipated benefits will be achieved.		In view of the difficult site conditions, the construction will be by micro-tunneling with only two entry pits, of which one will be within the premises of Santoshpur pumping station. The other will be located in a waterlogged area on Kolkata Metropolitan Development Authority land that is under transfer to KMC.	

9. Given the difficulties associated with laying of large diameter circular sewers by open-cut method and based on experience gained in KEIP, it has been decided that the construction of trunk sewers along Diamond Harbour Road from Sakher Bazar to Churial Khal will be done using micro-tunneling technology having entry pits at regular intervals. The locations of these pits have not yet been finalized. The main sewers (approximately 7 km) in the Diamond Harbour Road catchment will be constructed by open trench method. Short-term resettlement impacts

envisaged during the construction stages are temporary impacts on livelihood and access of the local population, mostly comprising of residents, shops, a few educational institutions, and local markets.

II. SCOPE OF LAND ACQUISITION AND RESETTLEMENT

A. Land Acquisition

10. Permanent Land Acquisition. The S&D lines will not require any land acquisition as it will be undertaken within the existing rights of-way (ROW) which is also government land.

B. Temporary Impacts

11. KMC understands that construction-based improvements are always associated with some resettlement impacts, which may be temporary or permanent in nature. Therefore, required assessments have been undertaken for early identification of these impacts to help identify solutions for mitigating these impacts to a maximum extent. Redesigning, change in site locations/alignments, and technology which helps minimize impact levels are some of the adaptations to ensure minimal resettlement impacts. However, the following potential short-term temporary impacts may be anticipated during construction:

- (i) Livelihood: loss of customers visiting shops due to reduced access, difficulty in bringing in supplies to shops, shifting and/or reduced access for street vendors and hawkers, reduced space for daily markets that are set up along the road sides, reduced opportunity for local employment (tire puncture repairs, etc)
- (ii) Accessibility: pedestrians and vehicular traffic will face difficulty, decrease in access to shops and markets for local population, increase in travel time
- (iii) Others: degradation of road, damage of other utilities during construction that may impact service levels temporarily

12. The engineering designs adopted ensure that routing of pipelines and mains are within public ROW, and through stretches where there are no structures. The impacts envisaged during construction are the following: (i) limited mobility and access to business activities during construction; and (ii) temporary shifting of vendors and hawkers during construction works within ROWs where open-cut methods are used. These potential temporary impacts will be minimized by adapting micro-tunneling for laying of pipes, situating alignments on public ROWs, and scheduling open-cut works in a phased manner.

13. Land use pattern. Table 2 provides information on different land uses and structures within Churial basin, based on the survey and assessment conducted in March-April 2012 and strip maps developed during preliminary design stage (Appendix 2).

Table 2: Land Use Pattern and Existing Structures in SD04 and SD06 Locations

Component	Description and Land Use	Existing Structures Along ROWs ⁶		
Churial Basin		Structures	LHS	RHS
Trunk Sewer along Diamond Harbour Road from Sakher Bazaar to Churial canal along	A 3.9-km stretch will be covered	Temporary shops		328
		Shops		416
		Under construction		6

⁶ Based on strip maps prepared and on actual counts conducted during preliminary design stage, and therefore can be treated to be indicative. Indicates all structures within and outside ROW

Component	Description and Land Use	Existing Structures Along ROWs ⁶	
western side (Package SD04)		Residences	14
		Residential complexes	5
		Commercial residential complexes	12
		Commercial	78
		Others	23
		Businesses	6
		Religious structures	9
		Subtotal structures	- 897
		Total	897
Trunk sewer on Diamond Harbour Road from Joka tram depot to Churial canal by micro-tunneling (eastern side) (Package SD04)	High volume of traffic flow through this road. Presently the work for metro is also in progress along this stretch. The 0.3-km trunk sewer will run along the left (eastern) alignment of this road stretch.	Park	3
		Shops	42
		Residences	4
		Offices	1
		Temporary Shops	22
		Commercial/residential	5
		Schools	1
		Subtotal structures	78
		Total	78
Main sewers of 600 mm diameter and above within public ROW in a part of the Diamond Harbour Road catchment area that is mostly affected by flooding (Package SD05)	A 7-km stretch will be covered in four laterals with 15 by-lanes in the area	Temporary Shops	40 60
		Shops	74 81
		Residences	220 219
		Religious buildings	7 6
		Clubs	- 4
		Businesses	2 -
		Library	1 -
		Commercial/residential ⁷	59 46
		Residential complex	3 3
		Schools	- 4
		Under construction	- 1
		Subtotal structures	406 424
		Total	830
Pressure main between Santoshpur main pumping station and Garden Reach STP (Package SD 06)	650 m in length. One of the micro-tunneling pits will be located within the Santoshpur STP and the other jacking shaft will be on KMDA land that is under transfer to KMC.	N/A	N/A

14. Potential resettlement impacts to above identified structures and businesses along ROW, have been eliminated thru use of micro-tunnelling method for sewer pipe laying (refer to Annex 2 for advantages of micro tunneling). Micro-tunnelling mitigates problems of access to a large extent. Micro-tunnelling pits will be made at intervals of approximately 150-250 m, and the pits will be located at positions where they don't disrupt access to the various structures and businesses.

15. Anticipated social impacts. Table 3 below the category of anticipated impacts, based on site visits, transect walks, and confirmation of project engineers.

⁷ Commercial/residential structures that have shops on the ground floor with residences above, may also be apartment complexes

Table 3: Potential Impacts and Mitigation Measures

Component	Description	Potential Impact	Mitigation Measures
Churial Basin			
Trunk sewer on Diamond Harbour Road from Sakher Bazaar to Churial canal along western side (Package SD04)	<p>A major road with pockets of dense commercial activity. This is predominantly a commercial area with shops and businesses.</p> <p>Construction of trunk sewer of 2,200-mm diameter for a length of 3.9 km along Diamond Harbour Road from Sakher Bazaar to Churial canal (western alignment) using micro- tunnelling</p>	<p>Rapid assessments indicate that around 897 structures line this stretch of the road.</p> <p>During construction activities, pits will be made at intervals of approximately 150-250 m. There might be very temporary impacts on access and on livelihood opportunities for street vendors and hawkers, if any at pit locations.</p>	<p>Micro-tunnelling mitigates problems of access to a large extent, thereby ensuring decreased impact on livelihood by the subproject.</p> <p>The pits will be located at positions where they don't disrupt access to the various structures and businesses to help minimize short-term impacts to a large extent.</p> <p>The local community will be provided 1 day advance notice regarding construction activities, including duration and type of disruption.</p>
Trunk sewer on Diamond Harbour Road from Joka tram depot to Churial canal by micro-tunneling (eastern side) (Package SD04)	<p>High volume of traffic flow through this road. Presently the work for metro is also in progress along this stretch. The 0.3-km trunk sewer will run along the left (eastern) alignment of this road stretch.</p>	<p>Rapid assessments indicate that around 78 structures line this stretch of the road.</p> <p>Construction by micro-tunneling (eastern alignment). Micro-tunneling pits will be made at intervals of approximately 150–250m.</p>	<p>Timely information sharing and coordination among agencies during implementation of the subproject</p>
Main sewers of 600 mm diameter and above within public ROW in a part of the Diamond Harbour Road catchment area that is mostly affected by flooding (Package SD05)	<p>A 7-km stretch will be covered in four laterals with 15 by-lanes in the area</p>	<p>Rapid assessments indicate that around 830 structures line this stretch of the road.</p> <p>Construction by micro-tunneling (eastern alignment). Micro-tunneling pits will be made at intervals of approximately 150–250m.</p>	<p>Techniques and design will ensure existing utilities are not affected, or care is taken to ensure that services are restored at the earliest possible time through proper coordination with relevant agencies.</p> <p>Alternate access routes will be provided and vehicular traffic will be rerouted.</p> <p>Contractors will be required to provide advance road signage indicating the road detour and alternative routes and sign boards for pedestrians to inform them of the nature and duration of construction works and contact numbers for concerns/complaints.</p>
Pressure main between Santoshpur main pumping station and Garden Reach STP	<p>650 m in length. One of the micro-tunneling pits will be located within the Santoshpur STP, and the other jacking shaft will be on KMDA land that is under transfer to KMC.</p>	Not applicable	<p>IEE prepared for S&D subproject included mitigation measures for construction-related impacts in Santoshpur STP area.</p>

16. Mitigation. The sites or locations for the S&D subproject components have been carefully selected to avoid and minimize resettlement impacts. The overall impacts will be

further minimized through careful alignment selection during detailed design and subproject implementation. Micro-tunnelling will be used for laying of pipelines. This will help ensure that adverse impacts due to construction activities are minimized to a large extent. The following mitigation measures are proposed in the EMP to avoid and/or reduce the impacts during linear pipe works:

- (i) Provide at least 1 week's prior advanced notice to community along the construction stretch. Distribute information on project and grievance redress mechanism.
- (ii) Maintain access to avoid disturbance to residents and businesses by providing planks and leaving spaces for businesses and residents to maintain access.
- (iii) Manage traffic flows as per traffic management plan prepared by the contractor in coordination with local authorities and communities.
- (iv) Limit amount of time of open trenches, and complete works quickly where lots of businesses are located.
- (v) Avoid full street closure to extent possible.
- (vi) Contractors shall provide employment opportunity to the affected people where possible,
- (vii) Contractors shall assist vendors and hawkers in shifting to alternative locations.

17. The engineering designs adopted will ensure that routing of pipelines and mains within the ROW are through stretches where there are no structures or where access is not hindered, thereby having no impact on access and livelihood opportunity for the local community. However, in the unlikely event that, during construction, it is found that construction activities are causing loss of income and livelihood to any businesses, they would be entitled to livelihood assistance.

18. Business survey. In order to determine the scale of temporary impacts during the construction stage, however unlikely due to micro-tunnelling, and to come up with a budget for compensation, a the results of the sample survey of businesses undertaken in April 2012⁸ to determine the daily income from different types of hawkers and businesses will be used in the SD04 and SD06 areas. Hawkers were not found in the SD04 and SD06 areas, and hence have not been surveyed.

19. The average daily profit of the shops in SD04 and SD06 areas was found to be Rs. 350.00. Surveys reveal that businesses that operate within the ROW are run from temporary structures consisting of small tables or plastic sheets/mats for displaying wares, placed inside a small stall built with four bamboo poles, and using a sheet for shade. Being very small businesses, they are mostly managed by the owners themselves.

20. Potential temporary impacts on livelihood and access to these businesses have been mitigated through engineering designs that will ensure routing of pipelines and mains within the ROW, ensuring that work is done through stretches where there are no structures, and adapting micro-tunnelling for laying of pipelines. The micro-tunnelling pits will also be located at positions where they will not disrupt access to the various businesses and structures. Therefore there are no anticipated resettlement impacts for packages SD04 and SD06. Project management unit's social safeguard officer, together with resettlement specialist in the design and supervision

⁸ Included in the draft RP prepared in May 2012, revised in Jun 2013 and available on <http://www.adb.org/projects/documents/kolkata-environmental-improvement-investment-program-t1-rp>

consultant team, will closely monitor the implementation and ensure location of pits for micro-tunnelling works will not cause loss of access to businesses/shops in SD04 and SD06 areas. In the event construction works result to resettlement impacts not covered in this document, ADB will be notified immediately and updated RP will be submitted for review and disclosure.

III. SOCIOECONOMIC INFORMATION AND PROFILE

A. Socioeconomic Profile of KMC Area

21. Kolkata is a sprawling metropolis. The larger Kolkata Metropolitan Area (KMA) covers an area of 1,851 km², and according to the census, had a total population of 14,720,000 people in 2001, which implies an average density of 7,950 persons per km². In terms of population, the KMA belongs to the world's top 10 megacities. Administratively, the urban area of the KMA is subdivided in 3 municipal corporations, 38 municipalities, and a large number of smaller administrative units called Panchayat Samities.

22. KMC is the center of the metropolis and covers a total area of 187 km², which is just over 10% of the metropolitan area. The KMC area has grown over the years by annexation of suburban areas. The 1899 Calcutta Municipal Act defined the administrative domain of the municipal authority as covering 25 wards and 48.5 km². Many boundary changes followed, the latest one in January 1984, when Boroughs XI, XII, XIII, XIV, and XV were annexed to the KMC. These boroughs are popularly known as the "added areas."

23. The present population of KMC area is 4.48 million (2011 census) living in 141 wards (181 km²). The slum population is around 1.46 million (2001 census). Kolkata has a floating population of around 3 million due to commuters entering the city for various business activities and service sectors from neighboring municipalities and suburban areas. Population density per km² is 24,783. It is estimated that there are 972,264 households in the municipal area, with the average household size being around 5.

24. About three-fifths of the total urban population of West Bengal state lives in Kolkata, due to the concentration of big, medium, and small industrial units and the employment opportunities for skilled, semi-skilled, and unskilled workers in service, industrial, and informal sectors in and around Kolkata. People from urban slums are involved in a range of occupations, which are mostly concerned with providing services to the urban middle and upper classes; they work in small businesses, and some work in the organized sector.

B. Socioeconomic Profile of Area Impacted by the Subproject

25. S&D subproject components are located in parts of Monikhali and Churial basins. The total extent of the subproject area is 1,246 ha and serves an existing population of 189,382. It is imperative to note that wards benefiting from this subproject are not necessarily the wards being impacted by the construction activities of this subproject. The subproject components are located not only in areas under KMC, but also under Maheshtala Municipality. Table 10 and 11 provide the demographic and socioeconomic details of the population living in the area impacted by subproject-related construction activities.

Table 10: Demographic Profile of S&D Subproject Impact Area

Ward No.	No. of HH	Total Population	Slum Population	Population	
				M	F
KMC-125	9,984	42,245	0	21,931	20,314
Joka-2 Panchayat	1,816	7,670	0	3,985	3,685

Table 11: Socioeconomic Details of Wards Impacted by S&D Subproject

Ward No.	Literacy		Total Literacy	Workers		Total Workers	Non-Workers		Total Non-Workers
	M	F		M	F		M	F	
KMC-125	18,609	15,779	34,388	11,998	2445	14,443	9,933	17,869	27,802
Joka-2 Panchayat	3237	2551	5788	2128	428	2556	1857	3257	5,114

C. Affected People

26. Subproject components located within government-held land (Joka tram depot or Behala Flying Club) will not impact the general public. However, components located within the ROW may impact the following during the construction phase:

- (i) residents
- (ii) commuters (residents, students, workers, businessmen, street hawkers, etc.)
- (iii) commercial/business enterprises/local market areas

27. The S&D subproject components involving pipe-laying and trunk sewers are located within ward no. 125, which has a total population of 42,245. For the purpose of this study, sample socioeconomic surveys were conducted in the Diamond Harbour Road and Diamond Harbour Road catchment area.

D. Socioeconomic Profile of Diamond Harbour Road Area

28. **Social profile.** The average family size was around 3.5 per family. The total population of the surveyed households (HHs) was 298. The table below indicates that the major population group of the HHs was between the ages 31 and 50 at 38.3%, followed by the above-50 age group at 21.1%. Literacy levels indicate that 34.7% was comprised of undergraduates, 21.5% graduates, 4.4 % postgraduates, and 1.2% with professional degrees. Some 251 (84.2%) of the total population of 298 was comprised of adults.

Table 12: Gender-Wise Age Profile of the Affected Population

Age Group	Male		Female		Total	
	No	%	No	%	No	%
1-5	2	1.2	1	0.8	3	1.0
6-14	15	8.8	16	12.5	31	10.4
15-18	12	7.1	9	7.0	21	7.0
19-30	44	25.9	22	17.2	66	22.1
31-50	57	33.5	57	44.5	114	38.3
Above 50	40	23.5	23	18.0	63	21.1
Total	170	100	128	100	298	100

1. A total of 87.1% of the HHs are Hindus by religion, and 75.3% are nuclear families.

Table 13: Social Status of Affected Population

Item	Description	Number	% of Total
Religious group	Hindu	74	87.1

Item	Description	Number	% of Total
	Christian	7	8.2
	Muslim	4	4.7
Family type	Joint	21	24.7
	Nuclear	64	75.3
	Individual	0	0.0

29. **Social classification.** A total of 87% of the respondents belonged to the general class, 12% belonged to scheduled castes, and 1% to the backward class. A total of 97% of the households had electricity, and 90% had access to a public distribution system (PDS) facility.

Table 14: Social Group of the Affected Households

Social Group	Number	Electrified	Ration Card
General	87%	84.4%	79%
SC	12%	12%	12%
ST	0	0	0
OBC	1%	1%	1%

30. **Occupational status.** The survey revealed that 74% of adult women in the sample households were housewives. About 5.6 % of the adult population was comprised of students, and 50.5% of the adult population was engaged in some form of economic activity. Some 25.5% was engaged in trading, 2.4% was in government service, and 9.6% was unemployed at the time of survey. Some 114 men (78%) and 13 women (12.5%) were engaged in some form of economic activity.

Table 15: Gender-Wise Occupation Profile of the Affected Adult Population

Occupation (Primary)	Male		Female		Total	
	No	%	No	%	No	%
Not yet admitted	2	1.4	2	1.9	4	1.6
School dropout	4	2.7	1	1.0	5	2.0
Student	10	6.8	4	3.8	14	5.6
Housewife	0	0.0	77	74.0	77	30.7
Unemployed	17	11.6	7	6.7	24	9.6
Domestic help	0	0.0	3	2.9	3	1.2
Wage labor	8	5.4	0	0.0	8	3.2
Rickshaw puller	3	2.0	0	0.0	3	1.2
Trader	62	42.2	2	1.9	64	25.5
Government job	6	4.1	0	0.0	6	2.4
Private office	12	8.2	2	1.9	14	5.6
Others	23	15.6	6	5.8	29	11.6
Total	147	100	104	100	251	100

31. **Income sources.** Data revealed that most of the families were dependent on a primary source of income. The profile of jobs ranged from domestic helpers and wage laborers to trading, government jobs, and private jobs. As stated earlier, 74% of the women were housewives. There were no women wage laborers in this area.

32. **Household income and expenditure.** The survey revealed that among the economically engaged population, 46% of men and 36% of women earned an average of Rs. 75,000/annum. Income levels of men was found to range from an average of Rs. 15,000/annum to above Rs.580,000/annum. The average income of the surveyed households is found to be Rs.190,000. Some 68.2% of HHs spend more than Rs. 30,000 on food per annum, while 3.5% spend more than Rs. 30,000 on travel per annum.

Table 16: Level of Primary Income of Affected Population

Income (Yearly)	Male	%	Female	%
10,000 – 20,000	0	0.00	2	14.29
20,000 – 30,000	4	3.54	3	21.43
30,000 – 50,000	22	19.47	2	14.29
50,000 – 100,000	53	46.41	5	35.71
100,000 – 200,000	23	20.35	1	7.6
200,000- 960,000	12	10.62	0	0.00

Table 17: Percent Expenditure Pattern/Month of Surveyed Population

Range	Food	Health	Rent	Addiction ⁹	Electric Charges	Supplementary Water	Sanitation	Education	Travel	Others
	%	%	%	%	%	%	%	%	%	%
100-500	0	1.2	0	5.9	3.5	0	7.1	1.2	2.4	2.4
500-1000	0	3.5	0	2.4	1.2	0	9.4	1.2	4.7	1.2
1,000-2,000	0	11.8	0	9.4	1.2	2.4	8.2	2.4	8.2	10.6
2,000-3,000	3.5	17.6	0	1.2	30.6	1.2	0	2.4	12.9	5.9
3,000-5,000	2.4	15.3	7.1	3.5	34.1	0	0	5.9	14.1	15.3
5,000-10,000	1.2	22.4	9.4	2.4	23.5	0	1.2	11.8	20	15.3
10,000-20,000	7.1	9.4	3.5	1.2	2.4	0	0	23.5	7.1	15.3
20,000-30,000	16.5	1.2	1.2	0	1.2	0	0	1.2	2.4	4.7
> 30,000	68.2	0	0	0	0	0	0	1.2	3.5	2.4
No response	1.2	17.6	78.8	74.1	2.4	96.5	74.1	49.4	24.7	27.1

E. Gender Considerations

33. The project is expected to benefit women. In addition to the measures provided for addressing the gender concerns of the affected households, the resettlement plan will be implemented in consonance with the gender action plan (GAP) for the project.

34. **Women-headed households:** There are no women headed households among the surveyed population.

35. **Literacy:** While all women are found have some level of literacy, it is found that the level of education achieved was higher among men than women. There is still some difference in the literacy between male and female.

Table 18: Gender-Wise Age Education Level Among the Affected Adult Population

Literacy Level	Male		Female		Total	
	No	%	No	%	No	%
Illiterate	0	0.0	0	0.0	0	0.0
Preprimary	3	2.0	4	3.8	7	2.8
Primary	11	7.5	11	10.6	22	8.8
Middle	29	19.7	35	33.7	64	25.5
Intermediate	56	38.1	31	29.8	87	34.7
Graduate	35	23.8	19	18.3	54	21.5
Post-graduate	7	4.8	4	3.8	11	4.4

⁹ Alcoholism

Professional	3	2.0	0	0.0	3	1.2
Any other	3	2.0	0	0.0	3	1.2
Total	147	100	104	100	251	100

36. **Economic activity.** A total of 77% of the women in the surveyed households were housewives. Only 12.5% women were involved in income-earning activities compared to 87.5% of the men. It has been reported that in addition to the economic activities outside the home, women are extensively involved in household activities like cooking and cleaning, washing clothes, child care, care of the elderly, etc.

37. **Decision-making.** The respondents were also asked about the involvement of women in decision-making on household matters, and it was found that women were indeed involved. About 68% of the HHs reported that decisions were made by both spouses, 30% of HHs stated that decisions were made by men, and 2% that decisions were made by women.

Table 19: Decision-Making in the Households

Household Decisions	Adult Male	Wife	Both
1. Which school is best for your child?	20	7	47
2. Should you change address or move to a new residence?	30	1	50
3. What type of employment should the women take up?	40	2	38
4. How do they utilize their individual income in running the family?	30	3	48
5. In what community activity (if any) is wife involved?	25	6	48
6. How to discipline children?	12	6	56

38. **Gender division of housework.** During the survey, the respondents were also asked about the gender division of household work. The following table clearly indicates that most of the household chores were left to the women. The men helped in chores like shopping, teaching children, etc.

Table 20: Division of Household Work

Household Work	Member	Level of Participation (%)			
		Never	Often	Seldom	Sometimes
Cleaning the house	Husband	17.9	5.1	70.5	6.4
	Wife	1.4	95.7	2.9	0.0
	Son/s (if aged 12 or above)	26.1	10.9	52.2	10.9
	Daughter/s (if aged 12 or above)	0.0	26.7	20.0	53.3
	Others (females)	0.0	90.0	0.0	10.0
Preparing food and cooking meals	Husband	37.1	5.7	54.3	2.9
	Wife	0.0	95.8	4.2	0.0
	Son/s (if aged 12 or above)	65.0	5.0	25.0	5.0
	Daughter/s (if aged 12 or above)	0.0	26.7	26.7	46.7
	Others (females)	0.0	83.3	0.0	16.7
Shopping for food and other household needs	Husband	1.3	36.4	22.1	40.3
	Wife	0.0	45.6	33.8	20.6
	Son/s (if aged 12 or above)	8.5	31.9	17.0	42.6
	Daughter/s (if aged 12 or above)	0.0	7.7	61.5	30.8
	Others (females)	0.0	16.7	50.0	33.3
Babysitting/looking after young children, feeding and bathing them, and putting them to bed	Husband	16.7	0.0	58.3	25.0
	Wife	0.0	100.0	0.0	0.0
	Son/s (if aged 12 or above)	100.0	0.0	0.0	0.0
	Daughter/s (if aged 12 or above)	0.0	0.0	0.0	0.0
	Others (females)	0.0	0.0	0.0	0.0
Helping school-aged children with their studies	Husband	22.2	0.0	55.6	22.2
	Wife	0.0	59.3	18.5	22.2
	Son/s (if aged 12 or above)	9.1	27.3	36.4	27.3
	Daughter/s (if aged 12 or above)	0.0	0.0	0.0	0.0

Household Work	Member	Level of Participation (%)			
		Never	Often	Seldom	Sometimes
Taking care of the sick members of the HH	Others (females)	0.0	0.0	50.0	50.0
	Husband	11.3	16.9	42.3	29.6
	Wife	1.5	89.6	3.0	6.0
	Son/s (if aged 12 or above)	9.5	19.0	35.7	35.7
	Daughter/s (if aged 12 or above)	0.0	40.0	0.0	60.0
	Others (females)	0.0	81.8	9.1	9.1
Repairing/attending to broken electrical items	Husband	72.4	9.2	14.5	3.9
	Wife	85.7	9.5	3.2	1.6
	Son/s (if aged 12 or above)	37.5	10.0	52.5	0.0
	Daughter/s (if aged 12 or above)	100.0	0.0	0.0	0.0
	Others (males)	88.9	0.0	11.1	0.0
	Others (females)	88.9	0.0	11.1	0.0
Repairing/attending to plumbing-related problems	Husband	94.6	2.7	2.7	0.0
	Wife	96.8	0.0	3.2	0.0
	Son/s (if aged 12 or above)	89.2	10.8	0.0	0.0
	Daughter/s (if aged 12 or above)	100.0	0.0	0.0	0.0
	Others (males)	100.0	0.0	0.0	0.0
	Others (females)	100.0	0.0	0.0	0.0

39. The survey indicates that 50.5% of the adult population was engaged in some form of economic activity; 25.5% was engaged in trading and 2.4% was in government service. The strip maps indicate that Diamond Harbour road stretch is major business center with lots of shops dealing with various kinds of products. While the main Diamond Harbour Road is not prone to flooding during rains, the laterals face waterlogging frequently during heavy rains, making access and sanitation a major problem for this area covered by open drains. This has adverse impacts on the income potential of the businesses located within this area. Water logging also impacts the earning potential of the roadside hawkers and streetside markets. Discussions with respondents during the survey revealed that most of them felt that construction works within the ROW always leads to transportation problems and traffic jams. They were of the opinion that traffic management should be given priority to minimize traffic congestion, and that information sharing would help people in managing the disturbances faced during road works.

40. A total of 24.7% of the respondent HHs spend amounts ranging from Rs.100 to Rs. 2,000 per annum on sanitation. A moderate amount of money is also spent on health care. While all illnesses are not attributable to sanitation levels, improved service levels are expected to reduce the burden on caregivers, who are mostly the women in the household.

41. The summary of impacts for Tranche 1 S&D subproject packages SD04 and SD06 can be summarized as indicated in the table below:

Table 21: Summary of Impacts for Tranche 1 S&D Subproject (Packages SD04 and SD06)

Impact	Sewerage and Drainage
Permanent land acquisition (sq m)	None
Permanently affected structures	None
Temporarily AHs	None
Titled AHs	N/A
Non-titled AHs	N/A
BPL AHs	N/A
APL AHs	N/A
Female-headed AHs	N/A
IP/scheduled caste AHs	N/A
Affected trees/crops	None
Affected common structures	None
Average family size	N/A

Income sources of permanently affected persons	N/A
Temporarily affected businesses	None
Average daily profit of affected businesses	N/A

F. Impact on Vulnerable Persons¹⁰

42. While this subproject is not a targeted poverty intervention program, it will have poverty reduction impacts and benefits through increased service levels of basic amenities. It is expected that an improved S&D system will help improve the overall hygiene, resulting in improved health and reducing time and expenses spent on maintaining hygienic conditions. This will further help reduce the burden of expenditure on health and time spent on caregiving, as well as allowing more time to pursue economic activities. This subproject will especially be of benefit to women, who spend considerable time on their household chores and looking after children and family, as well as pursuing some economic activity to help contribute to the household's finances. Educational standards will also get a boost, with children leading healthier lives and being able to attend school regularly.

G. Impact on Indigenous Peoples

43. The subproject area is a highly urbanized area, and statistics show that less than 10,000 people belonging to scheduled tribes (STs) are found within KMC. None of the proposed subproject facilities are located on land belonging to scheduled tribes. Also, scheduled tribes in Kolkata speak the same language as the majority of the population, do not have traditional rights and/or access to land resources, and do not follow any distinct cultural practices. One can safely conclude that the ST population in KMC has been assimilated in mainstream society. Rapid assessments transect walks and socioeconomic surveys did not indicate the presence of indigenous people (IP); therefore, no impacts are envisaged.

III. INFORMATION DISCLOSURE, CONSULTATION, AND PARTICIPATION

A. Stakeholders

44. The stakeholders identified for this subproject are:

Primary

- (i) local community (residents, educational institutions, commercial and business) impacted due to utilities being built in their habitation or areas of usage;
- (ii) community (residents, commercial and business) benefiting from the subproject;
- (iii) transit/commuting population using the area for accessing place of work, residence, or recreation;
- (iv) public transport departments/companies (private and government operated);
- (v) KMC and other state government departments, Public Health Engineering (PHE), waterworks, telecommunication, electricity, poverty alleviation, etc.;
- (vi) project management unit (PMU);
- (vii) Government of West Bengal;
- (viii) Government of India; and
- (ix) ADB.

¹⁰ Persons belonging to the below-poverty-line (BPL) category, or those who may be reduced to BPL category due to the subproject impact, women from slums, women-headed households, and aged persons

Secondary

- (i) representatives of community based organizations, civil society groups;
- (ii) Police Department;
- (iii) NGOs; and
- (iv) builders.

B. Public Consultations

45. The following methodologies will be used for carrying out public consultation:
- (i) Local communities, individuals affected, traders, and local shopkeepers who may be directly affected will be given priority while conducting public consultation.
 - (ii) Walk-through informal group consultations will be held along the proposed water transmission line stretch.
 - (iii) The local communities will be informed through public consultation, with briefing on project interventions, including its benefits.
 - (iv) The social concerns and suggestions made by the participants will be listed, and discussed, and suggestions to be noted for consideration during implementation.
46. Formal consultations have been carried out with mayor and engineers of KMC on 5 August 2011 and 18 November 2011 to prioritize and finalize items of work to be taken under the program. These were supplemented by a series of informal discussions by the PMC engineering consultants with chief engineers of KMC and director general (projects), PMU mainly on understanding the current situation and optimum design to be adopted in order to attain the objectives of the work.
47. Consultations have been held throughout the planning and design stage with KMC officials, PMU, ADB, and state government departments like the Pollution Control Board (PCB). Walk-through informal discussions have been held with the local community along the proposed transmission stretch to assess the impacts.

C. Future Consultations

48. The public consultation and disclosure program will remain a continuous process throughout the subproject implementation, and shall include the following:

1. Consultation during detailed design stage

49. Focus-group discussions will be held with affected persons and other stakeholders to hear their views and concerns, so that these can be addressed in subproject design wherever necessary. These discussions will be documented, providing the following specific information like (i) date on which discussion was held, (ii) list of names of people attending the discussion, and (iii) summary of discussions and concerns raised. Regular updates on the subproject will be available at the PMU office of KMC.
50. KMC will conduct information dissemination sessions at project location sites and solicit the help of the local community leaders and prominent citizens to encourage the participation of the people to discuss various social issues.
51. The project management unit (PMU), with the assistance of the design and supervision consultants (DSC), will conduct information dissemination sessions in the subproject area. During resettlement plan implementation, PMU and DSC will organize public meetings and will

apprise the communities about the progress on the implementation of EMP in the subproject works.

2. Consultation during construction stage

52. Public meetings with affected communities (if any) will be held to discuss and plan work programs and allow issues to be raised and addressed once construction has started.

53. There will be smaller-scale meetings to discuss and plan construction work with local communities to reduce disturbance and other impacts, and to provide a mechanism through which stakeholders can participate in subproject monitoring and evaluation.

54. A summary of the proposed consultations is given in Table 22. Some of the scheduled consultations may be combined into a single composite consultation if the situation so demands.

D. Project Disclosure

55. A communications strategy is of vital importance to accommodating traffic during road closure. Local communities will be continuously consulted regarding location of construction camps, access and hauling routes, and other likely disturbances during construction. The road closure, together with the proposed detours, will be communicated via advertising, pamphlets, radio broadcasts, road signages, etc.

56. A public information campaign via newspaper, radio, and TV is proposed to explain the subproject details to a wider population. Public disclosure meetings at key project stages will inform the public of work progress and future plans.

57. For the benefit of the community, a summary of the resettlement plan will be translated in the local language and made available at the offices of KMC, PMU, and DSC. Hard copies of the English version of the resettlement plan will be accessible to citizens as a means to disclose the document, and at the same time creating wider public awareness. An electronic version of the resettlement plan will be placed on the official website of the KEIP and on the official website of ADB after approval of the resettlement plan by government and ADB. The PMU will issue notification on the start date of implementation of the water supply subproject in the investment program website ahead of the implementation works.

Table 22: Future Consultations and Participation Plan

Activity	Target Stakeholders	Type of Participation	Objectives of the C&P Activity	Responsible Unit/ Persons	Time Frame	Cost Estimate (INR)
One project orientation workshop for government officials (especially KMC and West Bengal Pollution Control Board officials, officers, and staff on the investment program (half day)	50 government officials and staff per project orientation workshop consisting of representatives from the officials and staff, especially the municipal corporations, and private contractors	Information sharing Consultation Shared responsibility Shared decision-making	<ul style="list-style-type: none"> To introduce the project To demonstrate the link between improved S&D and sewerage infrastructure and good health, women's empowerment, and environmental conservation (Note: Seminar topics and contents to be gender-sensitive and socially inclusive, and to raise environmental and social awareness) To present safeguards and social frameworks and plans and disclosure requirements To discuss roles and accountabilities of various government units To discuss issues related to use of government lands/property for the project, and environmental risks To mitigate potential problems e.g., citizens' use of government lands and property that will be lost to the project, such as hawking rights on streets, temporary occupation of public facilities, construction material storage on public facilities, environmental risks especially aquatic ecology of Hooghly River, and compilation and agreement on recommendations 	PMU with assistance from project team	Year 1: one project orientation workshop Sep/Oct'2014	Project orientation workshop for officials = 50,000
One project orientation seminar for household heads on the investment program (half day) One project orientation seminar for women only on	100 community members, preferably, household heads, with at least 30 women participating At least 50 women community members per project orientation seminar	Information sharing Consultation Shared decision-making	<ul style="list-style-type: none"> To introduce the project, highlighting its importance and benefits to the community To demonstrate the link between improved S&D and sewerage infrastructure and good health, women's empowerment and environmental conservation (Note: Seminar topics and contents to be gender-sensitive and socially inclusive, and to raise environmental/ social awareness) To present safeguards and 	PMU with assistance from project team	Year 1: two project orientation seminars Aug/Sep'2014	Project orientation seminar households = 50,000 Project orientation seminar for women = 25,000

Activity	Target Stakeholders	Type of Participation	Objectives of the C&P Activity	Responsible Unit/ Persons	Time Frame	Cost Estimate (INR)
the investment program (half day)			social frameworks and plans <ul style="list-style-type: none"> • Compilation of concerns and views related to S&D and sewerage • Compilation and agreements on recommendations 			
One consultation workshop (half day) with temporarily affected persons	50 hawkers/vendors, and small shopkeepers affected per subproject	Information sharing Consultation	<ul style="list-style-type: none"> • To introduce the project • To demonstrate the link between improved water supply and sewerage infrastructure and good health, women's empowerment and environmental conservation and social protection • To show possible livelihood/business opportunities/alternatives (Note: Seminar topics and contents to be gender-sensitive and socially inclusive, and to raise environmental awareness) • To present social and resettlement framework and draft social and resettlement plans • To mitigate potential resistance to the project • Compilation of recommendations and agreements on remedial measures 	PMU with assistance from project team	Year 1: One consultation Workshop Sep'2014	Consultation workshop = 75,000
One consultation workshop with the academe, NGOs, and other civil society organizations (1 whole day)	50 representatives of the academic field, NGOs, and other civil society organizations	Information sharing/knowledge generation. Consultation Shared responsibility	<ul style="list-style-type: none"> • To introduce the project • To demonstrate the link between improved S&D and sewerage infrastructure and good health, women's empowerment, and environmental conservation and social protection • To show possible livelihood/business opportunities/alternatives (Note: Seminar topics and contents to be gender-sensitive and socially inclusive, and to raise environmental awareness) • Compilation of views on proposed conservation and mitigation measures 	PMU with assistance from project team	Year 1: one consultation Workshop Nov'2014	Consultation workshop = 50,000 Travel of participants = 25,000

Activity	Target Stakeholders	Type of Participation	Objectives of the C&P Activity	Responsible Unit/ Persons	Time Frame	Cost Estimate (INR)
			<ul style="list-style-type: none"> To mitigate potential resistance to the project To discuss possible roles as watchdogs of the project's implementation To gather other relevant recommendation 			
Strategic and action planning workshop 1 half day for councilors and KMC officials and engineers 1 half day for ADB project team	Councilors, KMC, and KMC officials and engineers	Information sharing Shared responsibility. Shared decision-making control	<ul style="list-style-type: none"> To develop strategic and action plans in accordance with the project road map To review compliance with social safeguards, environment, and gender frameworks and plans To discuss progress in implementation, including problems encountered and means to mitigate/address them To regularly report on the progress of implementation 	PMU with assistance from project team	Annual April-May (in every year) May (in every year)	Councilors' meetings: 50,000 X 5 years = 250,000 Project team monitoring meetings: 15,000 X 4 years = 60,000
Participatory monitoring meetings (half day) (for community watchdogs)	20 representatives (50% women) from the community and civil society (representatives of CBOs, NGOs, ward committees, poor/slum communities, private sector)	Information sharing Shared responsibility	<ul style="list-style-type: none"> Discussion of issues and concerns during project implementation To discuss and recommend measures to mitigate/address the problems To monitor progress of project implementation 	PMU with assistance from project team	Participatory monitoring meetings: Semi-annual June & December in every year	15,000 X 2 meetings X 4 years = 120,000
Total Cost						705,000

Summarized Activities – at a glance

Sl.No.	Activities	No.	Frequency	Schedule
1	Project Orientation Workshop for Officials (Half-day)	1	Annual	Sep/Oct, 2014
2	Project Orientation Seminar for household heads (half-day)	1	Annual	Aug/Sep, 2014.
3	Project Orientation Seminar for women only (half – day)	1	Annual	Aug/Sep, 2014
4	Consultation Workshop for academe, NGOs & Civil Society Organization (Full-day)	1	Annual	Nov' 2014
5	Strategic and action planning workshop for Councillors, KMC officials and Engineers (Half-day)	5	Annual	April – May (in every year for 5 years)
6	Strategic action planning workshop for ADB Project Team (half-day)	4	Annual	May (in every year for 4 years)
7	Participatory monitoring meetings for community watchdogs (half-day)	8	Biannual	June & Dec. (in every year for 4 years)

IV. GRIEVANCE REDRESS MECHANISM

58. A project-specific grievance redress mechanism (GRM) will be established to receive, evaluate, and facilitate the resolution of affected peoples' (APs) concerns, complaints, and grievances about the social and environmental performance at the level of the project. The GRM will provide an accessible and trusted platform for receiving and facilitating resolution of APs grievances related to the project. The GRM will aim to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the project.

59. **Common GRM.** A common GRM will be in place for social, environmental, or any other grievances related to the project; the RP and IEE will follow the grievance redress mechanism described below, which is developed at a multi-stakeholder meeting involving the contractor, PMU, APs, DSC, environmental consultant, and local environment authority. The multi-tier GRM for the project is outlined below, each tier having time-bound schedules and with responsible persons identified to address grievances and seek appropriate persons' advice at each stage, as required.

60. The citywide public awareness campaign will ensure that awareness on grievance redress procedures is generated, using electronic, radio, and print media. The implementing NGO will ensure that poor and vulnerable households are made aware of grievance redress procedures and entitlements, and will help ensure that their grievances are addressed.

61. APs will have the flexibility of conveying grievances/suggestions by dropping grievance redress/suggestion forms in complaints/suggestion boxes, or through telephone hotlines at accessible locations, by e-mail, by post, or by writing in a complaints register in the KMC office (Appendix 6 has the sample grievance registration/suggestion form). Careful documentation of the name of the complainant, date of receipt of the complaint, address/contact details of the person, location of the problem area, and how the problem was resolved will be undertaken. PMU will maintain a complaint cell headed by a designated grievance officer at its office. The grievance registration/suggestion form (Appendix 14) will be available at the complaints cell and in borough offices, and will also be downloadable from the KEIP website.

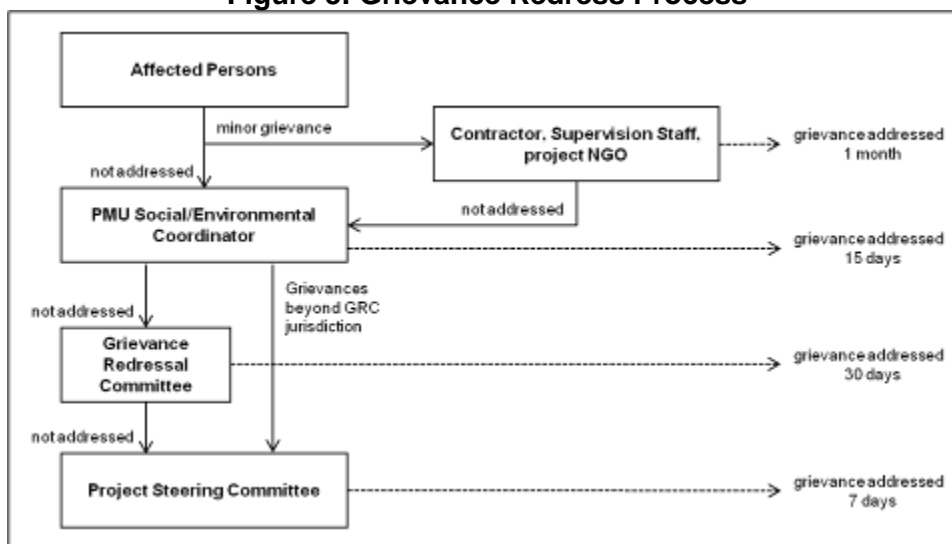
62. APs will also be able to register grievances—social, environmental, or other—personally at the complaint cell and at borough offices of KMC. The grievance officer and designated official at the boroughs will be able to correctly interpret/record verbal grievances of non-literate persons and those received over telephone. The complaint cell will also serve as a public information center where, apart from grievance registration, information on the project, subprojects, and social and environmental safeguards can be provided.

63. The grievance officer will resolve simple issues, and in case of complicated issues, seek the assistance of the environment/social coordinator of the PMU. Grievances not redressed through this process within 1 month of registration will be brought to the notice of the project director, KEIP. All grievances that cannot be redressed within 1 month at field level will be jointly reviewed by the PMU environment/social coordinator and DSC safeguards specialists, who will attempt to resolve them within 15 days, enlisting the assistance of the local representative of WSPCB and other concerned stakeholders, as required.

64. The project director will refer major issues to the grievance redressal committee

(GRC)¹¹, which will resolve them within 30 days, and very major issues that are beyond the jurisdictional authority of the GRC or those that have the potential to cause social conflicts or environmental damage will be referred directly to the PSC.¹² Grievances which the GRC is unable to resolve within 30 days will also be referred to the PSC. All paperwork (details of grievances) needs to be completed by the PMU environment/social coordinator and circulated to the respective GRC and PSC members at least a week in advance of the scheduled meetings. All decisions made by the GRC and PRC will be communicated to the APs by the PMU environment/social coordinator. Despite the project GRM, an aggrieved person shall have access to the country's legal system at any stage, and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM..

Figure 3: Grievance Redress Process



65. Periodic community meetings with affected communities to understand their concerns and help them through the process of grievance redress (including translation from local dialect/language, recording and registering grievances of non-literate affected persons, and explaining the process of grievance redress) will be conducted if required. The GRM will be reviewed during project implementation through a multi-stakeholder meeting involving the contractor, PMU, the affected people, DSC, environmental consultants, and the local environment authority to identify the solution and to prepare an action plan in dealing with complex issues.

66. **Consultation arrangements.** This will include (i) group meetings and discussions with APs, to be announced in advance and conducted at the time of day agreed on with APs (based on their availability), and conducted to address general/common grievances; and (ii) availability of the environment/social Coordinator of PMU on a fixed day as required for one-on-one

¹¹ The grievance redress committee (GRC) will have the following as members: divisional secretary as chairperson, KEIP project director, PMU environment/social coordinator as the convener, project public relations officer, director of the project NGO, managers in charge of service areas, area engineer, representatives of APs, community-based organizations (CBOs), and eminent citizens. The GRC must have at least two women members.

¹² The project steering committee responsible for grievance redress will have the following as members: KMC commissioner as the chairperson, WBPCB director general, KEIP project director as member secretary and convener, and representatives of concerned government ministries who may be invited to participate as and when required.

consultations. Non-literate APs/vulnerable APs will be assisted to understand the grievance redress process, to register complaints, and with follow-up actions at different stages in the process.

67. **Information dissemination methods of the GRM.** Grievances received and responses provided will be documented and reported back to the APs. The number of grievances recorded and resolved and the outcomes will be disclosed in the offices of the different boroughs of KMC and on the web. The phone number where grievances are to be recorded will be prominently displayed at the construction sites.

68. **Periodic review and documentation of lessons learned.** PMU will periodically review the functioning of the GRM and the effectiveness of the mechanism, especially on the project's ability to prevent and address grievances.

69. **Recordkeeping.** Records will be kept by the PMU of all grievances received, including contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date these were effected, and final outcome. The number of grievances recorded and resolved and the outcomes will be disclosed in the offices of the PMU, KEIP office, area engineer's office, and on the web, as well as reported in monitoring reports submitted to ADB on a semiannual basis.

70. **Costs.** All costs involved in resolving the complaints (meetings, consultations, communication, and information dissemination) will be borne by PMU.

V. POLICY AND LEGAL FRAMEWORK

71. The resettlement plan is designed to deal with the limited impacts during the construction stage. The project policy and framework strategy is based on the applicable legal and policy frameworks at the national and state level, and as per ADB SPS 2009 requirements. The applicable acts and policies, with detailed policy review and comparison, are provided below.

Table 23: Summary of Applicable Policies and Legal Framework

Policy/Legal Framework	Relevance
Government Policy: National Level - Land Acquisition Act (LAA), 1894 (as amended)	The LAA provides a framework for facilitating private land acquisition for public purposes in India by the state government. LAA ensures that no person is deprived of land except under LAA, and entitles affected persons to a hearing before acquisition. Under the LAA (1894), compensation is paid only to the legal titleholders, and it does not provide any compensation package to the non-title holders like encroachers, squatters, etc.
National Rehabilitation and Resettlement Policy (NRRP), Ministry of Rural Development, Government of India, 2007	The NRRP stipulates the minimum facilities to be ensured for persons displaced due to the acquisition of land for public purposes. The objectives of the policy are: <ul style="list-style-type: none"> (i) to minimize displacement and to identify non-displacing or least displacing alternatives; (ii) to plan resettlement and rehabilitation of project affected families (PAFs) or project affected households (PAHs), including tribal and vulnerable households; (iii) to provide improved standard of living to PAFs or PAHs; and (iv) to facilitate a harmonious relationship between the requiring body and PAFs. <p>Though NRRP, 2007 is applicable to projects where over 400 PAFs are displaced, the basic principles can be applied to resettlement and rehabilitation of PAFs regardless of the number affected. NRRP's provisions are intended to mitigate adverse impacts on PAFs; it has specific provisions for vulnerable or poor groups and weaker segments of society.</p>

Policy/Legal Framework	Relevance
National Policy for Urban Street Vendors 2004	Street vendors are most vulnerable to forced eviction and denial of basic right to livelihood. It causes severe long-term hardship, impoverishment, and other damage, including loss of dignity. Therefore, no street vendor will be forcefully evicted. They will be relocated with adequate temporary rehabilitation, and only where the land is needed for a public purpose of urgent need. No hawker/ street vendor should be arbitrarily evicted in the name of "beautification" of the cityscape. The beautification and clean-up programs undertaken by the states or towns should actively involve street vendors in a positive way as a part of the beautification program.
Government Policy: State Level	Although there is no specific separate land acquisition and/or rehabilitation/resettlement act that could be enacted to date by the Government of West Bengal (land being on concurrent list of the Indian Constitution), there are several West Bengal-specific amendments that have been made to the LAA of 1894. This has been done mainly to add details to the land acquisition procedures in West Bengal, including payment of compensation and establishing especially the right of <i>bargadars</i> (sharecroppers).
ADB Policy: ADB's Safeguard Policy Statement, 2009	<p>ADB's involuntary resettlement policy is to avoid resettlement wherever possible; to minimize involuntary resettlement by exploring project and design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre project levels; and to improve the standards of living of the displaced poor and other vulnerable groups.</p> <p>The IR safeguards cover physical displacement (relocation, loss of shelter or land) and economic displacement (loss of land, assets, access to assets, income sources or means of livelihoods) as a result of involuntary acquisition of land or involuntary restriction on land use, or on access to legally designated parks or protected areas. It covers them whether such losses and involuntary restrictions are full or partial, temporary or permanent.</p> <p>The three important elements of the involuntary resettlement policy are (i) compensation to replace lost assets, livelihood, and income; (ii) assistance for relocation, including provision of relocation sites with appropriate facilities and services; and (iii) assistance for rehabilitation to achieve at least the same level of well-being with the project beneficiaries.</p>

72. Based on the above, the core involuntary resettlement principles applicable for this resettlement plan are: (i) land acquisition and other involuntary resettlement impacts will be avoided or minimized by exploring all viable alternative project designs; (ii) where unavoidable, time-bound resettlement plans for temporary impacts will be prepared and affected persons will be assisted as per entitlement matrix and resettlement plan; (iii) consultations and information disclosure will be carried out with affected persons, local communities, and other stakeholders as required during the project period; (iv) vulnerable groups will be identified and their concerns addressed as per the entitlement matrix; (v) income restoration activities and temporary rehabilitation activities will be provided; (vi) resettlement plan, including documentation of the consultation process, will be disclosed in a timely manner, in an accessible place and form, and in languages understandable to affected persons and other stakeholders; (vii) grievances will be addressed as per the GRM outlined; (viii) assistances will be provided prior to beginning of construction, and (ix) resettlement outcomes and impacts will be monitored and assessed to see whether the objectives of the resettlement plan have been achieved by taking into account the baselines conditions.

VI. ENTITLEMENTS, ASSISTANCE, AND BENEFITS

A. Eligibility

73. ADB's criteria for screening and categorization of projects for involuntary resettlement will be adopted for the projects.

- (i) **Category A:** 200 or more people will be severely affected (physically displaced from housing or losing 10% or more of their productive/income-generating assets)
- (ii) **Category B:** Less significant impacts than category A
- (iii) **Category C:** No person will be affected

74. Impacts are temporary in nature and anticipated only during construction stage. Permanent impacts due to land loss are restricted to procuring land of other government departments meant for public purpose. Efforts have been made during the preparation of the engineering design to avoid acquisition of land and other assets and to reduce negative socioeconomic impact. Economic displacement resulting from partial closure of roads during construction is avoidable and manageable through good implementation of the EMP (see para. 17 of resettlement plan) to limit, to the extent possible, the disruption of any business activity. Therefore, no impact on income and livelihood opportunities is anticipated. Therefore, this subproject has been categorized as category B.

75. However, during construction stage, if income or livelihood opportunity of any business is affected due to project activities, these will be identified through a business survey. These businesses will be eligible for livelihood assistance. Those eligible for support will be provided assistance as detailed in the entitlement matrix.

76. Compensation eligibility is limited by a cut-off date as set for this project, which is the day of the beginning of the income survey prior to commencement of the civil works. The Social Safeguard Unit (SSU), in collaboration with contractor, will identify the road sections where the construction activities will hinder access, resulting in income loss for permanent business structures, and an income survey of businesses along the relevant sections will be carried out. The first day of this survey will serve as the cut-off date. All businesses identified on the cut-off date will be entitled to compensation for their lost income based on the tax record or, in its absence, comparable rates from registered businesses of the same type with tax records. For shops not qualifying under these categories (hawkers, vendors, etc.), there is the option of using the actual income based on survey, followed by a verification of the income data based on comparable incomes in the project area.

77. Hawkers or businesses that settle in the affected areas after the cut-off date will not be eligible for compensation. They will, however, be given sufficient advance notice (at least 1 week) requesting them to vacate premises and dismantle affected structures prior to subproject implementation. Contractors will provide shifting assistance to any vendors needing help.

B. Entitlements

78. The entitlement matrix (Table 24) provides a detailed description of specific compensation measures and assistance applicable to each category of affected person in accordance with the ADB policies. In addition to temporary impacts during construction, the entitlement matrix also covers damages to structures during construction.

Table 24: Entitlement Matrix

Type of Loss	Entitlement Unit	Description of Entitlement and Implementation Procedures	Remarks	Responsibility
1. Damages caused during construction				
1.1 Government and private structures	1. Titleholder 2. Tenant 3. Informal settlers on government land	Where damages occur to private, community, or government property as a result of construction works, the cost of restoring to at least their original condition will be the responsibility of the contractor as part of their contract.	Extreme care should be taken by the contractors to avoid damaging any properties during construction. Compensation for the losses will be borne by the contractor.	Contractor/PMU/DSC
2. Community facilities and resources				
2.1 Loss of community structures	Local community	Restoration of affected community buildings and structures to at least previous condition, or replacement in areas identified, in consultation with affected communities and relevant authorities	Extreme care should be taken by the contractors to avoid damaging any properties during construction. Compensation for the losses will be borne by the contractor. Community structures include service roads, inner roads, temples, footpaths/trails, culverts, and water points.	Contractor/PMU/DSC
2.2 Loss of drinking water, sanitation, and other utilities like telephone lines, cable lines, etc.	Residents and businesses	Immediate replacement and restoration of these utilities	The time gap between the construction of new system and transfer from the old system should be minimized. Alternative sources of water should be made available during the construction period.	Contractor/PMU/DSC
3. Loss of income				
3.1 Loss of business	1. Titleholder 2. Licensed and non-licensed vendors	Sufficient advance notice (at least 1 week prior to construction) will be given to businesses that may be impacted by construction activities. An income survey will be conducted of businesses located on road sections where livelihood opportunities may be affected due to loss of access. (i) Businesses are not entitled to any compensation or assistance if access is possible for pedestrians and/or vehicles during construction stage. (ii) Businesses are entitled to compensation for each day of income loss due to loss of access (full or partial, permanent or	An income survey prior to construction will serve as the cut-off date. Survey will be conducted for structures that may be impacted due to loss of access.	DSC/PMU

Type of Loss	Entitlement Unit	Description of Entitlement and Implementation Procedures	Remarks	Responsibility
		temporary) ¹³ . All businesses identified under the above mentioned category 2, in the project-impacted areas (sections ready for construction) on the cut-off date ¹⁴ will be entitled to compensation for their lost income based on the following criteria: (i) tax record or, in its absence, comparable rates from registered businesses of the same type with tax records, and (ii) for shops (licensed/illegal) not qualifying under the above criteria, the option of using the actual income based on survey, followed by a verification of the income data based on comparable incomes in the project area.		
		Mobile hawkers and vendors will be assisted by contractors in moving to alternative locations during the period of construction. Hawkers or businesses that settle in the affected areas after the cut-off date will not be eligible for assistance. They will, however, be given sufficient advance notice (at least 1 week), and requested to vacate premises and dismantle affected structures prior to project implementation.	Assistance mechanism to be part of construction contract	Contractor
3.2 Vulnerable persons	Female-headed households, and below-poverty-line HHs	Vulnerable persons entitled to preferential employment (unskilled labor) under the project	Vulnerable persons to be identified during income survey, and the list given to PMU and contractor	Contractor/DSC/PMU
4. Structures				
4.1 Permanent structures	Permanent structures or stalls that belong to licensed and non-licensed vendors, and titled and non-titled households	Advanced notice of at least 2 weeks will be given. Rights to salvage materials from structure Where permanent structures (e.g cement or concrete structures) whose materials cannot be salvaged are affected, compensation will be provided based on replacement value	Engineering designs indicate that only one permanent (vacant) structure located on the land is to be acquired for the access road to the Begore pumping station will be affected. However, during construction, if any other such	PMU/DSC

¹³ Economic displacement will be avoided through implementation of EMP.

¹⁴ First day of the income survey being conducted in a particular section

Type of Loss	Entitlement Unit	Description of Entitlement and Implementation Procedures	Remarks	Responsibility
		determined by latest schedule of rates. Assistance in shifting to nearby location	structure is affected, these will have to be identified, and replacement value will be assessed.	
4.2 Temporary loss of structures in ROW	Temporary or semi-permanent structures or stalls that belong to licensed and non-licensed vendors, and titled and non-titled households	Advanced notice of at least 2 weeks will be given. Rights to salvage materials from structure Assistance in shifting to nearby location Allowed to return to original site after completion of construction	Temporary shifting for 5-7 days during period of construction. PMU and contractor will identify alternative site and help in shifting.	Contractor/DSC/PMU
5.0 Land				
5.1 Loss of private land	Land owner(s) with legal title	Compensation at replacement value or land-for-land where feasible. ^a Fees, taxes, and other charges related to replacement land (applicable to all parcels of replacement land, which totals the equivalent area of land acquired, if parcels of non-contiguous land are bought due to the unavailability of one contiguous parcel). Transitional allowance ^b based on three months minimum wage rates. Shifting assistance ^c for households. Notice to harvest standing seasonal crops. If notice cannot be given, compensation for share of crops will be provided. Additional compensation for vulnerable households ^d	If land-for-land is offered, titles will be in the name of original landowners. ^e Fees, taxes, and other charges will be limited to those for land purchased within a year of compensation payment and for land of equivalent size. Vulnerable households will be identified during the census.	<ul style="list-style-type: none"> - KMC will purchase land by the “willing buyer willing seller” principle wherever possible, conducting negotiations and signing agreements openly in public. - Negotiations would be monitored by a third party - If a parcel of land cannot be obtained by this method, an alternative site will be sought. - If no suitable alternative exists, land will be acquired by the established procedures of LAA - KMC will commission an independent survey to establish the market value of the land. - If the sale price negotiated by KMC or established by the District Collector is less than the replacement value according to the survey, the project will pay a top-up amount equivalent to the shortfall.

a Including option for compensation for non-viable residual portions.

b To be provided for APs whose livelihood is affected by the project. The transitional allowance is calculated based on minimum wage rates for semi-skilled labor in the respective towns/cities for three months. This allowance is intended for utilization till an alternative means of livelihood is found.

c To be provided to APs relocating to a new affected person-determined site. This will be equivalent to one day hire charges for a truck, including shifting within a radius of 50 km.

d Vulnerable households comprise female-headed household, disabled-headed household, scheduled tribe-headed households, and Below Poverty Line households.

e Joint titles in the name of husband and wife will be offered in the case of married affected persons.

C. Determination of Compensation

79. **Income.** Businesses will be compensated for income loss, if any, due to loss of access (full/partial, permanent/temporary). The SSU will identify, in collaboration with the contractor, the road sections where the construction activities will hinder access, resulting in income loss for permanent business structures. An income survey of businesses along the relevant sections will be carried out. All affected businesses identified in the subproject-impacted areas (sections ready for construction) on the cut-off date will be entitled to compensation for their lost income based on the tax record or, in its absence, comparable rates from registered businesses of the same type with tax records. For shops not qualifying under these categories (hawkers, vendors, etc.), there is the option of using the actual income based on survey, followed by a verification of the income data based on comparable incomes in the subproject area.

80. **Compensation procedures.** Paying compensation to the temporarily affected persons will take the following steps:

- (i) **Step 1.** Conduct public awareness and information dissemination prior to construction works.
- (ii) **Step 2.** The SSU will identify, in collaboration with the contractor, the road sections where the construction activities will hinder access (full/partial, permanent/temporary) to any permanent business structures, resulting in income loss, and the estimated period of such disturbance. Two types of disturbance anticipated from construction activities on roads are: (a) partial disturbance, where there is no vehicular access but pedestrian access is maintained, or (b) full disturbance, where there is no vehicular and no pedestrian access.
- (iii) **Step 3.** The R&R expert is to then (a) conduct an income survey¹⁵ of shops identified for income loss; (b) update the resettlement plan (identifying income and potential loss based on actual income losses); and (c) send the updated resettlement plan to ADB for review and approval after detailed designs are complete.
- (iv) **Step 4.** After ADB approval of the revised resettlement plan, the SSU will distribute identity cards with compensation amount to the affected persons.
- (v) **Step 5.** Affected person can then collect payment at PID office or on-site, based on PID discretion.
- (vi) **Step 6.** PID will issue checks to affected persons based on survey record and identity card prior to construction works (if feasible). All payments will be recorded for accounting purposes, with signature of affected person to verify payment made. The project director will closely monitor payments with PID accounting office.

D. Vendor Assistance

81. Vendors requiring temporary shifting during construction will be notified in advance and allowed to salvage all materials for temporary shifting to alternative location. They will be allowed to return to the original location after construction is declared complete. Vendor assistance will take the following steps:

- (i) **Step 1.** Identify impacted vendors based on detailed design.

¹⁵ Compensation is based on lost income based on the tax record or, in its absence, comparable rates from registered businesses of the same type with tax records. For shops not qualifying under these categories (hawkers, vendors, etc.), there is the option of using the actual income based on survey, followed by a verification of the income data based on comparable incomes in the project area.

- (ii) **Step 2.** Notify vendors at least 1 week in advance.
- (iii) **Step 3.** Identify alternative location nearby for affected vendors to continue their business.
- (iv) **Step 4.** Contractor will provide assistance to shift to alternate location.
- (v) **Step 5.** Contractor will provide assistance to return to original location after construction is completed.

VII. INCOME RESTORATION AND REHABILITATION

82. Incomes of affected persons will be compensated based on replacement value of losses as detailed in the entitlement matrix.

VIII. RESETTLEMENT BUDGET AND FINANCING PLAN

83. The cost of all resettlement-related activities is an integral part of overall costs. Activities that may need to be carried out as part of short-term resettlement plans, if any, will be part of the Social Safeguard Unit's (SSU) activities. The preparation/updating of resettlement plan prior to construction, staff training, regular monitoring and evaluation, and grievance redressal are responsibilities of the SSU. Activities identified under resettlement monitoring activities mainly include rapid assessments, surveys, and consultations with the affected population. This will be the responsibility of the PMU to be executed through the SSU, costs of which are part of project management. Therefore, there are no additional costs.

84. Potential temporary impacts on livelihood and access have been mitigated through engineering designs that will ensure routing of pipelines and mains within the ROW, ensuring that work is done through stretches where there are no structures, and adapting micro-tunnelling for laying of pipelines. The micro-tunneling pits will also be located at positions where they will not disrupt access to the various businesses and structures. **Therefore there are no anticipated resettlement impacts for package SD04 and SD06.**

85. The engineering design and technology adopted for the packages indicates that there is no scope for roads to experience full closure. Impacts on access due to partial closure of roads have been avoided using micro-tunnelling method for sewer pipelaying. Residual impacts will be managed through good implementation of the EMP. In the unlikely event that, during construction, it is found that pits and micro-tunnelling activities are creating loss of income for any business, these businesses would be entitled to livelihood assistance. Table 25 shows related resettlement costs for SD04 and SD06 are incorporated already incorporated in project management costs.

Table 25: Summary of Estimated Land Acquisition and Resettlement Costs

Item	Estimated Number of Days of Compensation	Estimated Daily Income	Estimated Number of Shops in S&D Subproject area	Total Amount Rs	Total Amount US\$ (1 USD =55.18 INR)
Assistance for income loss	not applicable				
Staff training for SSU	Part of project management cost			-	
Consultation and information disclosure	Part of project management cost			-	
Updating resettlement plan	Part of project management cost			-	
Monitoring and evaluation	Part of project management cost			-	
Implementation of the grievance redress	Part of project management cost				

Item	Estimated Number of Days of Compensation	Estimated Daily Income	Estimated Number of Shops in S&D Subproject area	Total Amount Rs	Total Amount US\$ (1 USD =55.18 INR)
mechanism					

IX. INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

A. Institutional Arrangements

86. The existing institutional arrangement for implementation of the KEIP, which has been functioning satisfactorily, will continue. The administrative officer will coordinate basic social monitoring, including resettlement plan implementation. The present SSU, with the resettlement and rehabilitation consultant and community mobilizers, will actually implement the resettlement plan. Social safeguard obligations are now satisfactorily met with the above arrangement.

87. The above arrangement will continue to ensure that:

- (i) social safeguard issues are addressed;
- (ii) resettlement framework is followed in all resettlement issues;
- (iii) approved resettlement plans are implemented;
- (iv) implementation of resettlement plan is monitored; and
- (v) periodic monitoring reports are prepared in time and submitted to PD, KEIP for onward transmission to ADB upon approval.

88. The monitoring report will focus on the progress of implementation of the resettlement plan/resettlement framework, issues encountered and measures adopted, follow-up actions required, if any, as well as the status of compliance with the subprojects selection criteria, and relevant loan covenants.

B. Implementation

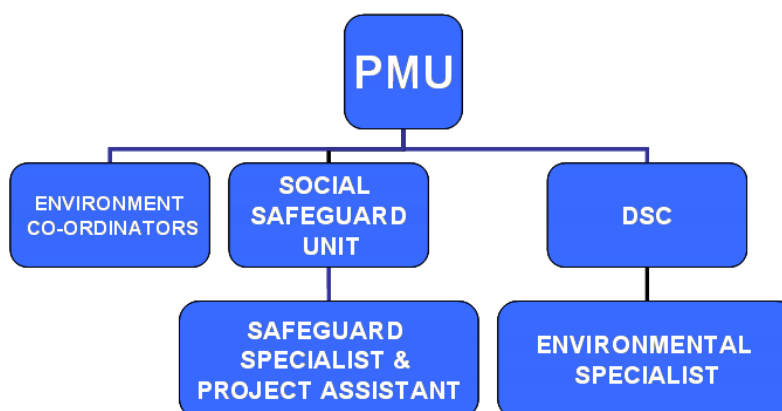
89. The Social Safeguard Unit (SSU), previously christened as SSU, will be responsible for implementation of the resettlement plan. The resettlement and rehabilitation expert will undertake surveys and record observations throughout the construction period to ensure that safeguards and mitigation measures are provided as intended. The PMU, through the SSU, will arrange for delivery of entitlements to affected persons, implementation and monitoring of safeguards compliance activities, public relations activities, gender mainstreaming activities, and community participation activities. It will also arrange for obtaining statutory clearances and no-objection certificates from government agencies and other entities, if required. It will also coordinate for obtaining ROW clearances with related state and national agencies. A consultant for resettlement and rehabilitation will arrange for data collection for future resettlement plan preparation and implementation, and will prepare progress reports with respect to the resettlement plan implementation.

90. The PMU will finalize entitlements in consultation with affected persons, which will be examined and approved by the KMC. The PMU, through the implementing SSU, will arrange for delivery of entitlements to affected persons. Organizational procedures and institutional roles and responsibilities for resettlement plan implementation, and steps involved in delivery of entitlements, are described in Table 26.

912. The SSU will continue to assist the PMU in implementing and monitoring the

resettlement plan (duly approved by KMC and reviewed/cleared by ADB prior to implementation). The implementing SSU currently has staff fully conversant in provisions of standard resettlement plans, and adequate understanding of norms and customs of, and respect for, the affected persons.

Figure 4: Institutional Arrangement – Safeguards



PMU = project management unit; DSC = design and supervision consultants;

Table 26: Organizational Procedures/Institutional Roles and Responsibilities for Resettlement Plan Implementation

Activities	Agency Responsible
Subproject initiation stage	
Finalization of sites/alignments for the subproject	PMU
Disclosure of proposed subproject details and proposed entitlements/mitigation measures by issuing public notice	PMU
Meetings at community/household level with affected persons of property	PMU/SSU
Disclosure of GRM process	PMU/SSU
Report (resettlement plan) preparation stage	
Conducting census of all affected persons	PMU/SSU
Conducting FGDs/meetings/consultations/workshops during social impact assessment surveys	PMU/SSU
Formulating compensation and rehabilitation	PMU/SSU
Conducting discussions with APs/stakeholders	PMU/SSU
Finalizing entitlements and rehabilitation packages	PMU/SSU
Disclosure of entitlements and rehabilitation	PMU/SSU
Approval of resettlement plan	PMU/ADB
Delivery of entitlements	PMU/SSU
Implementation stage	
Implementation of proposed rehabilitation measures	PMC/SSU
Consultation workshop	PMC/SSU
Grievance redress	SSU
Internal monitoring	PMU/SSU
External monitoring	External agency

92. The role of the SSU in resettlement plan implementation is that of a facilitator of the resettlement process. The SSU works as a link between the project and the affected community. They educate the affected persons on the need to implement each project and subproject under

the investment program and on aspects relating to resettlement measures, and ensure proper utilization of compensation paid to the affected persons under the entitlement package. After the approval of the micro-plans, the SSU will issue identity cards to the entitled persons. The SSU will continue:

- (i) to build rapport with affected persons and/or indigenous peoples, the PMU, and the PMC;
- (ii) to educate affected persons on their rights, entitlements, and obligations under the resettlement plan and/or indigenous peoples plan;
- (iii) to ensure that affected persons and/or indigenous peoples, including vulnerable households, receive their full entitlements;
- (iv) to provide advice to affected persons on the relative benefits of each option, where options are available;
- (v) to assist affected persons on grievance redress through the established system; and
- (vi) to collect data as required to help the PMU monitor and assess progress.

93. The responsibilities of SSU in the present the resettlement plan and/or indigenous peoples plan implementation will include the following:

- (i) to facilitate transparency in process and public participation;
- (ii) to take the lead in joint verification and identification of affected persons/indigenous peoples/vulnerable households; to enlist affected persons, indigenous peoples, and vulnerable households; and to undertake counseling for livelihood restoration, dissemination of project policies, documents, etc.;
- (iii) to identify training needs of CBOs, indigenous peoples, and vulnerable groups for income generation activities and/or literacy and numeracy, and to ensure that they are adequately supported,
- (iv) to put forth grievances of affected persons and indigenous peoples to GRC;
- (v) to generate awareness about livelihood restoration and skills development activities and opportunities for employment in project-related activities among affected persons, indigenous peoples, and vulnerable groups, and to help them to make informed choices;
- (vi) to assist the PMU in disbursement of monetary compensation, if paid to affected persons;
- (vii) to participate in public meetings and consultations as and when required; and
- (viii) to submit periodic resettlement plan/IPP implementation reports to the PMU.

X. IMPLEMENTATION SCHEDULE

94. All resettlement and compensation for the Tranche 1 S&D subproject will be completed before displacement. All land required will be provided free of encumbrances to the contractor prior to handing over of project site and the start of civil works. The implementation of the resettlement plan will include:

- (i) identification of cut-off date and notification;
- (ii) verification of losses and extent of impacts;
- (iii) finalization of entitlements and distribution of identity cards;
- (iv) consultations with affected persons on their needs and priorities; and
- (v) resettlement, provision of compensation and assistance, and income restoration for affected persons.

Table 27: Schedule for Resettlement Plan Implementation

Activity	Timeline (half yearly)					
	1	2	3	4	5	6
Census and socioeconomic survey (if required)	√					
Consultation and disclosure	√	√	√	√	√	√
Resettlement plan update	√					
Resettlement plan review and approval	√					
Establishment of GRM	√					
Redressal of grievances/complaints	Immediately after receipt					
Periodic review and documentation of lessons learned – GRM	√	√	√	√	√	√
Transfer of land	√					
Issue notice to APs	√					
Compensation and resettlement assistance (if any)	√	√				
Relocation if required	√	√				
Taking possession of land	√	√				
Internal monitoring		√	√	√	√	√
Start of civil works		√	√	√	√	√
Rehabilitation of temporarily occupied land if any	Immediately after construction					

XI. MONITORING AND REPORTING

95. Implementation will be closely monitored to provide an effective basis for assessing and identifying potential difficulties and problems. Monitoring data will be provided by SSU. Monthly progress reports will be prepared, and semi-annual monitoring reports provided by the PMU to ADB.

96. Monitoring will be carried out during the entire subproject period, and will identify potential difficulties and problem areas. Monitoring will commence after 3 months of project initiation; reports will be generated every month for the first year of implementation and bi-annually thereafter. All monitoring reports will be produced within 15 days of the end of a month or half-year. In case a short-term resettlement plan has to be implemented, then the monitoring and evaluation system will involve:

- (i) administrative monitoring, including but not limited to: daily planning, implementation, feedback and troubleshooting, individual affected person file maintenance, and progress reporting;
- (ii) socioeconomic monitoring as necessary, which might include activities such as, but not limited to: case studies using baseline information for comparing affected persons' socioeconomic conditions, communal harmony, dates for consultations, number of grievances, and resolutions; and
- (iii) Impact evaluation monitoring, including but not limited to income standards restored or improved.

97. Internal monitoring will involve the following:

- (i) administrative monitoring to ensure that implementation is on schedule and problems are dealt with on a timely basis; and
- (ii) overall monitoring of whether recovery has taken place successfully and on time.

98. Data from baseline socioeconomic surveys undertaken during project preparation will provide the benchmark for monitoring to assess the progress and success of resettlement plan implementation. Monitoring will also include the following:

- (i) communication with and documentation of reactions from affected persons;
- (ii) information from affected persons on entitlements, options, alternative developments, etc.;
- (iii) usage of GRM; and
- (iv) disbursement of compensation amounts, if any, and all assistance.

99. Monitoring will also cover the physical progress of resettlement plan implementation. This will include relocation of affected community properties, if any.

100. The indicators for achievement of objectives during resettlement plan implementation are of two kinds:

- (i) **process indicators**—indicating subproject inputs, expenditure, staff deployment, etc.; and
- (ii) **output indicators**—indicating results in terms of numbers of affected persons compensated and number of affected persons provided with skills training, etc. (if any).

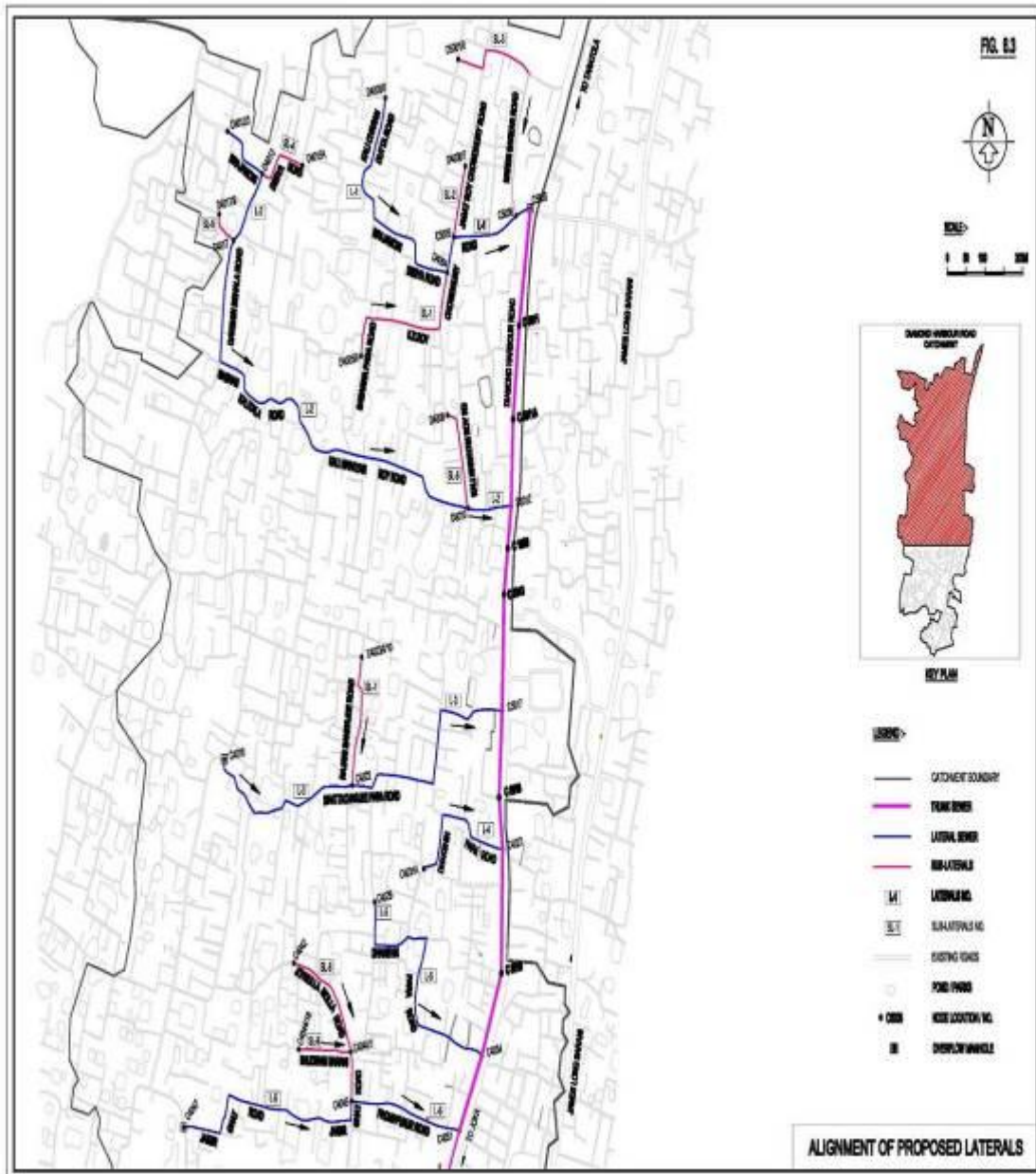
101. After subproject implementation, an end-term evaluation will be carried out to assess the effectiveness of implementation of short-term resettlement measures, if any. These reports will serve as an indicator how far the sub project has achieved in improving the quality of life of residents specially APs of the area. It will also help to prepare and address future safeguard strategies at concluding phases.

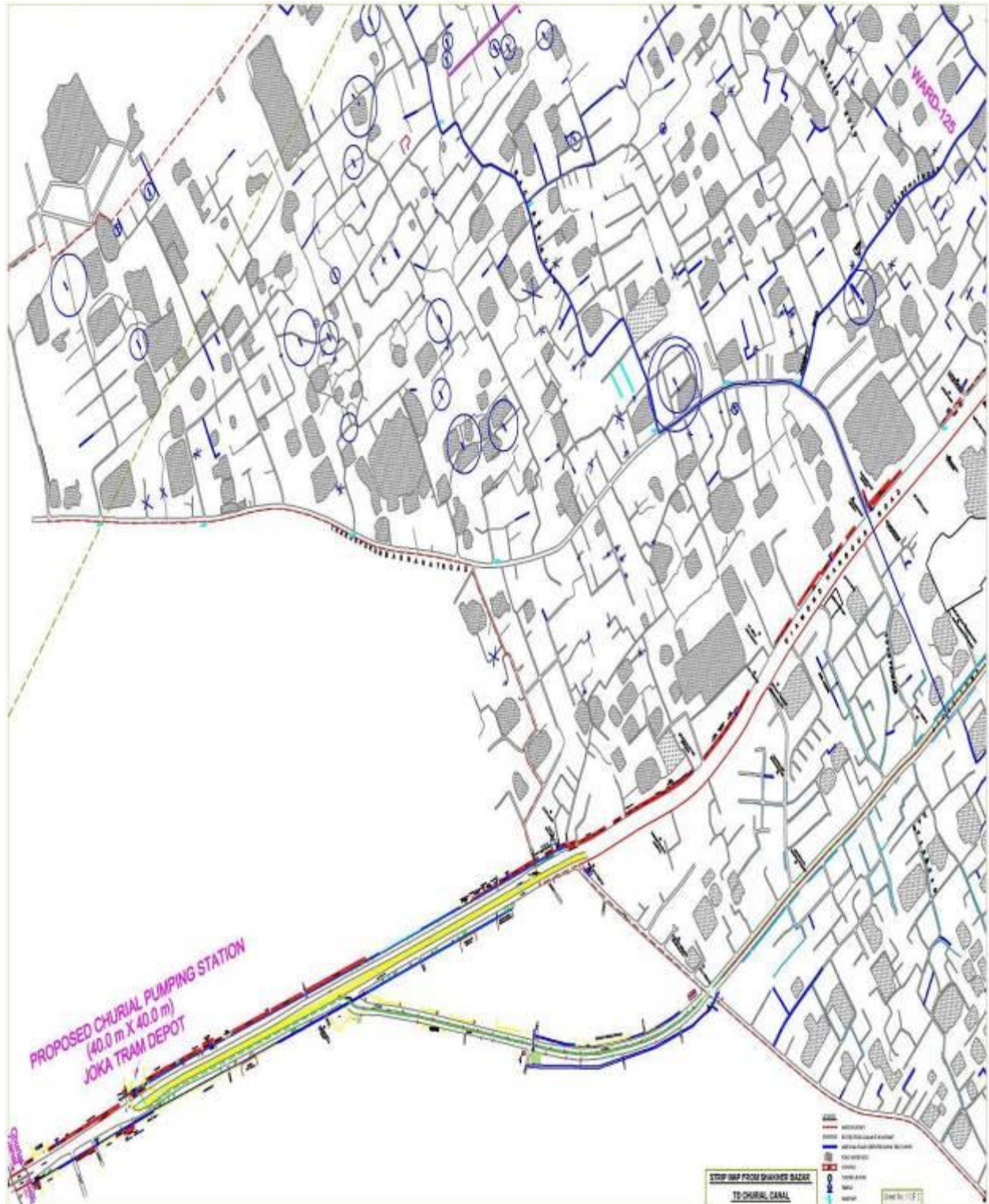
Internal Report

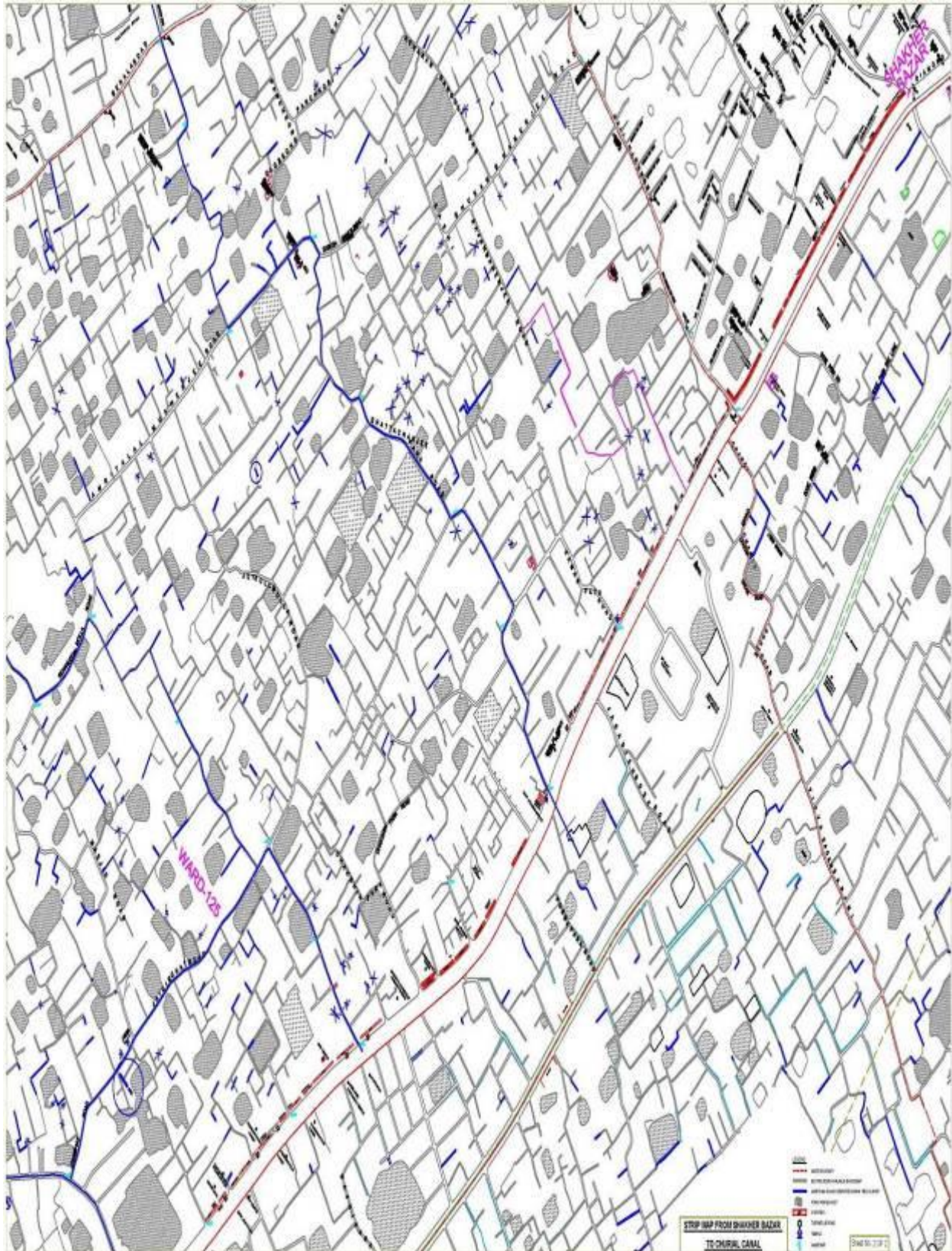
Sl. No.	Type of report	Schedule of Submission
1.	Administrative (Preparation of entitlement of individual APs, its timely implementation, i.e. disbursement of compensation ascertain the problems of APs and its redressal measures)	Monthly <ul style="list-style-type: none"> • 15th Aug, 2014 • subsequent 15th of every month (till completion of sub-project) Half Yearly <ul style="list-style-type: none"> • 31st Dec'2014 • Repeat after every 6 months till conclusion of sub-project
2.	Socio Economic (Basic information about APs , consultation to ascertain grievance and its redressal)	- do -
3.	Impact Evaluation (Restoration/Improvement of income standards)	- do -

External Reports : Half yearly reports are to be sent to the MA Dept., Govt. of West Bengal and ADB, INRM

Annex 1: Strip Maps of Diamond Harbour Road Catchment Area







Annex 2: Sample Grievance Registration Form
(To be available also in Bengali, Hindi, and Urdu)

The _____ Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

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

Thank you.

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

FOR OFFICIAL USE ONLY

Registered by: (Name of Official Registering Grievance)	
Mode of Communication: Note/Letter E-mail Verbal/Telephonic	
Reviewed by: (Names/Positions of Officials Reviewing Grievance)	
Action Taken:	
Whether Action Taken Disclosed:	Yes No
Means of Disclosure:	

Annex 3: Benefits of Micro-Tunneling

Open Trenching	Micro-Tunneling	Benefits of Micro-Tunneling
Width is at least 5 m, and is a continuous trench	Size of bore pit is maximum 4 m, and each opening is made at a distance of 150-250 m, based on road alignment and other conditions.	Micro-tunneling will help in minimizing impact on access, which is one of the major temporary adverse impacts identified in this project.
Disruption of other utility services due to shifting/damage caused during construction	Placed below the existing utilities	No disruption in living standard of affected community
Inconvenience to people using ROW is very high.	Inconvenience caused to people using ROW is minimal.	
Degradation of quality of road due to high volume of excavated materials	Minimal degradation of road due to excavated material	Affect on road aesthetics is minimal.
Scope of high levels of air, water, and noise pollution due to operations.	Minimal scope, since operations are carried out underground	Micro-tunneling will ensure low levels of air and water pollution.
Time required for construction is high, thus increasing the duration of temporary impact on affected population. A 1-km stretch under optimal conditions requires around 6-8 months of construction time.	Time required for construction is 4 months for a 1-km stretch.	Quicker implementation will reduce the period of temporary effects. The affected population will be able to regain their quality of life without much impediments.
Generates employment	Highly skilled and mechanized operations	

Annex 4: Involuntary Resettlement Impact Categorization
Involuntary Resettlement Impact Categorization Checklist (SD04 and SD06)

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Remarks
Involuntary acquisition of land				
1. Will there be land acquisition?		✓		
2. Is the site for land acquisition known?				not applicable for 2 packages
3. Is the ownership status and current usage of land to be acquired known?				
4. Will easement be utilized within an existing ROW?	✓			Linear works for S&D network pipes
5. Will there be loss of shelter and residential land due to land acquisition?		✓		
6. Will there be loss of agricultural and other productive assets due to land acquisition?		✓		
7. Will there be losses of crops, trees, and fixed assets due to land acquisition?		✓		
8. Will there be loss of businesses or enterprises due to land acquisition?		✓		
9. Will there be loss of income sources and means of livelihoods due to land acquisition?		✓		
Involuntary restrictions on land use or on access to legally designated parks and protected areas				
10. Will people lose access to natural resources, communal facilities, and services?		✓		The subprojects will not have any impacts on broader land uses in the project area. Meaningful and sustained community consultations will be undertaken throughout the project period so as to ensure no such adverse impacts.
11. If land use is changed, will it have an adverse impact on social and economic activities?		✓		
12. Will access to land and resources owned communally or by the state be restricted?		✓		
Information on displaced persons				
Any estimate of the likely number of persons who will be displaced by the project? If yes, approximately how many?				[✓] No [] Yes
Are any of them poor, female heads of households, or vulnerable to poverty risks?				[✓] No [] Yes
Are any displaced persons from indigenous or ethnic minority groups?				[✓] No [] Yes

Annex 5: Indigenous Peoples Impact Screening Checklist

KEY CONCERNS (Please provide elaborations in the "Remarks" column)	YES	NO	NOT KNOWN	Remarks
A. Indigenous peoples identification				
1. Are there socio-cultural groups present in or using the project area who may be considered "tribes" (hill tribes, scheduled tribes, tribal peoples), "minorities" (ethnic or national minorities), or "indigenous communities" in the project area?		✓		There are no identified STs in the project area.
2. Are there national or local laws or policies as well as anthropological researches/studies that consider these groups present in or using the project area as belonging to "ethnic minorities," scheduled tribes, tribal peoples, national minorities, or cultural communities?	✓			Scheduled tribes are notified in the Constitution of India under Article 342.
3. Do such groups self-identify as being part of a distinct social and cultural group?		✓		N/A
4. Do such groups maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories?		✓		The projects are within the urban areas and not in ancestral territories.
5. Do such groups maintain cultural, economic, social, and political institutions distinct from the dominant society and culture?		✓		The projects are within the urban areas and not in ancestral territories.
6. Do such groups speak a distinct language or dialect?		✓		
7. Have such groups been historically, socially, and economically marginalized, disempowered, excluded, and/or discriminated against?		✓		
8. Are such groups represented as "indigenous peoples" or as "ethnic minorities," "scheduled tribes," or "tribal populations" in any formal decision-making bodies at the national or local levels?	✓			Scheduled tribes are notified in the Constitution of India under Article 342.
B. Identification of potential impacts				
9. Will the project directly or indirectly benefit or target indigenous peoples?	✓			All will benefit equally from the urban infrastructure created under this project.
10. Will the project directly or indirectly affect indigenous peoples' traditional socio-cultural and belief practices (e.g. child-rearing, health, education, arts, and governance)?		✓		
11. Will the project affect the livelihood systems of indigenous peoples (e.g., food production system, natural resource management, crafts and trade, employment status)?		✓		The subprojects are within the urban areas and not in ancestral territories.
12. Will the project be in an area (land or territory) occupied, owned, or used by indigenous peoples, and/or claimed as ancestral domain?		✓		
C. Identification of special requirements <i>Will the project activities include:</i>		✓		
13. Commercial development of the cultural resources and knowledge of indigenous peoples?		✓		
14. Physical displacement from traditional or customary lands?		✓		
15. Commercial development of natural resources (such as minerals, hydrocarbons, forests, water, hunting or fishing grounds) within customary lands under use that would impact the livelihoods or the cultural, ceremonial, and spiritual uses that define the identity and community of indigenous peoples?		✓		
16. Establishing legal recognition of rights to lands and territories that are traditionally owned or customarily used, occupied, or claimed by indigenous peoples?		✓		

KEY CONCERNS (Please provide elaborations in the "Remarks" column)	YES	NO	NOT KNOWN	Remarks
17. Acquisition of lands that are traditionally owned or customarily used, occupied, or claimed by indigenous peoples?		✓		

D. Anticipated Impacts on Indigenous Peoples

Project Component/ Activity/Output	Anticipated Positive Effect	Anticipated Negative Effect
1. Sewerage and drainage subproject		
(i) construction of combined sewerage and drainage (S&D) pipe along Diamond Harbour (Diamond Harbour) Road using micro-tunneling; (ii) construction of S&D network within Diamond Harbour Road catchment (first stage); (iii) construction of Churial pumping station within the compound of Joka tram depot; (iv) construction of Begore pumping station; and (v) laying of pressure main between Santoshpur main pumping station and Garden Reach sewage treatment plant using micro-tunneling	Environmental benefits and service delivery improvements will benefit the urban population. Some key benefits are: (i) reduction in unhygienic conditions resulting in cleaner surroundings; (ii) reduction in choking of drains and streams; (iii) reduction in vulnerability to diseases; (iv) reduction in the hazards of pollution of surface water and groundwater; (v) quick relief from waterlogging conditions in the subproject area; and (vi) improved quality of life.	None