SFG2334 V2 REV

ENVIRONMENTAL AND SOCIAL ASSESSMENT

(Final)

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For

Construction of

Water Supply Augmentation at Khargone

Sub project of

Madhya Project Urban Development Project

Submitted By:

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Abbreviations

AMRUT	Atal Mission for Rejuvenation and Urban Transformation
CPCB	Central Pollution Control Board
CPHEEO	Central Public Health Environmental Engineering Organization
CWRM	Clear Water Rising Main
D(R)BO	Design Review and Built operate
DO	Dissolved oxygen
DPR	Detailed project report
DUAD	Directorate of Urban Administration and Development
EA	Environmental assessment
EMP	Environmental management plan
ESA	Environmental and Social Assessment
GOI	Government of India
GOMP	Government of Madhya Pradesh
HFL	Highest flood level
KNP	Khargone Nagar Palika
LPCD	Liter per capita per day
MCM	Million Cubic Meter
MOEF	Ministry of Environment and Forests
MP	Madhya Pradesh
MPUDC	Madhya Pradesh Urban Development Company
MPUDP	Madhya Pradesh Urban Development Project
NOC	No Objection Certificate
NOx	Oxides of nitrogen
NVDA	Narmada Valley Development Authority
OHT	Over Head Tank
PIU	project implementation unit
PMC	Project Management Consultant
PWD	Public Works Department
ROW	Right of way
RWRM	Row Water Rising Main
SO_2	Sulphur Dioxide
SPCB	State Pollution Control Board
TVDP	Tribal Vulnerable Development Plan
UDED	Urban Development and Environment Department
ULB	Urban Local Body
WTP	Water Treatment Plant

Executive Summary

Introduction

Madhya Pradesh (MP) is geographically the second largest, fifth populous, and eighth most urbanized state in India. Although MP recorded a higher rate of growth for its urban compared to rural population in the last decade, its urbanization rate is still below the national average but it is projected to catch-up in the next 15 years. At present, MP's total urban population is of 20.1 million (28% of total population) concentrated in 476 urban centers.

Rapid urbanization in MP has seen sprouting of new urban settlements across the state, more often close to existing cities. The last decade (2001-2011) has seen a 20% increase in the number of urban centers, including a 50% increase in census towns, compared to a 6% increase in the previous decade (1991-2001). In the cities in MP, household access to piped water supply ranges between 48-80%, per capita; water supply ranges between 35 to 150 lpcd; access to underground sewerage range between nil to 40%; waste collection ranges between 85-90%, and 60-80% of rainwater runoff is effectively drained.

Subproject Description

Khargone formerly known as West Nimar is located in western part of Madhya Pradesh. Khargone town is district headquarter of Khargone district. Khargone town is situated on the bank of river Kunda which is the main source of water supply in Khargone town.

The proposed Khargone water supply augmentation scheme is based on proposed water source being developed by Narmada Valley Development Authority (NVDA) under its lift irrigation canal project, since the existing water resources is not able to fulfill the requirement of drinking water supply to Khargone town. The present rate of per capita water supply is 60 litres per capital per day (lpcd), while as per Central Public Health Environmental Engineering Organization (CPHEEO) manual and the Service Level Bench marks laid down by Ministry of Urban Development (MoUD), Government of India (GoI) and notified by Khargone Nagar Palika, the per capita water supply rate shall be 135 LPCD minimum. It is worth mentioning here that the detailed project report (DPR) for waste water (sewerage) treatment scheme of Khargone town is under preparation and is likely to be taken up under the GoI and State sponsored Atal Mission for Rejuvenation and Urban Transformation (AMRUT). The proposed Khargone Water Supply Project is one of the subproject under the Madhya Pradesh Urban Development project (MPUDP) being prepared by GoMP for proposed financing by the World Bank. The components proposed to be constructed under this project include: (i) construction of intake well; (ii) construction of Water Treatment Plant (WTP); (iii) raw water rising main and clear water rising main; (iv) construction of Over Head Tank (OHT); and (v) distribution network.

A pipe line of 700 mm diametre will be exclusively laid from Peepari village where NVDA is already constructing a water storage, to the intake point at Kunda river near Khargone water treatment plant for supply of drinking water requirement of the town which is worked out to be 35 million litres per day (MLD) up to Year 2033. The intake well of diametre 8m and 12m height is proposed to be constructed on river Kunda near the existing intake well. The raw water rising mains of 1400m length and 700 mm diameter is proposed. DI K-9 pipe is proposed from intake well to the WTP. The existing WTP is proposed to be repaired and renovated. The

construction of a new WTP (30 MLD capacity) will be undertaken in the same premises in which present WTP exists. Clear water rising mains of DI K-9 ranging from 300mm to 800mm diameter and 15,385m from WTP to over head tanks (OHTs) is proposed to be laid. Four OHTs (each having capacity 2250 KL and 18.0m staging height) are proposed. The lands are in possession of Khargone Nagar Parishad (KNP), hence, land acquisition is not required. The town has been divided into seven zones having three existing and four proposed OHTs. The total length of the proposed network is around 174064 m of diameter 110 mm to 200 mm HDPE PN 6 pipe and 300 mm-400 mm DI K-7 Pipe. The minimum size of pipeline taken is 110 mm as per CPHEEO manual.

Environment and Social Assessment Study

This report presents the Environmental and Social Assessment (ESA) of the Khargone Water Supply subproject proposed under MPUDP. The ESA identifies potential impacts on the natural environment and the social situation in Khargone region during construction and operation of the project. Where potential adverse effects are predicted, mitigation has been developed and its implementation is presented in an Environmental and Social Management Plan (ESMP).

This subproject has been identified as a 'Category E_b' project based on the environmental screening carried out for the project. In line with the requirements of environment and social management framework (ESMF) for MPUDP, this categorization requires an Environmental Assessment Study and an Environmental Management Plan to be prepared. With regard to social safeguards, the project has been classified as 'Category S_c' due to negligible land related impacts. It should be noted that these categorization refer to categorization of MPUDP subprojects as stated in the ESMF, and should not be confused with the classification of overall Projects given in OP4.01 of the World Bank. As per safeguard policies of the World Bank, MPUDP has been categorized as a Category A project.

Legal, Policy and Administrative Framework

The national and state level environmental laws and the Operational Policies of the World Bank are applicable to MPUDP financed projects. The most important of the applicable environmental laws applicable for Khargone water supply project, are Water (Prevention And Control of Pollution) Act, 1974, The Water (Prevention And Control of Pollution) Act, 2012, Forest (Conservation) Act, 1980, Air (Prevention and Control of Pollution) Act 1981, etc. and the World Bank OP 4.01 Environmental Assessment and OP 4.11 Physical Cultural Resources..

The applicable social development regulations are Land Acquisition Act- RTFCTLARR Act 2013, The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act 2014, MP Nagariyon Kshetra ke Bhumiheen Vyakti (Pattadhruti Adhikaron ka Pradan Kiya Jana) Adhiniyam, 1984, The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, etc. and the World Bank OP 4.12 Involuntary Resettlement and the OP4.10 Indigenous People.

Baseline Environment Profile

The present population is approximately 116,150 (2011 census) out of which male are 51.44% and female are 48.56%. Scheduled Caste population comprises 7.59% whereas tribal population constitutes 9.11% of the total population. Khargone has average literacy rates of 65.3% with male and female of 72.9% and 57.1% respectively, lower compared to other urban areas of the

district. Khargone Municipal Area has been divided into 33 wards for development and administrative purposes. The total numbers of households in Khargone city are 22,448.

The subproject components locations are in the town and its surroundings. The intake will be located close to river bank on government land, while the WTP including clear water sump will be located within the existing WTP premises (close to the intake where sufficient ULB owned land is available). These facilities are located outside the town, and are mostly surrounded by agricultural lands and river bed. None of the components is located on any forest land. Rest of the components – water tanks, distribution lines, connections, etc., will be located within the municipal limits. The raw water transmission pipes connecting intake and WTP will be essentially outside the town, and clear water transmission pipes, from WTP to distribution reservoirs, will be partly outside and partly within the town. Project area experiences a subtropical climate typical to North India with hot summers, cold and dry winters, and monsoon rains. While there is no natural habitat left within the town area, areas near the river intake are comparatively intact though most land there is under agricultural use. There are no protected areas, like wildlife sanctuaries, national parks, nor any historically, archeologically protected areas in the nearby vicinity.

Assessment of Anticipated Impacts

The anticipated impacts and corresponding mitigation measures are discussed in phases namely: design, construction, operation and decommissioning phases. Based on the magnitude and duration of project activities, the nature, duration and extent of impacts are assessed. Minor project impacts have also been identified and basis for their insignificance has been provided. Wherever relevant, the EMP/SMP also addresses the minor impacts and provides environmental and social mitigation/environmental enhancement measures. Possible environmental and social impacts during design phase, construction phase and operation phase have been identified and mitigations during these phases have been suggested. Various environment and social impacts identified which need to be carefully addressed in the design phase and continuously monitored during construction and operation and maintenance phase, include: i) air pollution due to dust and noise pollution during construction, ii) disposal of excess waste produced due to excavation activities, iii) loss of vegetation, iv) loss of access to residents, v) temporary disruption, and vi) loss of livelihood etc. Such impacts would be jointly estimated and verified during construction stage by the project implementation unit (PIU) and the contractor/operator.

Environmental and social impacts due to project design or locations are not significant. The proposed water supply scheme includes development of water source (nearest surface water body) that includes construction of Intake Well at river Kunda. Given water shall be made available from Peepari reservoir - already under construction by NVDA - supplemented with the water available from the catchment of Kunda River, the source sustainability is assured (see Appendix 9 for a note on Punasa Canal Irrigation Project including Peepari Reservoir). Water quality is good and there are no potential pollution sources in the vicinity that could affect the water quality. Although none of the components are located within the forest, construction works and presence of workers, vehicles may damage/disturb the sensitive areas. Necessary precautionary measures are suggested to avoid any impacts. Since the lands identified for various components are either government lands or KNP's lands, pipes will be laid within right of way (RoW) of existing roads, no significant adverse social impacts.

During construction, potential negative impacts mainly arise from disturbance of residents, businesses, increase in traffic, increase in noise level and dusts, and the need to dispose moderate quantities of waste soil during construction phase and generation of sludge from the WTP during operation and maintenance phase. However, there are well-developed methods for mitigation and minimization to acceptable levels. Operation phase impacts are likely to be insignificant.

Stakeholder and Public Consultation

Stakeholder and public consultation is useful for gathering environmental data, understanding likely impacts, determining community and individual preferences, selecting project alternatives and designing viable and sustainable mitigation and compensation plans. The main objective for the consultation process was to involve the community at the very early stages so as to identify likely negative impacts and find ways to minimize negative impacts and enhance positive impacts of the project. Extensive public consultation meetings for the Khargone Water Supply Project took place while undertaking this ESA study

Ten (10) meetings Public sensitization and inclusion meetings were held within the wards of the project area from 18th April' 2016 to 20th April' 2016 with the help of respective local administration and the elected representatives. Key outputs of consultations have been taken into consideration and suggested changes in the design and implementation activities.

Key Outcomes of Public Consultations

The key outcomes of public consultations undertaken on this ESA are noted below:

- Peoples also demanded for proper traffic signage for speed limits for minimising the accident.
- For Safety of Local traffic and pedestrian in Built-up Zone, footpath should be provided.
- The community who can afford the hiked water tariff gave consent, but those are from low income group reacted on this issue and demanded subsidy.
- The perceived problem ofadverse impact of the project on the livelihood of a section of the population was againbrought out during the public consultation where all the doubts of the people were cleared.
- Scheduled castes, woman headed households and other vulnerable social groups affected by the project needed to be identified. They require special consideration for water supply connections on priority basis.
- All participants welcomed theproject and agreed to take mitigation measures will be suggestedduringimplementation.
- Concerns regarding Environment and social issues related to implementation and operations were welcomed by the public.

Environmental and Social Management Plan

The ESMP summarizes the key impact elements identified and the remedial measures, the actions to be taken by various parties and the monitoring activities. An indication of the time scale for implementation and cost involved is also provided.

The management plan includes mitigation measures against air pollution including dust and vehicle emissions, noise barriers, assuring access to the residents and shops during laying of

distribution network, safety measures such as barricading and signage, ensuring disposing off the excess excavated material, minimizing and avoiding the loss of flora and fauna, worker's safety etc. during construction phase. Due care has been taken in the management plan to address temporary disruption and temporary loss of livelihood. Air and Water Quality Monitoring Protocol has also been given in the management plan. The estimated cost of ESMP is Rs. 1.03 crore (US$155,000 approx.). Cost for most works such as air and water monitoring, mitigation against dust, disposal of excess excavated material have been included in the DPR cost. However, provisional sums for unidentified issues that may crop up during construction phase shall be kept separately. Management Plan during operation and maintenance phase has also been prepared with special emphasis on water quality and chlorine related issues.

The effectiveness of the ESMP shall be monitored and assessed during spot checks, formal inspections and at the end of the Project when an overall audit of the works shall be carried out.

Monitoring and Evaluation

Monitoring and evaluation process will involve the assessment of the following benchmarks:

- The implementation process of guidelines stipulated in the ESMP;
- Evaluate impact of the project to the environment and social setting of Khargone town; and
- Monitoring of involvement of the community through public consultations in decision makings and the implementation of the Project.

Urban Development and Environment Department (UDED) of Government of Madhya Pradesh (GoMP) will be the Executing Agency for the Program, responsible for management, coordination and execution of all investment program activities. Implementing Agency will be the Madhya Pradesh Urban Development Company (MPUDC) of GoMP, which will implement this program via a Project Management Unit (PMU) at Bhopal, and PIUs at project towns. PMU will appoint contractors to build infrastructure and PIUs will coordinate the construction. PMU and PIUs will be assisted by Program Management Consultants (PMC).

Grievance Redress Mechanism

A grievance redress mechanism is proposed at the city level which includes formulation of a Grievance Redress Committee consisting of an Elected Representative (preferably female), a person who is publicly known and accepted by the locals to speak on their behalf (to be identified by the elected representatives of the KNP), Community Development Officer from PIU and KNP Community Organizer.

Affected person(s) shall file their grievance with the ULB, PIU or Contractor/Operator in writing or through telephone, clarifying the area of grievance i.e. grievances related to construction activities affecting livelihood or loss of property/utility or restriction of access and the grievances regarding the quality of service during operation and maintenance period. The grievance shall be addressed within 48 hours. However, if there is any technical issue, the aggrieved will be informed accordingly.

The Design Engineer in-charge from PIU for the project shall be the nodal officer for the grievance redressal. The meeting of the Grievance Redress Committee shall be convened as and

when necessary and at such place or places as it considers appropriate; and it will conduct the proceedings in a manner as he/she considers appropriate with the object to bring an amicable settlement between the aggrieved parties.

Tribal Vulnerable Identification and Assessment for Khargone town

In Madhya Pradesh certain areas have been declared as scheduled area as Specified by the Scheduled Areas under the fifth Schedule of Indian Constitutions. Khargone district is declared as a Scheduled Area under the Schedule V by GoMP. Social impact screening and assessment done on the basis of identification, assessment and free prior informed consultations undertaken, indicate that OP4.10 on Indigenous Peoples does not get triggerred as these groups are not a distinct group and do not have any separate customary cultural, economic, social, or political institutions. It was found that they have their own language but they are well-versed with the local language - Hindi. There are also no adverse impacts on these as assessed during process and so therefore it was established that no separate Indegeneous Peoples Development Plan/Tribal Vulnerable Development Plan is required.

Conclusion and Recommendations

There are no environmentally sensitive areas (like forest, sanctuaries, etc.) in or near subproject area. Also, there are no archeological and historical protected areas/sites within or near the town. Hence, the impact identified are mostly related to construction and operation phase. There is no land acquisition nor any involuntary resettlement expected in the subproject. During implementation, only temporary disruption (damage to public utilities/temporary structure, etc.) is assumed this can be avoided. No negative impact on vulnerable group is expected.

There is no land acquisition expected neither any permanent adverse impacts on assets and livelihood is anticipated, hence no Resettlement Action Plan (RAP) is required as per the ESMF. Only minor damage to road side properties and loss of income for a few days and locations during construction phase are likely. Such impacts would be assessed by Design Review Build and Operate Contractor/Operator, who will update this ESA and the social management plan (SMP) and have that approved by MPUDC. No indigenous people were identified in the project areas which meet the requirements of indigenous people management framework and hence, no separate IPDP is required.

1. Introduction

1.1. Project Background

Madhya Pradesh (MP) is geographically the second largest, fifth populous, and eighth most urbanized state in India. Although MP recorded a higher rate of growth for its urban compared to rural population in the last decade, its urbanization rate is still below the national average but it is projected to catch-up in the next 15 years. At present, MP's total urban population is of 20.1 million (28% of total population) concentrated in 476 urban centers as follows: 378 municipal bodies of which 16 are Municipal Corporations (Nagar Palika Nigams), 100 are Nagar Palikas (Nagar palika Parishad), and 262 are Nagar Parishads, and 98 Census Towns - identified as areas with urban characteristics, but not formally notified as urban. Of the 16 municipal corporations, four (Indore, Bhopal, Jabalpur, and Gwalior) are million-plus cities.

Rapid urbanization in MP has seen sprouting of new urban settlements across the state, more often close to existing cities. The last decade (2001-2011) has seen a 20% increase in the number of urban centers, including a 50% increase in census towns, compared to a 6% increase in the previous decade (1991-2001). The last decade also saw more than a quarter-fold increase in population of the four largest urban agglomerations including Bhopal and Indore. In the cities in MP, household access to piped water supply ranges between 48-80%, per capita; water supply ranges between 35 to 150 lpcd; access to underground sewerage range between nil to 40%; waste collection ranges between 85-90%, and 60-80% of rainwater runoff is effectively drained.

The development objective of the proposed Madhya Pradesh Urban Development Project (MPUDP) supported by the World Bank, is to enhance the capacity of the relevant State-level institutions to support ULBs in developing and financing urban infrastructure. To achieve the above, the project envisages the following three components, Institutional Development Component, Urban Investment Component and Bhopal - Indore Super Corridor. The proposed Khargone Water Supply Project is one of the subproject under the Madhya Pradesh Urban Development project (MPUDP) funded by the GoMP and the World Bank. The components to be constructed under this project include:-

- Construction of an intake well
- Laying the raw water line (1400 m approx. length) from intake well to the proposed Water Treatment Plant.
- Construction of 30 MLD Water Treatment plant with 855 KL capacity clear water sump.
- Laying the clear water line (15385 m approx. length) from proposed WTP to the existing and proposed overhead tank.
- Construction of OHT and water distribution network of clear water around the city.

1.2. Context of Environment and Social Assessment

This report presents an Environmental and Social Assessment (ESA) of the Khargone Water Supply subproject under MPUDP Project. The ESA identifies potential impacts on the natural environment and the social situation in Khargone region during construction and operation of the

project. Where potential adverse effects are predicted, mitigation has been developed and its implementation is presented in an Environmental and Social Management Plan (ESMP).

This subproject has been identified as a 'Category E_b' project based on the environmental screening carried out for the project.[1] In line with the requirements of ESMF for MPUDP, the project hence requires an EA study and an Environmental and Social Management Plan. With regard to social safeguards, the project has been classified as 'Category S_c, because no land acquisition is expected also no permanent adverse impacts on assets and livelihood is anticipated, hence no RAP is required as per ESMF. Only minor damage to road side properties and loss of income for a few days and locations during construction phase may be identified. As per Indigenous People Management Framework (IPMF) quick social assessment is required to be carried out in the project area to identify indigenous people, if any indigenous people are identified in the project area.

1.3. Scope of ESA study

The Environmental and Social Impact Assessment has been carried out for the proposed Khargone water supply scheme to ensure that all adverse social and environmental impacts are taken into consideration during the design, construction, operationand decommissioning of the Project. This ESA has been prepared by independent agency based on the current DPR of the scheme.The scope of the study covered:

- Description of the proposed Project;
- The baseline environmental and social profile of the ESA study area;
- Provisions of the relevant environmental and social legislations;
- Stakeholder consultation and public meetings
- Prediction of any adverse impacts to the environment and on assets and income loss due to the proposed project;
- Appropriate mitigation measures; and
- Provision of an Environmental and Social Management Plan.

The output of this work led to this comprehensive Environmental and Social Assessment report.

1.4 Objectives of Environment and Social Assessment Study

The objectives of the ESA study are:

- To fulfill the National and State legal requirements and World Bank Safeguard policies.
- To obtain background Environmental information of the sites and legal and regulatory issues associated with the proposed Khargone water supply project;
- To assess and predict the potential impacts during site preparation, construction and operational phases of the proposed Project;

[1] It should be noted that this categorization refers to the categorization of subprojects as stated in the MPUDP ESMF, and should not be confused with the classification of overall Projects given in OP4.01 of the World Bank. As per safeguard policies of the World Bank, MPUDP has been categorized as a Category A project.

- To make suggestions of possible alterations to the proposed design, based on the assessment findings;
- To propose mitigation measures for the potential adverse environmental and social impacts and safety risks;
- To allow for public participation; and
- To prepare an ESA Report including an Environmental and Social Managementand Monitoring Plan.

1.5. Methodology

The ESA study was carried out based on desk review, field assessments and public consultations with the community who are likely to benefit from the project, the potential project affected persons and relevant Government Institutions.In the course of the assignment potential impacts of all stages of the project from pre- construction, through construction and installation to operation in project area are evaluated against applicable environmental and social standards, regulations and guidelines, the existing environmental conditions, and issues and concerns raised by all project stakeholders. The assessment process incorporates the following key stages:

1.5.1. Desk Review

A desk review was conducted to analyse available published and unpublished reports, development plans and maps in order to compile relevant baseline biophysical and socio-economic information about the study area. The biophysical information was compiled on environmental aspects such as Topography, Climate, Soils, Water Resources, land use and flora and wildlife resources. On the socio-economic environment, the study compiled information on aspects such as population, sex ratio, literacy, religious composition of town, work force participation, ST and SC population share, Below poverty line people, density of town, land use, housing gap and commercial activities etc.

1.5.2. Field Visits

Field visits were conducted in the study area in order to collect site-specific information on the biophysical and socio-economic environment and to crosscheck the secondary data. While at the site, environmental data were recorded and potential impacts identified. In addition, environmental features relevant to the study were noted and photographs taken as record of key features.

1.5.3. Public Consultation

Consultation helps to develop a sense of stakeholder ownership of the project and a realization amongst all stakeholders that their concerns are taken seriously and that the issues raised, if relevant, will be addressed in the Environmental and Social Assessment (ESA) process. All relevant stakeholders have been identified using the most recent and accurate information available. The consultation process was carried out in two stages: during the scoping and after preparation of the draft ESA. The consultation process focused on seeking comment on key issues and concerns, identifying potential impacts and offering the opportunity for alternatives or objections to be raised by the potentially affected parties; non-governmental organizations,

members of the public and other stakeholders. See **Appendix 5 & 8** for a) list of stakeholders' consultation; and b) summary of the issues and concerns raised.

Public meetings

Meetings with the communities were conducted in the project area with the help of the local administration, especially the councillors and ULB officials. The selection of the wards for the meetings was done on the basis of different categories, localities and level of problems. Ten (10) meetings were held at different locations within the project area.The discussionsduring these public meetings were centered on key emerging issues relating to theproject as well as thecommunities.

Interviews of key stakeholder agencies

One-on-one interviews with government agencies and institutionsin the project area were undertaken.These interviews were conducted to augment and confirm data and information obtained using the other tools and methodologies.

Focus Group Discussions

In total 8 focus group discussions (FGDs) were conducted, especially with women in the fringe areas of Khargone town where Municipal water supply is irregular. Focused Group Discussions (FGD) were carried out as group meetings with women residents during which the participants were given the opportunity to discuss and contribute to specific information. The participants in the focus groups were selected based on their common characteristics from different communities. The focus group discussions place particular emphasis on group dynamics, when issues of particular concern should be addressed to explore participants' problems, attitudes, and suggestions regarding subproject.

1.5.4. Impact Assessment and Analysis

Following the identification of all project environmental aspects and potential impacts, the level of impact that may result from each of the activity-receptor interactions were assessed.The assessment and analyses methodologies for ESA studies are based on the following key components of the environment and social in relation to the proposed Project:

- Physical/chemical component;
- Biological/ecological component;
- Sociological/cultural component; and
- Economic/operational component.

1.6. Mitigation and Monitoring

Mitigation: Mitigation measures were taken into consideration and defined during the impact assessment process. The results of the mitigation analysis and the mitigation measures included in Mitigation Plan of the Environmental and Social Management Plan.

Monitoring: the following have been envisioned for monitoring:

- The monitoring plan has been included in Environmental & Social Management Plan (ESMP).
- The PIU and MPUDC shall monitor the implementation of ESMP and track indicators for IEC activities, grievance redressal, participation of women, scheduled Tribes and other vulnerable people. Quarterly report shall be prepared.
- Joint verification and updation of ESA will be undertaken during construction stage.

2. Project Description

2.1 Introduction

Khargone formerly known as West Nimar is located in western part of Madhya Pradesh. Khargone town is district headquarter of Khargone district. It is having population of 133,400 according to 2011 census and is projected to be 245,450 in the year 2048. The Khargone water supply scheme has been based on proposed water source NVDA lift irrigation canal, arguing that the existing water resources is not able to fulfill the requirement of drinking water supply to Khargone town. The present rate of per capita water supply is 60 LPCD. As per CPHEEO manual and the Service Level Bench marks laid down by MoUD, GoI and notified by Khargone Nagar Palika, the per capita water supply rate shall be 135 LPCD minimum. It is worth mentioning here that DPR for Wastewater (Sewerage) Treatment scheme of Khargone town is under preparation and is likely to be taken up in near future through GoI and GoMP sponsored AMRUT.

Figure 2.1: Location of Khargone

2.2 Existing Water Supply Arrangements

The existing water supply system in the town consists of the following:

1. Intake-Well: One intake well of 6.0 m internal dia. and approx. 16.0 m height to lift water from the bed of Kunda River near existing pickup weir. This intake well was built in the year 1976 and is not being considered for the following reasons:

    i. This intake well which is already redundant, is insufficient, on its own, to meet the present demand of raw water and additional well is required in any case;

ii. Even if it is repaired and accommodated somehow in the new scheme, this will not serve for next 30 years and a new intake well will have to be constructed, thus defeating the purpose and basic objective of the scheme;

iii. New set of pumps will have to be installed at this intake well as well as the new Intake well which will not only increase the Capital Cost but also add to the Operation Cost.

2. Raw Water Pumps: The raw water pump house has 2 nos. of vertical turbine pumps and motors of 60 HP 2 100 HP – 147 lps and discharge 180 lps with a duty of 24 m Head. 100HP – 02, 60 HP – 147 lps. These pumps will have to be replaced.

3. Raw Water Rising Main: A raw water rising main of Cl class LA pipe of dia. 450 mm and a length 50 M is laid between Intake Well and Water Treatment Plant.

4. Filtration Plant: A filtration plant of capacity 10.62 MLD was constructed in the year 1976. It has 4 nos. centrifugal pumps. This WTP is of Stone Masonry. Although this is being used to supply water to the citizen of Khargone, however, its capacity has reduced and is estimated to be approximately 5MLD. It is proposed to be used and integrated with the new proposed system. However, this needs technical assessment for economic and optimized rehabilitation and integration with new system.

5. Clear water Pumping Main: Clear water pumping mains are laid for conveyance of clear water from clear water sump well to OHT's. However, the CWRM are bad in condition and it had laid in the year 1978 and will not be used in the present proposal.

6. Over Head Tanks: There are 5 nos. of overhead tanks in Khargone city; these are presented in Table 2.1 below.

Table 2.1: Details of Existing Over Head Tanks

S.No.	Location	Nos. of OHT.	Capacity	Staging	Year of Construction
1	Sanjay Nagar	1	2250 KL	15 m	2007-08
2	PHE	1	2250 KL	15 m	2014-15
3	Talabchauk (Tawadi)	1	750 KL	20 m	2007-08
4	Gayatri mandir	2	1400 KL(950KL+450KL)	18 m	1978
	TOTAL	5	5000 KL		

Out of the above, two OHT at S.No.4 built in the year1978 are redundant in present scenario.

7. Distribution System: The existing distribution system is laid of pipes diameter ranging from 300 mm to 80 mm and of CI, AC pressure pipes and GI pipes. The network has been augmented from time to time on as and when needed basis without any proper network designs and therefore the actual residual pressure is low and is not meeting desired pressure as per manuals or standards.

8. Water Connections: There are total 16898 no. of connections at present. Evidently the number of connections is very less compared to the present population size. The present proposal envisages increasing connections to 100% coverage of households (including deprived families) through individual or bulk connections.

2.3. Need of the Project

The population of Khargone town has increased tremendously. In 197 Khargone town was having a population of 41316 souls. This population further increased to 52749 in 1981, 84443 as per 2001, finally 133400 as per 2011 provisional census records.

The present system is insufficient to fulfill the demand of the present population not only in terms of per capita supply or total water demand but also in terms of network coverage. The proposed scheme has been envisaged to cover the population of 2048 of the town and adjoining areas. It is desired to augment water supply facilities based on norms by CPHEEO manual considering contemplated sewerage system in Khargone town because recently Nagar Palika Parishad has resolved to lay complete sewerage system in the township under the Government of India's programme AMRUT. Looking to the above facts per capita requirement at the rate of (135% +15% UFW) has been provided. Thus the total requirement of water for the year 2033 (intermediate design period) there is a need of augmentation of 35 MLD and at ultimate capacity 43 MLD for the year 2048 in Khargone at filtration plant and accordingly the raw water requirement also needs to be augmented.

2.4. Proposed Project

2.4.1. Source Selection

Khargone town is situated on the bank of river Kunda. Thus Kunda is the main source of water supply in Khargone town. Narmada River is approximately 55km from Khargone and presently there is no provision to supply water from it.

2.4.2. Existing Source of Water

Primary and Secondary Source of Water Supply

- Khargone Nagar Palika is supplying water to Khargone town by drawing raw water from Kunda River. A 100 m length and 4m high pick up weir is constructed across river Kunda with a storage capacity of 0.22 MCM. The stored raw water cater to 20 days demand of the town. For future point of view it is insufficient, hence it is not considered for water source.

- Another source of raw water is by gravity flow from Dejladewada dam which is constructed on Kunda river 29 km away from the town. The gross capacity of the dam is 56.55 MCM with live storage capacity as 50.44 MCM. It is far away from town and capital cost will be high and if it is transported through channels, pilferages and losses will be very high, defeating the purpose of the scheme. Due to this reason it is not suitable for selection of water source.

- Other than that water is also being supplied by 18 wells and 26 tube wells to number of localities in Khargone town. For the areas which do not have piped water supply, KNP

has 3 tankers of 5000 litre each. As reported, these tankers have to take 256 rounds per month.

2.4.3. Alternative Source Analysis

An alternate source analysis was undertaken for the project; results are below:

i. Ground Water Sources: The Khargone block comes under semi critical safe category as assessed by Central Ground Water survey Board conducted on all India bases hence, any scheme dependent on ground water sources is not advisable.

ii. Surface Water Sources: Rivers And Nallahs.

iii. River Narmada: Narmada is the largest west flowing river of Madhya Pradesh and seventh largest river in India. River Narmada which is approximately 55 km away from town, is a perennial river and for the long term water supply, this river source has enough potential of supplying to suffice the projected demand of water. But distance being too far, it could be considered as source of water for the town.

iv. Water Source selected for Khargone: Narmada Valley Development Authority (NVDA) is constructing a reservoir of 7.727 MCM capacity at Peepari village at a distance of about 8 KM from Khargone. As presented in figure 2.2 below, this reservoir will be filled by pumping water from Lift Canal System of Indira Sarovar Dam (also known as Punasa Dam), starting at village Ahirkheda, at a distance of 80 km from Khargone.

As detailed out in Appendix 9, the Punasa lift Irrigation scheme is an integrated program of GoMP and GoI. The objective of the program is to irrigate approximately 12551 hectare land in surrounding and fulfil drinking water requirement of 64 villages and Khargone town. The construction of reservoir at Pipari is already in progress and is nearing completion. In view of the above pipari dam provides a reliable water supply to Khargone. Adequate allocation for this purpose has been made by NVDA for Khargone town in this reservoir.

The components of this scheme of NVDA includes constructing an anicut near the Existing Water Treatment Plant of Khargone town and laying gravity pipeline from Peepari reservoir to this new anicut at River Kunda. Laying of pipeline is already in progress and construction of anicut has also started and is likely to be completed before the commissioning of the Water Supply Scheme of Khargone Town under MPUDP. Provision of pipeline, instead of open channel, will save water losses due to evaporation and pilferages during transmission. Thus, this is an assured and safe water source for Khargone to meet its drinking water requirement which is worked out to be 35 MLD up to year 2033.

2.4.4. Subproject Description

Table 2.2 presents the key subproject details.

Table 2.2: Sub Project Description

Per capita demand	135 lpcd+15% UFW
Water requirement -	
In year 2018	25.76 MLD
In year 2033	33.34 MLD (35 MLD)
In year 2048	42.23 MLD (45 MLD)
Intake well-cum-pump house	RCC – 9.00 m dia. 9 m height
Lowest water level	253.00 m
Pump floor level	262.00 m
Motor floor level	266.00 m
Roof top level	271.00m
Raw water pumps	Vertical turbine pumps 3 , each 44 KW
Duty intermediate stage	Discharge 402.66lps at 14.08m
Duty ultimate stage	Discharge510.02lps at 15.23 m
Hours of pumping per day	23hrs
Power requirement at intake well	170 KVA
Power requirement at WTP	500 KVA
Raw water pumping main	D.I. Class K-9
Diameter	700 mm dia
Length	Total: 1400m
Static Head	7.00 m
Clear water sump	855 KL capacity
Size	25.0 m x 25.0 m x 4.0 m water depth
Disinfection	
Chemical	Liquid chlorine
Chlorinator	Vacuum type, 22 nos.
Overhead Tanks	Four nos. each of 2250 KL capacity, 18 m staging respectively
Clear water feeder mains	D.I. K-9
	550 m: 300mm dia 7315 m: 450 mm dia 3420 m: 600 mm dia 210 m: 750 mm dia 3890 m: 800 mm dia

Sub Project Components Details

1. Intake: RCC intake of 8.0 m diameter and 12 m height is proposed within the banks of river Kunda near the anicut being constructed by NVDA, there is proposed R.C.C. intake well of. Detailed survey was conducted for selection of site. The selected site is nearest, and will have required quantity of water. A pump house of 8.0 m diameter and 5.5 m height above the intake is also proposed.

2. **Raw Water Rising Main:** 1400 m long 700 mm diameter DI K-9 pipe is proposed from intake-well to the Treatment Plant to carry 43 MLD water from Intake well to the proposed Treatment Plant.

3. Raw Water Pump: Three nos. vertical turbine type pump with 50% as standby is proposed. The discharge of each pump is 402.66 LPS and head is 14.08meter. The rating of each pump is 43.38KW (say 44 KW). One pump will be as a standby. This will be replaced by 42.23mld or 510.02lps discharging capacity at 15.23 m head pumps in year 2048.

4. Treatment Plant: The design demand for the intermediate period i.e. year 2033 is 35 MLD. The existing Treatment Plant shall be used for 5 MLD capacity. Construction of 30 MLD capacity (Design demand for 2033) Rapid Gravity Filter based Treatment Plant with Clear Water Sump is proposed.

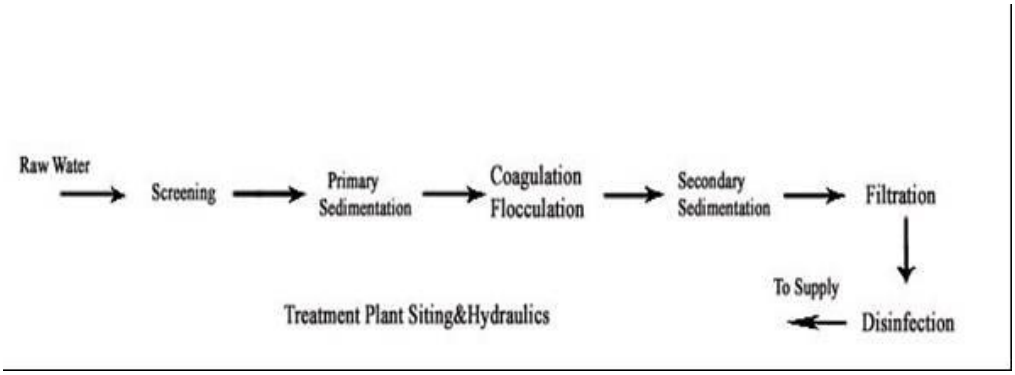
Treatment Plant

The main component are Parshall flume, Rapid mix unit, Clariflocculater, filter bed, back wash tank, clear water sump, chlorinator etc.

New Water Treatment Plant at Khargone will have the following treatment units:
1. Pre-chlorination
2. Aeration
3. Alum dosing
4. Clarification
5. Filtration
6. Post chlorination.

Schematic flow diagram of the proposed water treatment plant at Khargone is given in Figure 2.2

Figure 2.2 Schematic Flow Diagram of the Proposed Water Treatment Plant



The main components of the water treatment plant are also presented in Table 2.3.

Table 2.3: Main Components of the Treatment Plant

S. No.	Component	Size
1	Cascade aerator	Diameter 9.90 m with 4 step of 1.14 m width & rise 0.20 m ach
3	Rapid mix unit	Diameter of tank 1.86 m with tank height 4.67m. and 4 blade
4	Clariflocculater	Diameter of flocculator 4.71 m and clarifier 10.23 m.
5	Rapid sand filter	8 beds Width of filter bed= 5.71 m Length of filter bed= 6.34 m
6	Wash water tank	1 nos. of 12.89 m dia and 3 m height.
7	Clear water sump	1 no. sump & depth 4 m. Sump size= 25 m x 25 m

Pre-chlorination

In order to keep the treatment plant units in disinfected condition and also to kill the algae in the raw water, it is proposed to provide pre-chlorination at a dose of 3 mg/lit.

Aeration

Cascade Type aerator is recommended.

Alum Dosing

The alum dosing plant shall be sized, for a dose of 50 mg/lit. to water with a solution concentration of 10% in alum dosing tank. Dosing shall be by gravity dosers. 100% standby plant shall be provided.

Clarifier

The various types of clarifiers being offered today are conventional radial flow clariflocculator, conventional sludge blanket clarifiers (hopper bottom or flat bottom) and pulsators. The rise rate varies from 1.5 m/hr to 4 m/hr. In order to get the best cost effective technology, it is proposed to give freedom to the Bidder to offer his technology. In order to prevent very high surface rate the dosing of polyelectrolyte shall not be permitted.

Filtration

The filtration rate shall be between 5.20 cum/hr. Three – (3) nos. standby Filters shall be provided. Backwashing by air and water shall be provided.

Post-Chlorination

Post-Chlorination shall be done in the filtered water conduit. The chlorine dose will be provided to dose 1 mg/lit of chlorine.

Chlorine Contact Tank cum Treated Water Reservoir

A reservoir minimum of 30 minutes storage shall be provided to serve the dual purpose of chlorine contact time and treated water storage.

Clear Water Pump at WTP

Provision of 3 numbers Centrifugal type pump having discharge 390.46 LPS and head of 40m with suitable motor is proposed with 50 percent standby arrangement at TP including suction pipe, control panel, cable and all accessories is made. The rating of each pump is 120 KW.

Clear Water Rising Main

Provision, laying and jointing of 300 mm – 800 mm 15385 m long Ductile Iron, Class-K-9 length of the clear water rising main is long clear water pipe line to carry 41 MLD water from proposed Treatment Plant to Over Head Tank is proposed. Table 2.4 presents the details of the clear water rising mains.

Table 2.4: Clear Water Rising Main Details

PIPE DETAIL										
Label	**Start Node**	**Stop Node**	**Length**	**Dia.**	**Material**	**H-W Coeff**	**Flow**	**Velocity**	**Headloss**	**Headloss Gr.**
			(m)	(mm)			(L/s)	(m/s)	(m)	(m/km)
P-3	J-2	J-3	640	800	Ductile Iron	140	416.077	0.83	0.42	0.661
P-4	J-3	J-4	210	750	Ductile Iron	140	338.067	0.77	0.13	0.616
P-5	J-4	J-5	560	600	Ductile Iron	140	156.02	0.55	0.24	0.436
P-6	J-4	J-6	1,860	600	Ductile Iron	140	182.047	0.64	1.08	0.581
P-7	J-6	J-7	540	450	Ductile Iron	140	104.037	0.65	0.45	0.836
P-8	J-2	J-8	350	450	Ductile Iron	140	78.01	0.49	0.17	0.491
P-9	J-3	J-9	480	450	Ductile Iron	140	78.01	0.49	0.24	0.491
P-10	J-5	J-10	430	450	Ductile Iron	140	78.01	0.49	0.21	0.491
P-11	J-5	J-11	3,030	450	Ductile Iron	140	78.01	0.49	1.49	0.491
P-12	J-6	J-12	2,485	450	Ductile Iron	140	78.01	0.49	1.22	0.491
P-13	J-7	J-13	550	300	Ductile Iron	140	26.027	0.37	0.25	0.463
P-14	J-7	J-14	1,000	600	Ductile Iron	140	78.01	0.28	0.12	0.121
P-15	R-1	J-2	3,250	800	Ductile	140	494.087	0.98	2.95	0.909

					Iron					

Overhead Tanks

It is proposed to distribute water through OHT by making suitable zones. The whole town is divided in seven zones. Three existing overhead tanks which are in sound condition shall be used to fulfill the demand of the population they can cater based on the capacity. Four new OHTs, each of capacity 2250 KL are proposed for four zones.

List of Proposed Reservoir with capacity& staging height are given below in Table 2.5.

Table 2.5: Details of Service Reservoirs

Sr.	Zone no.	OHT. Nos.	Capacity	Staging height
1.	Municipal Zone no – 1	OHT-1	2250 KL	18.0 M.
2.	Municipal Zone no – 3	OHT-3	2250 KL.	18.0 M.
3.	Municipal Zone no – 5	OHT-5	2250 KL.	18.0 M.
4.	Municipal Zone no – 7	OHT-7	2250 KL.	18.0 M.
---	**Total Proposed**	**4 NOS.**	**9000 KL.**	--------
TOTAL EXISTING OVERHEAD TANK				
1.	Municipal Zone no – 2	OHT-2	2250 KL	15.0 M.
2.	Municipal Zone no – 4	OHT-4	2250 KL.	15.0 M.
3.	Municipal Zone no – 6	OHT-6	750 KL.	20.0 M.
---	**Total EXISTING**	**3 NOS.**	**5250 KL.**	--------
TOTAL CAPACITY OF TANK				
---	**Total Tank**	**7 NOS.**	**14250 KL.**	--------

Distribution Networks

The town has been divided into seven zones having three existing and four elevated service reservoirs. The total length of the proposed network is around 174064 m of diameter 110 mm to 200 mm HDPE PN 6 pipe and 300 mm-400 mm DI K-9 Pipe. The minimum size of pipeline taken is 110 mm as per CPHEEO manual. Table 2.6 presents the details of the distribution network.

Table 2.6: Details of Distribution network

Zone-1 Pipe Details			
Inner Dia(mm)	**Outer Dia(mm)**	**LENGTH(M)**	**MATERIAL**
98.6	110.00	12537	HDPE
143.4	160.00	8400	HDPE
179.4	200.00	6300	HDPE
300	280.00	2250	DI
400	400.00	1940	DI
Total		31427	
Zone-2 Pipe Details			

Inner Dia(MM)	Outer Dia(MM)	LENGTH(M)	MATERIAL
98.6	110.00	13930	HDPE
143.4	160.00	10752	HDPE
179.4	200.00	10927	HDPE
300	280.00	1905	DI
400	400.00	1240	DI
Total		38754	
Zone-3 Pipe Details			
Inner Dia(MM)	**Outer Dia(MM)**	**LENGTH(M)**	**MATERIAL**
98.6	110.00	4270	HDPE
143.4	160.00	6720	HDPE
179.4	200.00	5180	HDPE
300	280.00	1140	DI
400	400.00	815	DI
Total		18125	
Zone-4 Pipe Details			
Inner Dia(MM)	**Outer Dia(MM)**	**LENGTH(M)**	**MATERIAL**
98.6	110.00	8260	HDPE
143.4	160.00	11165	HDPE
179.4	200.00	7987	HDPE
300	280.00	1990	DI
400	400.00	1610	DI
Total		31012	
Zone-5 Pipe Details			
Inner Dia(MM)	**Outer Dia(MM)**	**LENGTH(M)**	**MATERIAL**
98.6	110.00	5740	HDPE
143.4	160.00	10745	HDPE
179.4	200.00	7505	HDPE
300	280.00	1780	DI
400	400.00	1245	DI
Total		27015	
Zone-6 Pipe Details			
Inner Dia(MM)	**Outer Dia(MM)**	**LENGTH(M)**	**MATERIAL**
98.6	110.00	2950	HDPE
143.4	160.00	1520	HDPE
179.4	200.00	1680	HDPE
300	280.00	920	DI
Total		7070	
Zone-7 Pipe Details			
Inner Dia(MM)	**Outer Dia(MM)**	**LENGTH(M)**	**MATERIAL**
98.6	110.00	2670	HDPE

143.4	160.00	6435	HDPE
179.4	200.00	6976	HDPE
300	280.00	2725	DI
400	400.00	1855	DI
Total		20661	

The exact siting of the infrastructures such as Intake well ,WTP and OHTs shall be confirmed by D(R)BO contractors also the alignment of the pipelines shall be verified and fixed during construction stage by the contractor.The ESA and ESMP will be updated based on the DPR finalized and approved by MPUDC based on design review.

Project cost: The estimated cost of Khargone water supply scheme is estimated at cost of Rs.11618.82 Lakhs.

3. Legal, Policy and Administrative Framework

3.1. Regulatory Framework - Environmental

Implementation of the subproject will be governed by the National and State of Madhya Pradesh environmental acts, rules, regulations, and standards, safeguard policies of The World Bank, and the Environmental and Social Management Framework (ESMF) of MPUDP. These regulations impose require avoid / minimize/ mitigate likely impacts on the environment. It is the responsibility of the project executing and implementing agencies to ensure subprojects are consistent with the legal framework, whether national, state or municipal/local. Compliance to these polices is required at all stages of the subproject including design, construction, and operation and maintenance.

The summary of environmental regulations and mandatory requirements for the subproject is shown in Table 3.1.

Table 3.1: Applicable Environmental Regulations for WSS

Law	Description
EIA Notification	EIA Notification of 2006 and 2009 (replacing the EIA Notification of 1994), set out the requirement for environmental assessment in India. This states that Environmental Clearance is required for certain defined activities/projects, and this must be obtained before any construction work or land preparation (except land acquisition) may commence. Projects are categorized as A or B depending on the scale of the project and the nature of its impacts. Category A projects requires Environmental Clearance from the National Ministry of Environment and Forest. Category B projects require Environmental Clearance from the SEIAA. This is not applicable for the Khargone WSS.
Water (Prevention and Control of Pollution) Act of 1974, Rules of 1975, and amendments	Control of water pollution is achieved through administering conditions imposed in consent issued under provision of the Water (Prevention and Control of Pollution) Act of 1974. These conditions regulate the quality and quantity of effluent, the location of discharge and the frequency of monitoring of effluents. The act will be applicable for the project with regard to meeting the water quality standards and also the discharge standards from the WTP.
Environment (Protection) Act, 1986 and CPCB Environmental Standards.	Emissions and discharges from the facilities to be created or refurbished or augmented shall comply with the notified standards. . Being an umbrella act, the act will be applicable for the project
Air (Prevention and Control of Pollution) Act of 1981, Rules of 1982	The subprojects having potential to emit air pollutants into the atmosphere have to obtain CTE under Section 21 of the Air (Prevention and Control of Pollution) Act of 1981 from WBPCB

Law	Description
and amendments.	before starting implementation and CTO before commissioning the project. The occupier of the project/facility has the responsibility to adopt necessary air pollution control measures. This will be applicable during construction and operation phase and proper safeguards as stated in EMP, shall be taken to comply air standards.
Forest (Conservation) Act, 1980 and Forest Conservation Rules, 2003 as amended	As per Rule 6, every user agency, who wants to use any forest land for non-forest purposes, shall seek approval of the Central Government. No Forest area is located in the project influence area and hence the act will not be applicable for the project.
Madhya Pradesh State Water Policy, 2003	Prepared in accordance with the National Water Policy, it states that "for environmental balance, skillful and planned management of all types of developmental activities, economic use on equitable basis and in view of the prime importance of water for all human and other living beings, an effective and sound water policy is necessary". Policy is detailed in 17 sections dealing with different aspects of water resources. No. 7 deals with Water Allocation Priorities, and according to which drinking water supply shall have the highest priority followed by irrigation, power, tourism, etc. Water Resource Department is nodal department for permitting different uses of water resources. Policy also states that "clear provision for reservation of drinking water shall be made in irrigation projects" The State Water policy is applicable to the whole of Madhya Pradesh and the NVDA has given its consent for use of surface water under the same policy.
MP Nagariyon Kshetra ke Bhumiheen Vyakti (Pattadhruti Adhikaron ka Pradan Kiya Jana) Adhiniyam, 1984, popularly known as the Patta Act.	Madhya Pradesh is the only Indian state where a separate act has been passed by the state legislature for regularizing tenure of squatters on government land. GoMP has been granting leasehold land titles or Pattas to "landless persons" or residents of squatter settlements in urban areas on the basis of the MP Nagariyon Kshetra ke Bhumiheen Vyakti (Pattadhruti Adhikaron ka Pradan Kiya Jana) Adhiniyam, 1984, popularly known as the Patta Act. The Act applies to all urban areas of MP. The `Patta' Act was introduced to grant leasehold rights to the landless persons occupying urban lands. The Act entitles all landless persons occupying less than 50 sq m of land on a specified cut of date to leasehold rights for residential use on the same land or on another site.
The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act,	The Act provides for enhanced compensation and assistances measures and adopts a more consultative and participatory approach in dealing with the Project Affected Persons. The lands identified for various components of the sub project are government lands and no private land is involved, hence, provisions of this Act shall not apply on this sub project.

Law	Description
2013(RTFCTLARRAct 2013)	
The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act,2014	GOI recently enacted the act that specifically aims to protect the rights of urban street vendors and to regulate street vending activities. It provides for Survey of street vendors and protection from eviction or relocation; issuance of certificate for vending; provides for rights and obligations of street vendors; development of street vending plans; organizing of capacity building programmes to enable the street vendors to exercise the rights contemplated under this Act; undertake research, education and training programmes to advance knowledge and understanding of the role of the informal sector in the economy, in general and the street vendors, in particular and to raise awareness.
The Scheduled Tribes And other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.	An Act to recognise and vest the forest rights and occupation in forest land in forest dwelling Scheduled Tribes and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded; to provide for a framework for recording the forests rights so vested and the nature of evidence required for such recognition and vesting in respect of forest land. This does not apply to this sub project.

3.2. World Bank Safeguard Policies

The Bank requires environment and social assessment (ESA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. Key safeguard policies are presented in Table 3.2.

Table 3.2: World Bank Safeguard Policies

World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
OP 4.01 **Environmental Assessment**	The objective of this policy is to ensure that Bank financed projects are environmentally sound and sustainable.	The environmental issues will be addressed adequately in advance. An integrated Environmental Screening and Environmental Assessment (EA) with Environmental Management Plan (EMP) will be developed to manage environmental risks and maximize environmental and social benefits wherever it is applicable.	EIA and/or EMP required.
OP/BP 4.12 **Involuntary Resettlement**	The objective of this policy is to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs. Furthermore, it intends to assist displaced person in improving their former living standards; community participation in planning and implementing resettlement; and to provide assistance to affected people, regardless of the legality of title of land	This policy applies to all components of the project that result in involuntary resettlement, regardless of the source of financing including projects that are carried out, or planned to be carried out, contemporaneously with the project. All proposed project sites have been subjected to screening.	As there is no need for land acquisition, neither there is adverse impact on assets and livelihood resulting in Involuntary resettlement, hence the policy is not applicable in case of this sub-project, hence no separate RAP is prepared.
OP/BP 4.10 **Indigenous People**	This policy aims to protect the dignity, right and cultural uniqueness of indigenous people; to ensure that they do not suffer due to development; that they receive social and economic benefits	Although Khargone district falls in Schedule V area as per constitution of India, the share of scheduled Tribes in the project area is 9.11% only. Further, they are scattered all over the town.	Based on the assessment and consultation with the key stakeholders it is confirmed that the tribal people in the project area do not exhibit typical characteristics such as living as a group; speak separate language from

World Bank Safe Guard Policies	Objective	Applicability	Safeguard Requirements
			dominant population, having separate institutions in close attachment to the forest etc. Hence, the policy does not apply. No separate IPP is required as per the OP 4.10 for this sub-project
OP/BP 4.11 **Physical Cultural Resources**	This policy aims at assisting in the preservation of cultural property, historical, religious and unique natural value-this includes remains left by previous human inhabitants and unique environment features, as well as in the protection and enhancement of cultural properties encountered in Bank-financed project.	This policy may be triggered by sub-projects where cultural property, historical, religious and unique natural value-this includes remains left by previous human inhabitants and unique environment features may be affected due to project. There is no Archaeological Monument in Khargone. However, in case of 'chance find' of cultural properties, requirements of the policy will be complied.	Application has to be prepared and submitted to Archaeological department in case any impact is envisaged due to the project.

Environment and Social Management Framework

MPUDC, after due studies of and stakeholders consultations in the sub project areas under, has prepared and disclosed Environmental and Social Management Framework which is applicable to all the sub projects under MPUDP. The guiding principles of -- Precaution, Prevention, Mitigation, Participation, Compensation, Restoration and disclosure, will be adhered to in this sub project while designing and implementing the sub project. Various provisions of ESMF for MPUDP that applies to this sub project of WSS are: a) Verification and updation of ESA; b) Verification and updation of ESMP; c); c) institutionalizing Grievance Redress Mechanism in Khargone.

4. Baseline Environment Profile

4.1. Introduction

Khargone formerly known as West Nimar is located in western part of Madhya Pradesh. Khargone town is district headquarter of Khargone district in Indore Division. Geographically, the town lies about in between longitude E 74 25' to 76 15' and latitude N21' 30 to 22 35'. The town is regionally well connected to road network and is located at the junction of SH-1 (Kasarwad-Bistan road). Khargone is connected to Indore with NH3 (Agra Mumbai road). Khargone is well connected with a good network of roads with all surrounding settlements like Khandwa, Maheshwar, Barwaha, Barwani, Dhar etc. Khargone town is centrally located in the district making the town a regional center of the district. According to census 2011 population of KNP is 133400.

4.2. Site Environmental Features of Khargone WSS components

The subproject components locations are in subproject town and their surroundings. The intakes will be located close to river banks on government lands, while the WTP including clear water sumps will be also located close to the intakes where sufficient KNP land is available. These facilities are located outside the town, and are mostly surrounded by agricultural lands and rivers/reservoirs. None of the components is located on any forest or private land. Rest of the components – water tanks, distribution lines, connections etc., will be located within the urban area. The raw water transmission pipes, connecting intake and WTP, will be essentially outside the town, and clear water transmission pipes, from WTP to distribution reservoirs, will be partly outside and partly within the towns. Project area experience a subtropical climate, typical to north India, hot summers, cold and dry winters and monsoon rains. While there is no natural habitat left within the town areas, the areas near river intakes are comparatively intact though most of the lands there too converted into agricultural use. There are no protected areas, like wildlife sanctuaries, national parks, nor any historically, archeologically protected areas in the vicinity. Towns are densely populated in the core/old town areas with narrow lanes, and small and closely built houses, while most of the areas are undeveloped and are still under agricultural use. Commercial areas are along the main roads, which are mostly congested with activities, pedestrians and traffic. According to the impacts of proposed sub project activity, its influence area is anticipated and detail of influence area is incorporated in chapter 5. Table 5.1 presents more information on site environmental features.

Table 4.1: Site Environmental Features of proposed WSS components

S.No.	Components	Detail of Location and Environmental features	Site Photographs
1.	Intake Well	In the bank of river near the proposed anicut of 1.8 m height and 100m long which is being constructed by NVDA, there is proposed R.C.C. intake well of 8.0 m diameter and 12 m height. No noticeable aquatic life found in the reservoir There are no sensitive features like forest etc near the proposed site.	
2.	Raw water Rising Main	Raw water pipeline (1.4 km length) will be laid underground from the intake well to WTP	Details for RWRM alignment is given in Appendix
3.	WTP	The existing WTP is proposed to be augmented as well as repaired and renovated. Since the augmentation has to be done in the same premises in which existing WTP is (total area-12Ha), the component doesn't need any land acquisition. The land is already in possession of the KNP. There is thick plantation on one side of the campus. The new WTP is proposed to be constructed on the other side. Although the design of the WTP may take care of the existing vegetation, however cutting down a few of the existing plants may be needed. However, new plants will be grown in the ratio of 1:3. (No. of plants cut: no. of plants grown)	

S.No.	Components	Detail of Location and Environmental features	Site Photographs
4.	Clear water Rising Main	Clear water Rising mains (15 km length) of 300 mm-800 mm dia. will be laid underground along the RoW.	
5.	OHT	**OHT at Housing Board Colony** **Staging Height- 18.0m, Capacity- 2250 KL** **Land use around the site- residential** Site is located within housing board colony. Site is vacant with no tree cover and owned by GoMP.	
		OHT at Rahim Pura **Staging Height- 18.0m, Capacity- 2250 KL** **Land use around the site- residential** Site is located within the Rahimpura, ward no 33, Site is vacant with no treecover and owned by GoMP.	
		OHT at ward no. 30 **Staging Height- 18.0m** **Capacity- 2250 KL** **Land use aorund the site- residential and School Building** Site is located within the Teachers Colony, ward no. 30. Government school is located adjacent to the site,hence for safety purpose construction of compound wall should be incorporated in DPR . Site is vacant with no treecover and owned by GoMP.	

S.No.	Components	Detail of Location and Environmental features	Site Photographs
		OHT at Police ground **Staging Height- 18.0m, Capacity- 2250 KL** **Land use around the site- vacant ground and old CRPF mess**	

4.3. Baseline Environmental and Social Profile

The baseline environmental status is important to understand the region's existing physical and biological characteristics along with cultural and social status of residing community information. The data presented in this section is based on field surveys stakeholders interaction/consultation and secondary data collection where majority includes, Baseline generation (Water/Air/Noise quality /Soil monitoring), town census data and others. The information on the baseline environmental conditions forms the basis to analysis the probable impacts of the proposed project vis-à-vis the present background environmental quality of the core study area.

4.3.1. Physical Profile

Physiographic and Topography

Khargone is located in western part of Madhya Pradesh. Khargone town is district headquarters of Khargone district.

- Geographically, the town lies about in between longitude E 74 25' to 76 15' and latitude N21' 30 to 22 35'.
- The area forms a part of Malwa plateau and lies between the Vindhyan range in the north and dissected plateaus in the south.
- The alluvial plains of the Narmada River lie between 170-260 m above the M.S.L.
- The steep slopes areas show the gradient between 10-12 m/km and gently sloping areas show gradient of 0.4 to 0.7m/km.
- Geomorphic units give the brief and synoptic idea of the general topography of the terrain.
- The whole area exhibits the presence of the FLUVIAL UNITS, showing the presence of alluvium in the flood plains of all the major river systems.
- The gently undulating plains occupy the major portion of the Khargone district on the south eastern part.

- Buried Pedi plains, showing denudation hills occupy the North –western part of the area on the either side of Narmada.

Climate

The climate in the area is tropical, generally hot in summer and cool in winter. From May to September there is not much variations in temperature conditions. The humidity is as low as 11 percent in dry months and is about 97% in monsoon season. May is generally the hottest month with the mean daily maximum temperature 45.50^{o}C and mean daily minimum temperature at 25.4°C. January is the coldest month with the mean daily maximum temperature at 35° C and mean daily minimum temperature 9.3°C. The average rainfall in the town is 1211 mm.

The area is influenced by south west monsoon. Highest velocity prevails during May and June while it is lowest during December and January. Wind direction during rainy season is mainly from south west and North West while wind direction changes during winter season again and it starts from north- east and south-west.

Air Environment. There are no major air polluting sources in the project area and generally the air quality in the area is found to be good. There is no ambient data on air quality in Khargone, which are not subjected to monitoring by the MPPCB. Therefore, initial ambient air quality monitoring conducted by the support agency appointed by the MPUDC, so a baseline quality data is available before construction. The monitoring was done in the month of June 2016. Out of the 4 locations selected for the monitoring, three were within the core city. Following are the result of AAQM at four locations.

Table 4.2: Air Quality Data of Monitoring Stations in Khargone

S.No	AAQM Station	PM 2.5 (Reading) Range : 16.2 to 31.5		
		Maximum	Minimum	Average
1.	AAQM (Location 1)	23.4	16.2	20.4
2.	AAQM (Location 2)	31.5	19.4	26.3
3.	AAQM (Location 3)	29.7	16.7	21.5
4.	AAQM(Location 4)	27.7	16.2	22.2
		PM 10 (Reading) Range : 27.0 to 56.7		
1.	AAQM (Location 1)	41.2	27.0	32.4
2.	AAQM (Location 2)	56.7	37.9	47.2
3.	AAQM (Location 3)	50.3	38.4	46.0
4.	AAQM(Location 4)	51.1	39.7	47.0
SO_{χ} (Reading) Range – 8.8 to 4.2				
1.	AAQM (Location 1)	12.3	9.0	10.4
2.	AAQM (Location 2)	14.2	9.8	12.9
3.	AAQM (Location 3)	13.5	8.9	11.1
4.	AAQM(Location 4)	12.5	8.8	11.2
NO_{χ} (Reading) Range – 9.9-75.9				
1.	AAQM (Location 1)	15.9	11.4	13.6
2.	AAQM (Location 2)	14.9	9.9	12.4
3.	AAQM (Location 3)	12.9	10.5	11.7
4.	AAQM(Location 4)	14.6	10.4	12.9

Monitoring results shows that levels of PM 2.5, PM 10, oxides of Sulphur and Nitrogen are likely to be well within the NAAQS.

Drainage and Slope characteristics: Khargone town has developed on the bank of Kunda River on a relatively level tract. Barring western portion of the town, rest of the town is almost a level plain. Kunda River flows along the western limit of the town from south to north. Natural slope of the town generally is towards Kunda River from south to north. However, a portion of southern half of the town has a slope towards east Natural drainage follows the general slope of the town as explained above. The basin exhibits sub-dendrite drainage pattern.

Water Quality

Ground Water: Groundwater potential is moderate to low in the area. Khargone block falls under semi-critical safe category as assessed by Central Ground Water Survey Board. Therefore the ground water sources could not be found reliable as source of water supply for longer period for Khargone town.

Surface Water: Kunda River to the extent of Khargone town is extremely polluted particularly the stretch between Odal river and Shamshan Ghat where all major drains enter into the river. There are no wastewater treatment plants to protect Kunda from pollution. Kunda is being polluted as there is no sewerage system in the town to collect wastewater and treat them before it is allowed into the river. During rainy season, the river banks get inundated. Frequent floods and indiscriminate dumping of waste into Kunda River further complicate the situation. Deteriorating health of Kunda river needs immediate attention. Proper storm water drains and sewerage system covering entire town along with treatment plants are needed to control pollution of Kunda and ultimately pollution of Beda and Narmada. Also due to lack of sanitation facilities, open defecation along river side and its bed is a common sight causing pollution of Kunda River.

4.3.2. Biological Profile

Forests- Flora and Fauna

The flora and fauna identified in the study area are commonly found and not specific to the region due to the absence of forest in the study area. Moreover, there are no National Parks, Wild life sanctuaries, Bird sanctuaries within 10 Km radius of the project site. There is no rare and endangered species in the area.

4.3.3. Socio Economic Profile

The present population is approximately 116150 (2011 census), of the total population of town the male are 51.44% and female are 48.56%.Scheduled Caste population comprises 7.59% whereas tribal population constitutes a mere 9.11% of the total population. Khargone town has average literacy rates of 65.3% with male and female of 57.9% and 42.1% respectively. Khargone town has lower literacy rate as compared to other urban areas of the district.

Khargone Municipal Area has been divided into 33 wards for development and administrative purposes. The total number of households of Khargone city as per 2011 Census is 22,448. The density distribution shown in Table 4.3 below.

Table 4.3: Density Distribution

Sr. No.	Residential Density Distribution	Total Number of Wards	Ward Numbers
1	<300	2	11,13
2	300-500	10	5,12,14,22,24,27,28,31,32,33
3	500-1000	13	3,4,6,8,9,18,20,21,23,25,26,29,30
4	1000-2000	7	1,2,10,15,16,17,19
5	>2000	1	7

The ward number 7, Dr. Ambedkar Ward has the highest residential density of 3,166 persons per hectare and ward number 13, Sahakari Bank Ward has the lowest residential density (about 237 persons per hectare). Average residential density in town is 527 persons per hectare.

4.3.4. Land Use Pattern of Khargaon Town

The land use pattern for the city is presented below in Table 4.4.

Table 4.4: Land Use Pattern

S.NO.	LANDUSE	EXISTING 2000		PROPOSED 2011		NORMS
		AREA (HA.)	%	AREA (HA.)	%	
1.	Residential	201.69	39.57	668.00	44.53	40-45
2.	Commercial	43.86	8.60	90.00	6.00	3-4
3.	Industrial	35.89	7.04	120.00	8.00	8-10
4.	Public+ Semipublic	80.12	15.72	145.00	9.67	10-12
5.	Public Utilities And Services	5.70	1.12	29.00	1.93	
6.	Recreational	30.00	5.89	148.00	9.87	18-20
7.	Transportation	112.48	22.07	300.00	20.00	12-14
8.	**TOTAL**	**509.74**		**1500**	**100.00**	-

The above table shows the land use pattern of Nagar Palika's administrative boundaries. Maximum land use is for Residential purpose in town ie.44.53%.Commercial and Industrial percentage of use of land is very less 6% and 8% only.

4.3.5. Sex Ratio

Sex Ratio is an important indicator of health and social status of women in society which has direct and indirect bearing on other key indicators like child mortality. Sex ratio of Khargone town is 929 females per 1000 males in 2001 which is lower than district's figure of 949 but higher than state's sex ratio of 919. Sex ratio of Khargone town in 1981 was 890 which increased to 902 in 1991 and further increased to 929 in 2001 showing an improving status of females since last 3 decades which is very encouraging.

4.3.6. Religion

Hinduism is majority religion in Khargone city with 61.50 % followers. Islam is second most popular religion in city of Khargone with approximately 37.23 % following it. Composition of

the population based on religion is given in Table 4.5. Approximately 0.08 % stated 'No Particular Religion'.

Table 4.5: Religion Composition

S.No	Type of Religion	Followers
1	Hinduism	61.50 %
2	Islam	37.23 %
3	Christianity	0.18 %
4	Jainism	0.56 %
5	Sikhism	0.38 %
6	Buddhism	0.38 %

4.3.7. Social Composition

Social Composition of town is representing the percentage of Scheduled Caste and Scheduled Tribe out of the total population. As per census 2001, 7.6% and 9.1% of the total population are SC and ST respectively, which is also represented in Table 4.6.

Table 4.6: Social Composition in Khargone Town

Social Composition	Population	Percentage of population
SC	8816	7.59
ST	10583	9.11
Others	75482	83.3
Total Population of Town	**116150**	**100**

(Source: Census, 2011)

4.3.8. Education

Khargone town has average literacy rates of 65.3% with male and female of 72.9% and 57.1% respectively. Khargone town has lower literacy rate as compared to other urban areas of the district.

Table 4.7: Literacy Rate in Khargone

Area	No. of Literates	Literacy Rates		
		Male	Female	Total
Khargone Town	56086	72.9%	57.1%	65.3%
District Khargone (Urban)	155767	73.5%	58.2%	66.15%

4.3.9. Income and Expenditure

About 74.4% of the population is in the informal employment while 25.6% are formally employed. The primary source of income of 55.7% is service; this is followed by a 23% in trading and salaried employment at 14.8%. The least source of income is farm labour and construction work at 3.3%.

4.3.10. Occupational Structure

Occupational structure of the populace is the primary indicator of nature of economy and economic base of the town. Workforce participation rate of the Khargone town is 32. The total

workforce of Khargone town is 32%; out of this 82.07% are male and only 17.93% are of female workers. The marginal workers in Khargone town are 91.38% out of total work force, the male marginal workers are 83.17% and female are 16.83%. Table 4.8 to 4.10 presents the work force participation rates for the city disaggregated by total workers, main workers, and marginal workers.

Table 4.8: Total Workers in Khargone (2011)

Area	Total Population	Total Workers			WFPR
		Main Workers	Marginal Workers	Total Workers	
Municipal Area	116150	37163 (31.4%)	33958	71121 (61.23%)	32

Table 4.9: Total Main Worker of Khargone (2011)

Area	Total Population	Total Workers	Total Main Worker				
			% Workers	Male Workers	% Male worker	Female Workers	% female worker
Municipal Area	**116150**	**37163**	**32.00**	**30500**	**82.07**	**6663**	**17.93**

(Source: Census 2011)

Table 4.10: Total Marginal Workers of Khargone (2011)

Total Population	Total Marginal Workers	Total Marginal workers				
		% Marginal Workers	Male Marginal Workers	% Male Marginal worker	Female Marginal Workers	% female Marginal worker
116150	**33958**	**91.38**	**28243**	83.17	**5715**	16.83

(Source: Census 2011)

32% of the working population are main workers having full time employment showing less employment level in town. Out of the total main workers 17.93% are female workers in Khargone town as shown in Table 4.11.

Table 4.11: Male-Female Workers in Khargone (2011)

Area	Main Workers			Non Workers(district)		
	Male	Female	Total	Male	Female	Total
Municipal Area	**30500**(82.07%)	**6663**(17.93%)	**33958**(100%)	**434867** (45.63%)	**544060** (59.14%)	**978927** (52.26%)

(Source: Census 2011)

Category of main workers in any area is an actual representative of the important economic activities of the town and thus the same has been shown in Table 4.12 to understand the economic base of the town. The non workers population of district is 52.26%.

Table 4.12: Category of Main Workers in Khargone (2011)

Category of Workers	Main Workers	Percentage (%)
Cultivator	1332	4.4
Agricultural labours	3301	10.9
Household Industry Workers	570	1.8
Other Workers	25297	82.9
Total Main Workers	**30500**	**100**

(Source: Census 2011)

It can be observed that 4.4% of the main workers are engaged in primary activities mainly agricultural labour and 10.9% are engaged in household industries. It is evident from the Table 4.10 that majority of the main workers are categorised into 'Other Workers' category which includes other than agricultural and household industry workers. 'Other Workers' includes workers engaged mainly in manufacturing industries, trade and commerce, construction activities, transport and communication and other service activities. Thus majority of population is engaged in secondary and tertiary sector activities in Khargone town.

4.3.11. Gender Ratio in Earning Population

Ratio of working population above 18 years of age is 29% of the sample population. So far as women's share in working population is concerned the PIA reveals a picture with only 5% of women gainfully employed (Table.4.11). This may be due to "invisibility" of women in work force. Besides, enumeration of working women is not favored among the male dominated rural interior society. It has also been noticed that 962 persons out of 1864 population belonging to 15-59 years age-group are gainfully engaged. This amounts to about 52% of the active population of 15-59 years. This also indicates a working ratio that is less than the potential workers. The working status by sex is presented in Table 4.13.

Table 4.13: Working Status by Sex

Working Status	Number of persons	% to T. Population
Male (18+ yrs)	**30500**	**26.26%**
Female (18+ yrs)	**6663**	**5.73%**
Total worker	**37163**	**32%**

Source: *Census 2011*

4.3.12. Vulnerability

Almost 35% of sample households belong to vulnerable categories (Table.4.14). While 31% of the population lives below poverty line including Schedule Caste household, households with disabled members account for nearly 2 percent. Scheduled Caste households account for 15 percent. There are only Five Women headed households. Scheduled Tribe family has been recorded 10 percent among the sample households. Table 4.14 presents some details.

Table 4.14: Vulnerability

Type of vulnerability	No. HH.	% to Total HH
BPL	9344	7.86%
Family with disabled member	1452	1.24%
Scheduled. Tribes	10583	10.2%
WHH	2149	1.85%

4.3.13. Unorganised Commercial Streets

Khargone town has retail and wholesale markets for special agricultural tools, agricultural products and related manufacturing products. There are wholesale markets for vegetables, hardware, medicines, agricultural products and agro based industrial products from which town and its surrounding areas fulfil their daily needs. In addition to above hardware, iron, construction material, auto parts, and agricultural tools are the major items of retail and wholesale market of Khargone. Major retail and wholesale products and prominent location of their markets are represented in Table 4.15. Due to lack of space for commercial activities, shops on footpaths and stalls on road sides have established creating traffic congestion on roads. These informal shops are concentrated on Khandwa road, Sanawad road, Bistan road, Talab chowk, Aurangpura and near Bawadi bus stop etc.

Table 4.15: Location of Various Types of Retail and Wholesale Markets

S. No.	Type of Commercial Activities	Major Location
1	Sukha Meva, Grossery Shop	Mahatma Gandhi Marg, Hospital road, Jawahar Nagar, Tilak Path, Bistan road
2	Hardware, construction material, auto parts and agricultural equipments	Diversion road, Sanawad road, Bistan road
3	Cycle parts and Repair shop	Bistan road, Khandwa road, Tilak path
4	Cloth, Readymade Garments Shops	Bistan road, Khandwa road, Mahatma Gandhi road, Hospital road
5	Plastic, Glass, China Clay potteries	Mahatma Gandhi Marge, Diversion road
6	Gold & Silver Jewellery	Mahatma Gandhi Marg, Hospital road, Jhanda chowk to Bawdi Marg
7	Commercial Offices	Tilak Road, Bistan road, Jawahar Marg
8	Vegetable and Fruit market	Back of krishna talkies, near city post office, Talab chowk
9	Books and Stationary	Mahatma Gandhi Marg
10	Timber market, wooden furniture and wood	Depot Diversion road, Umarkhali road, Talab chowk, Bistan road, Julwania road
11	Utensils Market	Hospital road, Mahatma Gandhi Marg
12	Electrical equipments	Bistan road, Hospital road
13	Medical Stores	Hospital road, Sanawad road and Mahatma Gandhi Marg
14	Truck Body Making	Bistan Road

15	Truck Repairing/Mechanic Nagar	Khandwa Road

(Source: Master Plan 2011)

4.3.14. BPL Population and Identified Slums

The BPL population of Khargone district is presented in Table 4.16.

Table 4.16: Below poverty line population

District	Population	Population below poverty line	% of Population below poverty line	Number of Households below poverty line(based on Avg. HH size)	Number of Households below poverty line (based on Avg. HHD size of BPL hhd
Khargone	234855	106848	45.5	19871	18595

Source: State planning commission

4.3.15 Slums

A survey has been done by Khargone Nagar Palika in 2007 to identify slum pockets in the Municipal Area under the Integrated Slum Housing and Development Program (IHSDP) of GoI. During this survey it was identified that 42,600 population are Below Poverty Line and 54,450 population are living in slums in Khargone town. Apart from this town also have population of pavement dwellers which are homeless, are among the poorest in city for which there is no estimation. It was observed during survey that slum pockets have been scattered in all the wards. Slum population in each of the 33 wards identified as per survey done under IHSDP scheme is shown in Table 4.17.

Table 4.17: List of Identified Slums of Khargone

Ward No.	Name of the Ward	Ward Population (2001 Census)	Slum Population (as per IHSDP)
1	Harijan Ward	1500	1000
2	Siddhant Ward	2326	1900
3	Haider Mastan Ward	2667	1500
4	Nag Mandir Ward	4591	800
5	Circuit House Ward	4766	2500
6	Bohara Bakhal Ward	1447	900
7	Dr. Ambedkar Ward	3166	1600
8	Mahajan Ward	1278	900
9	Bakimata Ward	1131	650
10	Hanuman Mandir Ward	2582	1700
11	Ravindra Ward	3109	2400
12	Nutan Nagar Ward	3313	2600
13	Sahakari Bank Ward	3414	2650
14	Balwant Kunj Ward	3187	850

Ward No.	Name of the Ward	Ward Population (2001 Census)	Slum Population (as per IHSDP)
15	Dr. Jakir Husain Ward	1886	1350
16	Tekdi Ward	1556	1100
17	Geruwa Darwaja Ward	2744	1600
18	Hajariram Mandir Ward	1150	850
19	Imalipura Ward	1872	1350
20	Taiwadi Ward	1720	1500
21	Kaharwadi Ward	1801	1300
22	Kaladewal Ward	1556	1200
23	Kajipura Ward	5824	1700
24	Goshala Ward	2154	1900
25	Shri Krishna Mandir Ward	1599	1300
26	Shri Ram Mandir Ward	1885	1200
27	Raghuvanshi Ward	1876	1450
28	Bhilat Mandir Ward	3287	2800
29	Bajrang Mandir Ward	3812	2100
30	Indira Nagar Ward	3701	2600
31	Sanjay Nagar Ward	5059	4100
32	Aurangpura Ward	2002	1800
33	Navgrah Mandir Ward	1929	1300
	Total	**85890**	**54450**

(Source: Integrated Housing and Slum Development Programme Scheme Report, 2007)

4.3.16. Social Security Schemes

Five major social security pension schemes were launched in Khargone. Schemes and beneficiaries of each of the schemes is represented in Table 4.18.

Table 4.18: Social Security Schemes and their Beneficiaries

S. No.	Social Security Schemes	Beneficiaries
1	Rastriya Pariwar Sahayata	300
2	Deen Dayal Bima Yojna	100
3	Deen Dayal Antyodaya Upchar Yojna	220
4	Samajik Surakasha Pension Yojna	150
5	Janani Surakha Yojna	330
	Total	**1100**

(Source: Integrated Housing and Slum Development Programme Scheme Report, 2007)

4.3.17. Tourism and Cultural Significance

Khargone and its neighborhood are full of places of interest. The main tourist attractions include:

Shree Navgrah Mela

The fair is held at the Mela Grounds situated near the banks of river Kunda, near the famous Navagraha temple. The name 'Navgraha Mela' is itself derived from the Navagraha mandir (temple), which is the temple devoted to the nine planets (Nav-grahas) and the god 'Sun'. Besides attractions, such as 'circus' or 'moving theatres' and amusement rides for children and youth, A significant feature of the event is a large market with hundreds of stalls selling a wide variety of goods. A large amount of business is generated by this fair every year in Khargone. Food and cuisine is also an important attraction, with many different local cuisines available.A separate cattle and livestock market also takes place during the fair where various animals such as cows, goats and calves are brought from nearby villages and areas for exchange and sale.

Nimar Utsav

During this event, different arts and cultural programs are held, such as displays of different dance forms and the cultural aspects of Nimar. Many tourists attend the event every year.

4.4. Outcomes of the Baseline Profile

As per census 2011 the population of Khargone town was 1,16,150, the decadal population growth rate of Khargone district lowered down to 22.80% from 27.90% in 2001.The density of town is highest of more than 2000 persons/ha it is not so high as compared to other developed towns, possibility of less impact on temporary structures/loss of income. Though growth rate has lowered but the residential area increased from 39.57% to 44.53% between 2000-2011, subproject have to capture these extended areas into network. Besides increase in expansion of residential area,the slums also developed rapidly almost it constitute 50% population as per the survey conducted for urban poor housing scheme in 2007 was 54,450, there is need to consider huge housing gap/connection policy. As far as economic status of Khargone town is concerned, the percentage of main workers are higher than marginal workers, there is large work force available, who can contribute a lot during implementation phase.

The literacy rate of Khargone is lower as compared to state literacy rate of 64.1%. BPL population of district is 45.5 % as per census2011.

The subproject components locations are in subproject town and its surroundings. The intake will be located close to river bank on government land, while the WTP will be located in the existing WTP premises (close to the intake where sufficient KNP land is available). These facilities are located outside the town, and are mostly surrounded by agricultural lands and river bed. None of

the components is located on forest land. Rest of the components – water tanks, distribution lines, connections etc., will be located within the urban area. The raw water transmission pipes, connecting intake and WTP, will be essentially outside the town, and clear water transmission pipes, from WTP to distribution reservoirs, will be partly outside and partly within the town. Project area experience a subtropical climate, typical to north India, hot summers, cold and dry winters and monsoon rains. While there is no natural habitat left within the town area, the area near river intake is comparatively intact though most of the land is under agricultural use. There are no protected areas, like wildlife sanctuaries, national parks, nor any historically, archeologically protected areas in the nearby vicinity.

5. Assessment of Anticipated Impacts

5.1 Introduction

This Chapter identifies and discusses both positive and negative impacts associated with the proposed project and their mitigation measures. On the basis of screening and field visits and parameters provided in ESMF for Environment and social the Khargone Water Supply project is categorized as E_b and S_cThe anticipated impacts and corresponding mitigation measures are discussed in Phases namely: design, construction, operation and decommissioning Phases.. Based on the magnitude and duration of the project activities, the nature, duration and extent of impact are assessed. Minor project impacts have also been identified and basis for their insignificance has been provided. Wherever relevant, the ESMP also addresses the minor impacts and provides environmental and social mitigation / environmental enhancement measures.

5.2. Environmental Impact

In the proposed WSS, direct and/or indirect impacts are generated which are rather short-term as they are felt and manifested during the actual performance of the construction activities. It is expected that impacts from these types of activities will cease once the contractor completes the project and demobilizes from the site. Table 5.1 shows the influence area of the proposed sub project components:-

Table 5.1: Influence Area Details of Proposed Khargone WSS

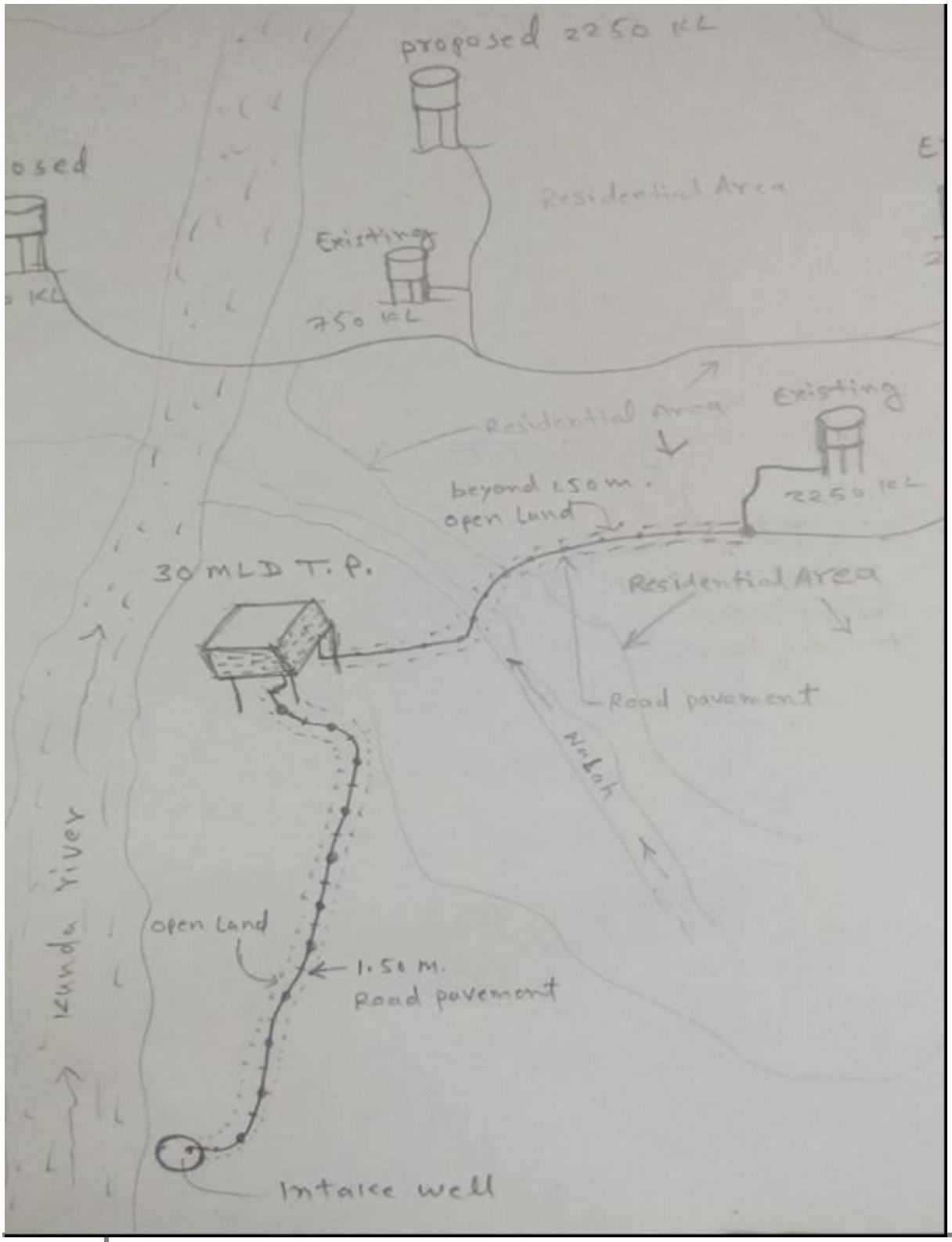
S.No.	Components	Influence Area	Description of Construction activity and impacts
1.	**Intake Well-** R.C.C. intake well of 8.0 m diameter and 12 m height.	1 km upstream and 1km downstream of river	• Influence area of Intake well covers 1km u/s and 1km d/s length of Kunda river, but there is no noticeable aquatic life and flora & fauna present in the influence • Intake well cum pump house will involve construction within the water body. An enclosed area (about 10 m dia) will be created at the selected site using temporary barriers like sand bags or sheet piles and the water will be pumped out to make the area dry for construction. Once this is created, the rest of the construction will follow the general construction procedures to create a RCC well of size 8 m diameter. Once the work is over, the temporary barriers will be removed, hence construction activity will have temporary and moderate impacts. (Detailed construction impacts and mitigation measures are given in section

S.No.	Components	Influence Area	Description of Construction activity and impacts
			• Construction of intake well in the reservoir may lead degradation of water quality due to increase in turbidity and chemical contamination from fuels and lubricant used in construction work. Though there is no notable aquatic life, to ensure that any negative impacts are mitigated, the contractor will be required to take necessary mitigation measures.
2.	**RWPM**-Approx. 1.4 km length and 700 mm dia	1.5 m each side- Along the pipe line laying	• In one side of Influence area BT road is present and on other side vacant land is present, so there is no noticeable impacts in the influence area. • Civil works in the RWPM include linear excavation for laying pipes along the roads, placing pipes in the trench and refilling with the excavated soil. Thetrenches will be of 1.2 m wide and 1.5- 2.0 m depth. • Although the exact pipe alignment will be finalized by the DRBO contractor, all efforts to be made to minimize the cutting of tress along the alignment however 4 to 5 trees (plants) likely to be cut, trees will be cut following the relevant requirements of regulations and mitigated by planting three times of the number of trees cut.
3.	**WTP-** Construction of 30 MLD capacity (Design demand for 2033)Rapid Gravity Filter based Treatment Plant with Clear Water Sump is proposed.	200 m dia	• Proposed WTP site located within the existing WTP site. • Influence area of WTP site covers vacant government land and agricultural land, and does not involve any sensitive environmental features. • WTP construction works will be confined to sites, and construction will include general activities like excavation for foundation, construction of foundations, columns, walls and roof in cement concrete and masonry, and fixing of mechanical and electrical fixtures, etc. • The proposed site has some trees, however the DBO contractor and MPUDC during the implementation phase ensure avoiding the cutting of these trees. If unavoidable the

S.No.	Components	Influence Area	Description of Construction activity and impacts
			trees will be cut following the relevantrequirements of regulations and mitigated by planting three times of the number of trees cut.
4.	**CWRM-** Provision, laying and jointing of 300 mm – 800 mm 15385 m long Ductile Iron:Class-K9, length of the clear water rising main is long clear water pipe line to carry 40.94mld water from proposed Treatment Plant to Over Head Tank is proposed.	1.5 m each side - Along the pipe line laying	• In one side of Influence area BT road (PWD road) is present and on other side agriculture land is present, so there is no noticeable impacts in the influence area. • Civil works in the CWRM include linear excavation for laying pipes along the roads, placing pipes in the trench and refilling with the excavated soil. The trenches will be of maximum 1.2 m wide and 1.5 m depth. • Detailed construction impacts and mitigation measures are given in section 5.2.2
5.	**OHT-**four overhead tanks each of 2250KL capacity is proposed at Khargone town	Influence area should be at least 100 m either of the OHT	• All the overhead tanks are proposed on government vacant land, hence there is no sensitive area comes under influence area of OHTs sites. • The proposed sites have some trees, however the DBO contractor and MPUDC during the implementation phase ensure avoiding the cutting of these trees . If unavoidable the trees will be cut following the relevant requirements of regulations and mitigated by planting three times of the number of trees cut. • Detailed contruction impacts and mitigation measures are given in section 5.2.2
6.	**Distribution Network**- The town has been divided into seven zones having three existing and four elevated service reservoirs. The total length of the proposed network is around 174064 m of diameter 110 mm to 200 mm HDPE PN 6 pipe and	The whole town is influenced by this activity.	• Construction activity: Earth work excavation will be undertaken by machine (backhoe excavator) and include danger lighting and using sight rails and barricades at every 100 m., while pipe laying works will include laying pipes at required gradient, fixing collars, elbows, tees, bends and other fittings including conveying the material to work spot and testing for water tightness. Sufficient care will be taken while laying so that existing utilities and cables are not damaged and pipes are not thrown into the

S.No.	Components	Influence Area	Description of Construction activity and impacts
	300 mm-400 mm DI K-9 Pipe. The minimum size of pipeline taken is 110 mm as per CPHEEO manual for population less than 50000.		trenches or dragged, but carefully laid in the trenches. As trenches are a maximum of 1.2 m, there is no risk of collapse of trenches or risk to surrounding buildings. Once they are laid, pipes will be joined as per specification and then tested for any cracks of leakages. The minimum working hours will be 8 hours daily, the total duration of each stag depends on the soil condition and other local features. About 95% of the excavated soil will be used for refilling the trench after placing the pipe and therefore residual soil after pipe laying and refilling is not significant. This soil shall be used for construction of WTP in ground levelling. • Excavation along the roads, hauling of construction materials and operation of equipment on-site can cause traffic problems. Roads in the core/old town area of Khargone are very narrow. However, most of the roads are used by pedestrians and two wheelers, and four wheelers vehicles are very limited. Potential impact is negative but short term and reversible by mitigation measures. • Detailed construction impacts and mitigation measures are given in section 5.2.2

Figure 5.1: Strip Map showing Details of Row Water Reservior Mains (RWRM) and Clear Water Reservior Mains (CWRM)



5.2.2. Construction Phase Impacts

Positive Impacts

Employment opportunities: With the construction of the proposed Project, there will be employment opportunities for both skilled and unskilled workers. This will be beneficial both from the economic and social point of view. Economically, it means abundant unskilled labour will be used in production. Several workers including casual labour, plumbers and engineers are expected to work on the site for a period of time. Semi-skilled, unskilled and formal employees are expected to obtain gainful employment during the period of construction. With labour intensive construction technologies, the project will provide employment for youths and provide support to the GoMP initiatives on creation of jobs.

Creation of a market for construction: The Project will require materials, some of which will be sourced locally and some nationally or internationally. These include plant (pump sets, switch gear, instrumentation) pipes, valves, cement, sand and chemicals. This will provide a ready market for suppliers in and outside the project area.

Negative Impacts during Construction

The following negative impacts are associated with the construction of the proposed Project:

Air Quality. During construction process, there is potential of creating dust from the excavation of dry soil, backfilling, transportation to disposal, and from the import and storage of sand/gravel for bedding. Emissions from construction vehicles, equipment, and machinery used for excavation and construction will also induce impacts on the air quality in the construction sites. Anticipated impacts include dusts and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulfur oxides, particulate matter, nitrous oxides, and hydrocarbons) but temporary and during construction activities only. To mitigate the impacts, construction contractors will be required to:

- Consult with PMU/PIU on the designated areas for stockpiling of clay, soils, gravel, and other construction materials;
- Excavate the SRs foundations at the same time as the access roads (if needed) are built so that dug material is used immediately, avoiding the need to stockpile on site;
- Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather;
- Bring materials (aggregates) as and when required;
- Use tarpaulins to cover sand and other loose material when transported by vehicles;
- Fit all heavy equipment and machinery with air pollution control devices which are operating correctly; and
- Clean wheels and undercarriage of vehicles prior to leaving construction site.

Accessibility. Transport infrastructure will be affected as in the narrower streets there is not enough space for excavated soil to be piled off the road. The road itself may also be excavated in places where there is no available land to locate pipes alongside. Traffic will therefore be

disrupted, and in some very narrow streets the whole road may need to be closed for short periods. Potential impact is negative but short term and reversible by mitigation measures. The construction contractor will be required to:

- Plan pipeline work in consultation with the traffic police;
- Conduct work during light traffic;
- Plan work such that trench excavation, pipe laying, and refilling including compacting, at a stretch is completed in a minimum possible time;
- Provide for immediate consolidation of backfilling material to desired compaction to avoid future settlement risk - this will allow immediate road restoration and therefore will minimize disturbance to the traffic movement;
- Do not close the road completely, ensure that work is conducted onto edge of the road; allow traffic to move on one line;
- In unavoidable circumstances of road closure, provide alternative routes, and ensure that public is informed about such traffic diversions;
- At all work sites public information/caution boards shall be provided – information shall inter-alia include: project name, cost and schedule; executing agency and contractor details; nature and schedule of work at that road/locality; traffic diversion details, if any; entry restriction information; competent official's name and contact for public complaints.
- Access will be restricted during excavation to the neighbouring property, information to be given prior week excavation and diversion indication and signage to be placed during excavation.

Noise Levels. The construction and excavation activities will certainly generate noise and vibrations. The sensitive receptors are the general population in these areas. Noise will be for a short term (about 2-3 days at each location) thus impact is negative, short-term, and reversible by mitigation measures. The construction contractor will be required to:

- Plan activities in consultation with PMU/PIU so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance;
- Provide prior information to the local public about the work schedule;
- Require horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach;
- Ensure that there are no old and sensitive buildings that may come under risk due to the use of pneumatic drills; if there is risk
- Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers, and portable street barriers the sound impact to surrounding sensitive receptor; and
- Maintain maximum sound levels not exceeding 80 decibels (dbA) when measured at a distance of 10 m or more from the vehicle/s.

Solid waste generation: Solid wastes generated from the construction activities are excess excavated earth (spoils), discarded construction materials, cement bags, wood, steel, oils, fuels and other similar items. Domestic solid wastes may also be generated from the workers' camp. Improper waste management could cause odor and vermin problems, pollution and flow obstruction of nearby watercourses and could negatively impact the landscape.

Mitigation Action:

- Construction waste should be recycled or reused as much as possible to ensure that materials that would otherwise be disposed off as waste are diverted for productive uses;
- The Proponent shall put in place measures to ensure that construction materials requirements are carefully budgeted and to ensure that the amount of construction materials left on site after construction is kept minimal;
- Minimization of solid waste during construction of the proposed Project through use of durable, long-lasting materials that will not need to be replaced often, thereby reducing the amount of construction waste generated over time;
- Skips and bins should be strategically placed within the campsite and construction site, they should also be adequately designed and covered to prevent access by vermin and minimize odour. They should also be emptied regularly;
- Measures to ensure that waste materials from the Project are disposed at suitable sites will be taken. These will include engaging only reputable truckers and conducting appropriate spot checks to verify that disposal are done in accordance with the requirements of MSW rules;

Vegetation loss: The construction of the proposed project will involve clearing of vegetation cover especially in proximity to proposed developments. During construction, a small amount of vegetation will be cleared to give way for the proposed water pipelines and water treatment plants. Riverine vegetation will also be cleared around the Kunda river. Not only vegetation may be lost, but also fauna habitats may also be lost or at least partly destroyed. In addition, the removal of areas of vegetation could mean that the same degree of interception will no longer occur, and consequently increased run-off might be expected. However, the significance of the vegetation loss during the site clearance is minimal.

Mitigation

- The Contractor will ensure proper demarcation of the Project area to be affected by the construction works;
- Strict control of construction vehicles to ensure that they operate only within the area to be disturbed by access routes and other works;
- Retention of trees and shrubs, where possible on the potential sites for screening of the visual impact;
- Where the proposed route requires the removal of any vegetation, care will be taken to minimize the destruction or damage of trees.
- Replanting of destroyed trees in cleared areas where works are complete.

Workers accidents and hazards: Construction workers are likely to have injuries and hazards as the construction works unavoidably expose workers to occupational health and safety risks. The workers are also likely to be exposed to risk of accidents and injuries resulting from accidental falls and injuries from hand tools and construction equipment.

Mitigation

- To reduce the workers accidents and hazards the Proponent will develop and commit the Contractors to Site Occupational Health and Safety rules
- All construction workers should be advised of the dangers associated with construction work;
- Workers should be provided with suitable personal protective equipment (PPE);
- Provision of adequate sanitary facilities to workers
- Train all workers on Safety Health and Environment (SHE) with an aim of improving awareness;
- Where construction activities interfere with the movement of traffic, the site should be signed and controlled by trained flagmen/flag women and lit by night.

Disposal of Ac Pipes Removed during Construction Phase

Asbestos cement pipes often are found in underground utility conduits and municipal water, sewer and drainage systems. Asbestos cement pipes buried below ground are considered non-friable if they are in good condition. It should be noted that active asbestos cement pipe that is exposed and is not intended to be replaced or removed and is not disturbed by repair or replacement activities may remain in place and be backfilled.

5.2.3. Guidance for Disposal

The following guidance for disposal is proposed.

Pre-Demolition/Renovation Survey

Owner and contractor are responsible for determining whether cement pipe in a particular utility conduit that will be subject to demolition or renovation contains asbestos. This requires owner and contractor to conduct a "thorough inspection" to determine the location of asbestos containing materials before starting demolition or renovation.

The contractor must keep documentation of the pre-demolition/renovation survey, signed and dated by the person who conducted the inspection, during the design build period.

Handling Practices

When repairing, removing or replacing asbestos cement pipe, it is important to handle the pipe in a manner that will minimize the risk of making it friable or releasing asbestos dust into the environment. Start by exposing the asbestos cement pipe with minimal disturbance. Excavate no closer than 6 inches of the pipe. Carefully uncover the remainder of the soil surrounding the pipe by hand or with a shovel. An assessment should then be made to determine if the pipe is damaged, cracked or broken.

Not Damaged Asbestos Cement Pipe (intact and not deteriorated):

a. Place 0.006 inch thick polyethylene ("poly") sheeting under the asbestos cement pipe to prevent soil contamination.
b. Adequately wet the asbestos cement pipe with amended water using surfactant or liquid soap before and during removal to avoid creating airborne dust.
c. Separate the asbestos cement pipe at the nearest coupling (bell or compression fitting).
d. Slide the pipe apart at the joints (no saw cutting) or use other methods that do not cause the pipe to break, become friable or otherwise create the potential to release asbestos fibers.
e. Wrap the wet asbestos cement pipe in two layers of 0.006polyethylene sheeting, seal with duct tape and label in accordance with all applicable regulatory requirements. This can be done in the trench or adjacent to the trench.
f. If the trench is filled with water, the placement of polyethylene sheeting is not required.

Damaged Asbestos Cement Pipe (deteriorated or not intact) or when cutting or mechanical breakage (e.g., with saws, snap or blade cutting, and/or tapping) is necessary:

a. Place 0.006 inch thick polyethylene ("poly") sheeting under the asbestos cement pipe to prevent soil contamination.
b. Adequately wet asbestos cement pipe with amended water where cutting or breaking will occur.
c. Saw cutting of asbestos cement pipe shall only be conducted with a HEPA-shrouded vacuum attachment or wet cutting equipment, unless it is conducted within a small enclosure that isolates the area in which the saw cutting is being conducted to prevent the release of asbestos fibers to ambient air, .
d. Wrap wet asbestos cement pipe in two layers of 0.006polyethylene sheeting, seal with duct tape and label. This can be done either in the trench or adjacent to the trench.

Packaging, Labeling, Disposal and Record Retention

a. Place properly wrapped and labeled AC pipe as well as all other containerized AC waste and debris in a roll-off container(s), or covered trucks, trailers or vans that are lined with 2 layers of 0.006polyethylene sheeting.
    i. The container shall be an enclosed and sealed leak-tight container having proper labels placards as required.
    ii. If open-top roll-off containers are used, they must be properly sealed, labeled and secured inside a locked fenced area when they are not being loaded to prevent access by unauthorized personnel, and covered to prevent water accumulation.
b. Package, transport and dispose of AC waste in accordance with local, state, and national regulations.
c. Complete waste shipment records must be retained for 2 years by the contractor of the facility that generated the AC waste
d. Dispose of AC waste at a landfill permitted to accept AC waste i.e. Pithampur.

5.2.3. Operation Phase Impacts

Positive impacts during operation: Just as in the construction phase, there are positive impacts associated with the operation phase of the proposed Project. These positive impacts are discussed below.

- Improved water quality and quantity: Improved water quality will in turn reduce exposure to water borne diseases to the consumers. General hygiene in the served area will improve through use of acceptable water quality. Markets and communities within Khargone town will greatly benefit from the project.
- Reduced exposure to health risks and improved nutrition: Improved water quality for domestic consumption reduces the risk to the health of the consumers and dependants of water resources that could translate into financial saving through less related expenditures.
- Improved performance and living standards within the project area: Water provision is one of the goals for 2018. It is therefore envisaged that the continued existence of the project area as a sustainable settlement is reliant of the supply clean potable water for each and every person. This will immensely contribute to the property value, land value and aesthetic value of the Project area while ensuring that the population in this area remains healthy and productive. Accesses to water will in the long term result in improved income levels and health of the people, this consequently leads to poverty reduction. Reduced distances travelled and time used to collect water is then put to economic activities.

Negative impacts during operation phase: The following negative impacts are associated with the proposed Khargone Water Supply Scheme.

- Operation and Maintenance of the water supply system will be carried out by O& M Contractor and Khargone Nagar Palika. During the system design life (15/30 years for mechanical/civil components) it shall not require major repairs or refurbishments and should operate with little maintenance beyond routine actions required to keep the equipment in working order.
- The stability and integrity of the system will be monitored periodically to detect any problems and allow remedial action if required. Any repairs will be small-scale involving manual, temporary, and short-term works involving regular checking and recording of performance for signs of deterioration, servicing and replacement of parts.
- Recurrence of pipe bursting and leakage problems can be managed by the leak detection and water auditing surveys. The ULB will be required to ensure that the leak detection and rectification time is minimized.
- Since back water is recovered and re-circulated in the WTP, no wastewater will be generated from water treatment process.
- The sludge generated from the wash water storage tank, and sedimentation tanks Water treatment process will generate sludge from sedimentation of particulate matter in raw water, flocculated and precipitated material resulting from chemical coagulation, residuals of excess chemical dosage, plankton etc; and waste from rinsing and back washing of filter media containing debris, chemical precipitates, straining of organic debris and plankton. . Following are included in the subproject design to dispose the sludge and back wash:

(i) Provision for recirculation system for filter backwash – backwash water from filter beds will be sent to a storage tank, and after allowing adequate time for settlement of solids, clarified water will be pumped to WTP inlet. This arrangement will avoid pollution and also minimize wastage of water.

(ii) Accumulated sludge from clari-flocculators, filter backwash etc., will be disposed-off at sludge drying beds for natural drying. Dried sludge will be disposed off in a land fill or used as soil conditioner if it is suitable.

5.3. Social Impacts

On the basis of current DPR of Khargone Water supply subproject the locations of water structure such as Anicut, Intake well, WTP & OHTs has been finalised, however the alignment of pipeline and exact siting of the structures along the road will get finalized when the D(R)BO contractor get into place. The land required for the structure is in possession of the Revenue Department, and the transfer of land to ULB has been initiated.

5.3.1. Land Requirement

Consultations with relevant officials including KNP officials, Revenue Department, community, other sourcesand first-hand observations during the field visit no additional land is required for the project, as construction of proposed component will not result in land take of any kind.The ProposedIntake well and WTP compound would need around 1000 m2 of land that belongs to the government and has no habitation. . Moreover there would be no loss of community assets during the construction as noticed during field survey and interaction with the local people. Construction of all proposed component such as laying of Rising main, Clear water feeder main and distribution lines etc. will be undertaken on public land, As there will be no agricultural or forest or community land requirement there are no adverse impacts either on general oron any vulnerable group and Indigenous people. Table 5.2 indicate that the land details of proposed project construction of components.

Table 5.2: Land Details of Components of Khargone Water Supply

S. no	Component proposed	capacity	Location	Khasra details	land availability / required area	ownership of land	Status of land	NOC
1	Proposed Intake well	45MLD	Near existing intake well	-	-	Water Resource Department (but in possession of ULB)	vacant	Recieved NoC for water extraction from Kunda
2	Proposed Water Treatment Plant	40 MLD	Umar-khali road	9/2	12.0 ha	ULB	vacant	Not required
3	Over Head	2250KL	Master	459,460	0.5 ha	ULB	vacant	Not

S. no	Component proposed	capacity	Location	Khasra details	land availability / required area	ownership of land	Status of land	NOC
	Tank		colony Arampura					required
4	Over Head Tank	2250KL	Qila maidan	37	0.5 ha	Government Land	vacant	Applied for
5.	Over Head Tank	2250KL	Vindya vihar colony	23/1,23/2,21/4	0.5 ha	ULB	vacant	Not required
6.	Over Head Tank	2250 KL	Aurang-pura Zulwaniya road	10/3,10/2	0.5 ha	Government Land	vacant	Applied for

Figure 5.2: Commercial Places and Congested Lanes- Photographs

Weekly market (haat bazaar) on Mela Ground

Cotton Mandi

Subzi Mandi Opp. Sri Krishna Talkies

Vegetable Market

Anaj Mandi

Weekly Animal Market on Bank of Kunda

Nutan Nagar Shopping Complex

Radhavallabh Market

Shopping Complex onSanawad Road

Shopping Complex on Bus Stand

Mechanic Nagar on Khandwa Road

Mahatma Gandhi Road

Saraffa Bazaar on MG Road

5.3.2. Impact on Livelihood

On the basis of screening and site visits along the road stretches through which pipes are likely to be laid reveal, it is observed that there will be temporary disruption to on-going commercial and vending activities. These temporary disruptions may result in loss of income during construction period fora few days. The estimation of impacts assessed in the areas of congested lane as shown in figure above, few densely populated areas where temporary disruption and loss of livelihood likely to be affected during excavation, the area of Sabji Mandi, Mahatama Gandhi road, Sarafa bazar & Mechanic road are shown in photographs above are highly dense lanes and likely to be affected. Tentative estimation of loss has been calculated on the basis of field visit along the roads, the exact estimation will be possible with the placement of D(R)BO contractor. On the basis of approved design, join verification will be done to assess exact figures and accordingly updation will be done in ESA. Mitigation measures are presented in Table 5.3.

Table 5.3: Mitigation Actions for Impacts on Livelihoods

Type of Impact	**Estimation**		**Mitigation**
Encroached structure coming along road ROW(Temprary shifting of vendors)	no. of lanes likely to be get affected-40	Tentative number of temporary shifting of vendors coming along ROW=40	• Provide alternate location for vending during construction • In case of vending is discontinued the compensation will be paid as per collectorate rate for

Type of Impact	Estimation		Mitigation
			number of day vending is not allowed/carried out
loss of income due to obstruction of access to commercial establishments owing to temperary blocking of lanes.	no. of lanes likely to be get blocked-20	• Tentative number of small Trader to be given livelihood assistance: 20 • Tentative number of vendors to be given livelihood assistance(as per collectorate rate) = 30@ no. of days(average 3 days)	Assistance as per entitlement matrix in ESMF
Encroached structure coming along road ROW(Temprary shifting of vendors)	no. of lanes likely to be get affected-40	Tentative number of temporary shifting of vendors coming along ROW=40	

The excavation work will lead to road blockage and as a result the commercial establishments and vendors will have some trouble in operating their business on daily basis. In case temporary shifting of vendors with temporary structures is necessary, such shifting will be undertaken on a weekly holiday, to avoid income loss on the day(s) of shifting. The vendors will be assisted to shift and will be able to continue plying their trade period but at analternate location during the construction. The weekly market day will be avoided for construction. Only mobile vendors will be shifted to a nearby location during the period of construction to an alternative location identified.

5.3.3. Impact on Existing Utility Services

The road opening activities may damage the underground water pipelines or electricity poles in the vicinity of the site for the proposed sub-projects. This will lead to water supply interruptions, disruption in electricity supply and will involve expensive repair costs. Flooding of areas could also occur. Officials of ULB stated that they receive some complaints about water line breakage during the construction phase. With no other alternative source readily available, people have to buy water from private tanks or buy bottled water for drinking purpose till the time service is

restored to normal. The provision kept in EMP that tankers will be provided by Khargone Nagar Palika in the disrupted areas and it becomes the responsibility of the contractor to restore the utilities as soon as possible.

6. Stakeholder and Public Consultation

6.1. Background

Public consultation is useful for understanding likely impacts, determining community and individual preferences, selecting project alternatives and designing viable and sustainable mitigation and compensation plans. Extensive public consultation meetings for the Khargone Water Supply Project took place while undertaking this EIA study. The main objective for the consultation process was to involve the community at the very early stages so as to identify likely negative impacts and find ways to minimize negative impacts and enhance positive impacts of the project.

6.2. Objectives of Public Consultations

The overall goal of the consultation process is to disseminate project information and to incorporate the views of the project beneficiaries and Project Affected Persons (PAPs) in the design of the mitigation measures and a management plan. The specific aims of the consultation process are to:

The main objectives of community consultations were to:

- Provide clear and accurate information about the project to the beneficiary community;
- Obtain the main concerns and perceptions of the population and their representatives regarding the project;
- Obtain opinions and suggestions directly from the affected communities on their preferred mitigation measures; and
- Identify local leaders with whom further dialogue can be continued in subsequent Stages of the project.
- Improve project design and, thereby, minimize conflicts and delays in implementation;
- Facilitate the development of appropriate and acceptable entitlement options;
- Increase long term project sustainability and ownership

Public sensitization and inclusion meetings were held within the wards of the project area from 18th April' 2016 to 19th April' 2016 with the help of respective local administration and the elected representatives. A total of 10 meetings were held as shown in Table 6.1 below, with enthusiastic community members. The attendance lists and minutes of meetings are presented in Appendix 5. During public meeting the participation of both men and women were ensured, the share of female participation in these meetings was 38.76. Representation of all categories and different income level groups in these meetings were also ensured. Details of public consultation are in Table 6.2.

Table 6.1: Second Round of Public Consultation during ESA

S. No.	Date	Ward no.	Venue	Number of Participants	
				M	**F**
1.	18-4-2016	Ward No. 01	At main road.	12	08
2.	19-4-2016	Ward No. 03	Near saraswati Vidya Mandir	14	05
3.	18-4-2016	Ward No. 06	At Old Housing Chouraha	12	02`
4.	18-4-2016	Ward No. 14	At Anjuman Nagar	10	09
5.	18-4-2016	Ward No. 15	Near Mohan Talkies	12	09
6.	18-4-2016	Ward No. 17	Near Dr. Khan's clinic.	17	10
7.	18-4-2016	Ward No. 19	At Shri Krishna ward	12	10
8.	18-4-2016	Ward No. 21	Near Temple, at Ganesh Chowk.	18	12
9.	18-4-2016	Ward No. 20	At Moti mata ward	10	07
10.	19-4-2016	Ward No. 28	At Nutan Nagar	12	09
		Grand Total		**209**	

Table 6.2: Public Consultation Details

S. No.	Ward no.	Location	Date	Participants	Issues Raised/Discussed	Suggestion from Participants	Mitigation Measures
1	**1**	**Khargone** **Ward No. 1**	**18.04.16**	Local Residents, and public representative of ward 06 **Total 20 Participants**	The Project Background, Environmental, Social, traffic safety issue and benefit from the project were explained to the Stakeholders. • For Safety of Local Traffic as well as to reduce the traffic congestion which interns reduce the noise and air pollution • The Consultants Team raise the issue for the hike in monthly water tariff for proper operation and maintenance of water supply system for 30yrs	The main suggestion of participants was: • Peoples also demanded for proper traffic signage for speed limits for minimizing the accident • The people who can afford the hiked water tariff gave consent ,but those are from low income group reacted on this issue and demanded subsidy • The damage to existing pipelines, structures and	The suggestion was noted down and forwarded to the concernedofficial for proper compliances The costing incorporated in Detailed project report. 1..Water policy is being drafted at state level and for which these feedback will be considered 2. Damage to public utilities restored by the contractor, damage to structure and income loss will be assessed prior implementation through proper management plan

S. No.	Ward no.	Location	Date	Participants	Issues Raised/Discussed	Suggestion from Participants	Mitigation Measures
						loss due to trench remain open for long period it get compensated.	
2	Ward No. 03	Near saraswati Vidya Mandir	19-4-16	Local Residents, and public representative of ward 06 **Total 19 Participants**	The Project Background, Environmental, Social, traffic safety issue and benefit from the project were explained to the Stakeholders. • Ward is having acute shortage of water in summer it get worse and not able to access Quality water • The Consultants Team raise the issue for the hike in monthly water tariff for proper operation and maintenance of water supply system for 30yrs	The main suggestion of participants was: • The community gave suggestion regarding water connection. They will take connection only when they get sufficient water through out the year. • As present water tariff is Rs. 30 only three times it get hiked .the suggestion from people came that not	The provision made in the Project that 135LPCD will be suppliedto the whole population covered under town Suggestion are noted down. The decision will be taken by local body representatives this will be discussed with them • Water policy is being drafted at state level and for which these feedback will be considered

S. No.	Ward no.	Location	Date	Participants	Issues Raised/Discussed	Suggestion from Participants	Mitigation Measures
						to hike immediately as the supply gets start properly than people get convinced and get ready to pay.	
3	Ward No. 06	At Old Housing Chouraha	18-4-2016	Local Residents, and public representative of ward 06 **Total 14 Participants**	The Project Background, Environmental, Social, traffic safety issue and benefit from the project were explained to the Stakeholders. • Besides above issues the following issues discussed with the community • Road Side Water logging due to presence of Built-up Zone on either side. • Effect of Noise and Dust Pollution during construction andafter construction. • Safety of Local traffic and	The main suggestion of participants was: • Provision of Drain in Built-up Section to eliminate the issue of road side water-logging • For Safety of Local traffic andpedestrian in Built-up Zone, footpath should be provided. • Adequate provision for minimizing the Dust and Noise Pollution during	Agreed on suggestion and will be considered in DPRProper traffic signage shall be provided for speed limits. • Provision in EMP shall be done to minimise Dust and noise Pollution during Construction work in Built-up Zone. • Improvement of Major Cross Junction on main roads included in design for minimising the Traffic Congestion as wellto minimise the Noise, Dust and air pollution in Built-up Section.

S. No.	Ward no.	Location	Date	Participants	Issues Raised/Discussed	Suggestion from Participants	Mitigation Measures
					pedestrian in Built-up Zone		
4	Ward No. 14	At Anjuman Nagar	18-4-16	Local Residents, and public representative of ward 06 **Total 18 Participants**	The Project Background, Environmental, Social, traffic safety issue and benefit from the project were explained to the Stakeholders. • For Safety of Local Traffic as well as to reduce the traffic congestion which interns reduce the noise and air pollution • The Consultants Team raise the issue for the hike in monthly water tariff for proper operation and maintenance of water supply system for 30yrs	The main suggestion of participants was: • Peoples also demanded for proper traffic signage for speed limits for minimizing the accident • The people who can afford the hiked water tariff gave consent ,but those are from low income group reacted on this issue and demanded subsidy like other projects community complaintsregarding excavation remain unheard or	The suggestion was noted down and forwarded to the concernedofficial for compliances The costing incorporated in Detailed project report. 1. Water policy is being drafted at state level and for which these feed back will be considered. 2. GRC will be established at project level to get the views of community and it help in proper implementation of project

S. No.	Ward no.	Location	Date	Participants	Issues Raised/Discussed	Suggestion from Participants	Mitigation Measures
						not resolve timely ,	
5	Ward No. 15	Near Mohan Talkies	18-4-16	Local Residents, And public representative of ward 15 **Total 21 Participants**	The Project Background, Environmental, Social, traffic safety issue and benefit from the project were explained to the Stakeholders. • Besides above issues the following issues discussed with the community • Road Side Water logging due to presence of Built-up Zone on either side. • Effect of Noise and Dust Pollution during construction and after construction. • Safety of Local traffic and pedestrian in Built-up Zone	The main suggestion of participants was: • Provision of Drain in Built-up Section to eliminate the issue of road side water-logging • For Safety of Local traffic and pedestrian in Built-up Zone, footpath should be provided. • Adequate provision for minimizing the Dust and Noise Pollution during	agreed on suggestion andwill be considered in DPR • Proper traffic signage shall beprovided for safety and to avoid accidents. • Provision kept in EMP to minimise Dust and noise Pollution during Construction work in Built-up Zone. • Proper Improvement of Major Cross Junction on main roads included in design for minimizing the Traffic Congestion as well.to minimise the Noise, Dust and air pollution in Built-up Section.
6	Ward No. 17	Near Dr. Khan's clinic	18-4-16.	Local Residents, And public representative of ward 17	The Project Background, Environmental, Social, traffic safety issue and benefit from the project were explained to the	The main suggestion of participants was: • Peoples also demanded for	The suggestion was noted down and forwarded to the concerenedofficial for proper compliances The costing incorporated

S. No.	Ward no.	Location	Date	Participants	Issues Raised/Discussed	Suggestion from Participants	Mitigation Measures
				Total 27 Participants	Stakeholders. • For Safety of Local Traffic as well as to reduce the traffic congestion which interns reduce the noise and air pollution • The Consultants Team raise the issue for the hike in monthly water tariff for proper operation and maintenance of water supply system for 30yrs	proper traffic signage for speed limits tominimize the accident • The people who can afford the hiked water tariff gave consent ,but those are from low income group reacted on this issue and demanded subsidy • The damage to existing pipelines, structures and loss due to trench remain open for long period ,it get compensated.	in Detailed project report. 1.Water policy is being drafted at state level and for which these feedback will be considered for the same. 2 Damage to public utilities restored by the contractor, damage to structure and income loss will be assessed prior implementation through proper management plan.
7	Ward No. 19	At Shri Krishna ward	18-4-16	Local Residents, And public representative of ward 19 **Total 22**	The Project Background, Environmental, Social, traffic safety issue and benefit from the project were explained to the Stakeholders.	The main suggestion of participants was: • The community gave	It is being in the Project that 135LPCD given to the whole population covered under town.

S. No.	Ward no.	Location	Date	Participants	Issues Raised/Discussed	Suggestion from Participants	Mitigation Measures
				Participants	• Ward is having acute shortage of water in summer it get worse and not able to access Quality water • The Consultants Team raise the issue for the hike in monthly water tariff for proper operation and maintenance of water supply system for 30yrs	suggestion regarding water connection. They will take connection only when they get sufficient water through out the year. • people complaint issues were not resolve timely ,no body hear complaint • As present water tariff is Rs. 30 only three times it get hiked .the suggestion from people came that not to hike immediately as the supply gets start properly than people get	• Suggestion are noted down. • GRC will be established at project level to get the views of community and it help in proper implementation of project • Suggestion is noted down and will be discussed with the elected representatives.

S. No.	Ward no.	Location	Date	Participants	Issues Raised/Discussed	Suggestion from Participants	Mitigation Measures
						convinced and get ready to pay.	

6.2.1. Key Comments and Suggestions

Key comments and suggestions from the Stakeholders Consultations are summarized below:

People demanded for proper traffic signage for speed limits for minimising the accident.

(i). For Safety of local traffic and pedestrian in Built-up Zone, footpath should be provided.

(ii). The community who can afford the hiked water tariff gave consent, but those are from low income group reacted on this issue and demanded subsidy.

(iii). The perceived problem ofadverse impact of the project on the livelihood of a section of the population was againbrought out during the public consultation where all the doubts of the people were cleared.

(iv). Scheduled castes, woman headed households and other vulnerable social groups affected by the project needed to be identified. They require special consideration for water supply connections on priority basis.

(v). Physical relocation and resettlement should be minimized. The social fabric of the persons relocated should be maintained. The time factor in any resettlement programme and compensation should be monitored properly.

(vi). Community should be consulted before the drawings of the design and Alignments are finalized

(vii). All participants welcomed theproject and agreed to take mitigation measures will be suggestedduringimplementation.

(viii). Concerns regarding Environment and social issues related to implementation and operations were welcomed by the public.

6.2.2. Women's Participation in Consultations and Outcomes

The participation of women in FGDs conducted in fringe areas of Khargone town. The 9 FGDs conducted with women members at fringe areas were women facing hardship in fetching water for household purpose and for drinking. In selected locations, women were working as construction labour and domestic maid servants. Some of their specific concerns are summarized below.

- FGD conducted in fringe areas where piped water supply not reached. The major part of the fringe area of town depends on the hand-pumps for its water needs; the issue of replacement of damaged and dried hand-pumps attains a very special significance in context of the women.
- In summer the condition get worst when the nearby area hand pumps get exhausted, women have to fetch water from long distance or depend on the tankers provided by ULB. Almost two hours get spend daily in the morning for brining water from hand pumps.
- The working women and girl students face lot of problem for fetching out water have to stand in queue for longer time, due to no availability of water in summer sometimes compels the girl students and abstains from classes.
- Girl child of house drops out from school to as she has to support household work especially fetching water.

During FGD some other concerned/issues raised regarding project by the women group:

- Women from poor families concerned indicated that they should be given work opportunities during construction as casual labor or at project offices, which would help them earn wages.
- Some women demanded to operate individual/ family enterprise by opening small tea stalls, shops/eateries to provide meals to the construction officials/ temporary laborers coming from outside. This will enhance their family income as well as their entrepreneurial skill, which may be useful in future.

6.3. Draft ESA Consultation

After finalization of Draft ESA for Khargone Water Supply Subproject, the detailed ESA was shared with primary and secondary stakeholders on 11th July 2016. The Minutes of Consultations are given in Appendix 8.

7. Environmental and Social Management Plan

7.1. Overview

The ESMP presented in this Chapter summarizes the key impact elements identified and the remedial measures, the actions to be taken by various parties and the monitoring activities. An indication of the time scale for implementation and cost involved is also provided. The ESMP can be further be updated during implementation with documented procedures and guidelines for work practices so as to be as responsive to the situations that various Contract Parties will encounter. The Parties should formulate procedures and practices and maintain records. The implementation of the ESMP should be done within the provisions of the law and for the ultimate benefit of the people in the Project area. The effectiveness of the ESMP shall be monitored and assessed during spot checks, formal inspections and at the end of the Project when an overall audit of the works shall be carried out.

A Construction Environmental and Social Management Plan is a practical and achievable plan of management to ensure that any environmental impact during the design, planning and construction phase is minimized. An Operational Environmental and Social Management Plan is focused on sound environmental management practices that will be undertaken to minimize adverse impacts on the environment through normal operation of a facility. The management plan (refer Table 7.1) also identifies what measures should be taken in the event of emergencies or incidents during the operation of the facilities. During construction phase social impact expected include loss of temporary shifting of vendors along the road ROW and temporary loss of income due to non-access to shops due to excavation works. A strategy for identification and engagement of tribal and vulnerable groups has also been prepared (Section 8) and this will be implemented during subproject implementation.

Table 7.1: Environmental and Social Management Plan (ESMP)

(During Construction and Operation Phase)

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
Construction Phase				
Interference of existing installations on the pipeline route	• CWRM laid along the PWD roads, Formal request for permission to cross, break in and build the water pipeline should be sought from the relevant institutions such as PWD etc; • A work plan with clear responsibilities for each party should be developed to ensure smooth execution of the construction.	D(R)BO contractor / ULBs	Throughout construction period	would involve repair and restoration costs and are included in the project cost
Utilities	• Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during construction phase; and • Require construction contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. Measures are taken to ensure they are protected and conserved.	D(R)BO contractor	Throughout construction period	10,00,000.00 (provisional and will be mitigated on actual requirement)
Dust emissions	• Minimizing the number of motorised vehicles on use; • Provide scour checks on over-15% slopes or when working in loose soils; • Use predetermined tracks; • Avoiding machinery working in seasonally marshy areas, pans and floodplains; • Wet all active construction areas as and when necessary to reduce dust;	D(R)BO contractor	Throughout construction period	25,00,000.00 (provisional and will be mitigated on actual requirement)
Construction work camps, ,	• Prioritize areas within or nearest possible vacant space in the subproject location; • If it is deemed necessary to locate elsewhere, consider sites that will	D(R)BO contractor	Throughout construction period	Included in the component

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
stockpile areas, storage areas, and disposal areas	not promote instability and result in destruction of property, vegetation, irrigation, and drinking water supply systems; • Do not consider residential areas; • Take extreme care in selecting sites to avoid direct disposal to water body which will be inconvenient to the community.			cost
Air Quality	• Consult with MPUDC/PMC on the designated areas for stockpiling of clay, soils, gravel, and other construction materials; • Damp down exposed soil and any stockpiled on site by spraying with water when necessary during dry weather; • Use tarpaulins to cover sand and other loose material when transported by trucks; and • Fit all heavy equipment and machinery with air pollution control devices which are operating correctly.	D(R)BO contractor / MPUDC	Throughout construction period	10,00,000.00 (provisional and will be mitigated on actual requirement)
Noise Pollution	• Plan activities in consultation with MPUDC/PMC so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance; • Require horns not be used unless it is necessary to warn other road users or animals of the vehicle's approach; • Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise- reducing mufflers, and portable street barriers the sound impact to surrounding sensitive receptor; and • Maintain maximum sound levels not exceeding 80 decibels (dbA) when measured at a distance of 10 m or more from the vehicle/s.	D(R)BO contractor	Throughout construction period	10,00,000.00 (provisional and will be mitigated on actual requirement)
Accessibility	• Confine work areas along the roads to the minimum possible extent; all the activities, including material & waste/ surplus soil stocking should be confined to this area. Proper barricading should be provided; avoid material/surplus soil stocking in congested areasImmediately removed from site/ or	D(R)BO contractor	Throughout construction period	20,00,000.00 (included in BoQ)

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
	brought to the as and when required • Leave spaces for access between mounds of soil; • Provide walkways and metal sheets where required to maintain access across for people and vehicles; • Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of delivery sites; • Schedule transport and hauling activities during non- peak hours; • Locate entry and exit points in areas where there is low potential for traffic congestion; • Keep the site free from all unnecessary obstructions; • Coordinate with Traffic Police for temporary road diversions, where necessary, and for provision of traffic aids if transportation activities cannot be avoided during peak hours			
Disposal of Spoils	• Maximize the re-use of excavated materials in the works as far as feasible to ensure that no permanent spoil dumps are created • Properly dispose off the spoil in the identified by the design team and approved by the confirmed land owners; • Care should be taken to avoid spoil location in land that could otherwise be used for productive purposes.	D(R)BO contractor	Throughout construction period	2,00,000.00 (provisional and will be mitigated on actual requirement)
Disposal of Asbestos Cement Pipes to be replaced during laying of pipelines	• Refer section 5.2.2 of Chapter 5	D(R)BO contractor and KNP	Throughout construction period	20,00,000.00 (provisional and will be mitigated on actual requirement)
Solid Waste	• Construction waste should be recycled or reused as much as possible to ensure that materials that would otherwise be disposed	D(R)BO contractor and	Throughout construction	1,00,000.00

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
	off as waste are diverted for productive uses; • The Proponent shall put in place measures to ensure that construction materials requirements are carefully budgeted and to ensure that the amount of construction materials left on site after construction is kept minimal; • Minimization of solid waste during construction of the proposed Project through use of durable, long-lasting materials that will not need to be replaced often, thereby reducing the amount of construction waste generated over time; • Skips and bins should be strategically placed within the campsite and construction site, they should also be adequately designed and covered to prevent access by vermin and minimize odour. They should also be emptied regularly; • Measures to ensure that waste materials from the Project are disposed at suitable sites will be taken. These will include engaging only reputable truckers and conducting appropriate spot checks to verify that disposal are done in accordance with the requirements of MPUDC; • The ultimate fate of the wastes should be monitored so that they are not illegally disposed of; • Provide portable sanitary conveniences for the construction workers for control of sewage waste. A ratio of approximately 25 workers per chemical toilet should be used.	KNP	period	Lumpsum
Vegetation Loss	• The Contractor will ensure proper demarcation of the Project area to be affected by the construction works; • Strict control of construction vehicles to ensure that they operate only within the area to be disturbed by access routes and other works; • Retention of trees and shrubs, where possible on the potential sites for screening of the visual impact; • Where the proposed route requires the removal of any vegetation, care will be taken to minimize the destruction or damage of trees. • Re planting of destroyed trees in cleared areas where works are complete.	D(R)BO contractor	Throughout construction period	50,000.00 (provisional and will be mitigated on actual requirement)

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
Accidental spills or leakages	• Maintain vehicles and machineries at manufacturers specifications; • Ensure proper storage of chemicals / materials; • During the course of the construction works, temporary drainage channels should be constructed to encourage dispersal of meteoric waters	D(R)BO contractor	Throughout construction period	Not required
Workers accident and hazards	• To reduce the workers accidents and hazards the Proponent will develop and commit the Contractors to Site Occupational Health and Safety rules and regulations as stipulated in the Labour Law; • All construction workers should be advised of the dangers associated with construction work; • Workers should be provided with suitable personal protective equipment (PPE); • Provision of adequate sanitary facilities to workers; • Train all workers on Safety Health and Environment (SHE) with an aim of improving awareness; • Trenches over 1.5 m deep or wherever soil conditions dictate should be shored and secured against accidental entry by workers and the public; • Install safety signage along the work areas; • Where construction activities interfere with the movement of traffic, the site should be signed and controlled by trained flagmen/flag women and lit by night.	D(R)BO contractor	Throughout construction period	5,00,000.00 Lumps sum
Spread of communicable diseases and other infections	• Treat affected local and migrant workers which will control the movement of disease vectors (through contaminated water and between people); • Provision of personal hygiene facilities in good condition with adequate water supply; • Ensure awareness raising on proper sanitation and personal hygiene to promote proper health.	D(R)BO contractor	Throughout construction period	50,000.00 Lump sum
Child Labour	• The contractor should ensure that all the personnel employed should be adults and should possess valid national identification cards.	D(R)BO contractor	Throughout construction period	No additional cost
Operation Phase				

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
Reduced downstream Flows	• There should be due adherence to the safest maximum abstract able water quantities of throughout the project life; • Adhere to WRD water use permits; • The Proponent shall monitor the hydrology to determine whether there is reduced downstream flow.	KNP/ D(R)BO contractor	Throughout Operation Phase period	-
Increased domestic wastewater generation	• During operation phase approx. • 21 MLD Wastewater generates in year 2016 • 28 MLD wastewater generates in year 2033 • • To mitigate increased domestic wastewater generation AMRUT scheme put in place by the GoMP and is likely to be implemented in the year 2018.	KNP/ D(R)BO contractor	Throughout Operation Phase period	-
Sludge Management	• Apply quicklime treatment to dewatered sludge in order to create a pathogen and odor free product; • Dry sludge on the drying beds before disposing off in a dedicated disposal site; • Preparation and enforcement of operational guidelines for sludge treatment / management. • Accumulated sludge from clari-flocculators, filter backwash etc., will be disposed-off at sludge drying beds for natural drying. Dried sludge will be disposed off in a land fill or used as soil conditioner if it is suitable. •	KNP/ D(R)BO contractor	Throughout Operation Phase period	Project Cost
Back Wash Water	Provision for recirculation system for filter backwash – backwash water from filter beds will be sent to a storage tank, and after allowing adequate time for settlement of solids, clarified water will be pumped to WTP inlet. This arrangement will avoid pollution and also minimize wastage of water.	KNP/ D(R)BO contractor	Throughout Operation Phase period	Project cost
Safety hazards (Chlorine and Alum Storage)	• Provide the following measures at the chlorine application unit: i. Chlorine neutralization pit with a lime slurry feeder ii. Proper ventilation, lighting, entry and exit facilities iii. Facility for isolation in the event of major chlorine leakage	KNP/ D(R)BO contractor	Throughout Operation Phase period	3,00,000.00

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
	iv. Personal protection and safety equipment for the operators in the chlorine plant v. Provide training to the staff in safe handling and application of chlorine; this shall be included in the contract of Chlorinator supplier			
Noise generation and vibration	• The design shall propose noise and vibration proofed systems installation. These shall be monitored during operation and if the values go above ambient or specifications, the necessary measures shall be undertaken which may include: i. Improvement of proofing systems; ii. Servicing of the offending equipment; iii. Development of foundations and mountings; and iv. Complete or partial overhaul. • Personal protective equipment shall be provided at noisy areas for use by workers and visitors.	KNP/ D(R)BO contractor	Throughout Operation Phase period	1,50,000.00 (It is a part of Contractor's responsibility)
Emergency preparedness and response	• Design and implement an emergency response plan; • Coordinate with aid organizations/agencies such as with the local fire brigade; • Install fire hydrants within the proposed development; • Install a fire extinguisher at the plant and train workers on how use.	KNP/ D(R)BO contractor	Throughout Operation Phase period	2,00,000.00
Capacity building	• Provide a forum for human resources development on environmental conservation; • Establish a schedule for continuous improvement of human capacity on environmental management; • Develop in-house guidelines on environment, health and safety management.	KNP/ D(R)BO contractor	Throughout Operation Phase period	Included in TA Component
	Total EMP cost			92,50,000.00
	Social Management Plan during Construction & Operation			
Damage to road side private and community structure	• Joint survey of PIU and contractor will be done before implementation to assess the incumbrances and damage to road side private and community structures, when the alignment of pipes will be finalized by the D(R)BO contractor or during excavation.	KNP/D(R)BO/ PIU	before and during construction	Provision item to be included in the project

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
	• Prepare cost estimated for affected/damaged structure • Approval from the PIU/MPUDC • Restoration along with construction			cost.
Encroached Structure (temperary structure over road ROW)	• Joint survey of PIU and contractor will be done before implementation to assess the exact number of temporary shifting of vendors along the road ROW, when the alignment of pipes will be finalized by the D(R)BO contractor. • Approval of updated ESA on basis of joint survey with final design from MPUDC • All compensations (as per entitlement matrix in ESMF) to be disbursed before start of excavation in the particular stretch. • Tentative number of temporary shifting of vendors coming along ROW=40	KNP/D(R)BO contactor & PIU	before construction commence	2,00,000
Loss of Income (due to obstruction of access to commercial establishments owing to temporary blocking of lanes)	• Joint survey of PIU and contractor will be done before implementation to assess the exact number of loss of income livelihood due excavation in narrow lanes,the shops not get accessible, when the alignment of pipes will be finalized by the D(R)BO contractor • Approval of updated ESA based on joint survey with final design from MPUDC • All compensations (as per entitlement matrix in ESMF)to be disbursed before start of excavation in the particular stretch. • Tentative number.of small Trader to be given livelihood assistance(as per entitlement matrix)= 20 • Tentative number of cases to be given livelihood assistance(as per collectorate rate) = 30@ no. of days(average 3 days)	KNP/D(R)BO contactor & PIU	Through out the construction period	**50,000** **As per collectorate rate (skilled labour as per 01.04.16 daily wage rate -INR 324.42)** **30,000**
Unidentified Impacts	• Unforeseen impacts encountered during implementation will be addressed in accordance with the principles of the policy	KNP/D(R)BO contractor,PIU	Through out construction phase	8,00,000
IEC activities	• Dissemination of Project information • Consultation with potentially affected people • FGDs with likely beneficiaries	MPUDC/KNP/ CDO(PIU)	During construction and operation	as per communicatio n plan under

Impact	Mitigation Measures	Institutional Responsibility	Time Frame	Cost
	• Mobilisation for encouraging connection specially among vulnerable groups		phase	TA activities
	Total SMP cost			1080000
	Total ESMP			**1,03,50,000**

7.2. Monitoring and Evaluation

Monitoring is an important tool in establishing the success or failure of a project in regards to compliance to environmental and social safeguards. Evaluation is also important in assessing the achievement of the mitigation measures set out in the Environmental and Social Management Plan, performance and efficiency of the project in regards to ESMP. Monitoring and evaluation process will involve the assessment of the following benchmarks

- The implementation process of guidelines stipulated in the ESMP
- Evaluate impact of the project to the environment and social setting of Khargone Town
- Monitoring of the involvement of the community through public consultations in decision makings and the implementation of the project

Project implementation involves various interventions to achieve the objectives of providing safe, clean and adequate drinking water on sustainable basis and improving health and sanitation conditions in Khargone. Simultaneously, to protect and improve the environmental conditions to achieve the goal, various mitigating measures would be taken up. The Environment Monitoring Plan proposed for the construction phase is presented in Table 7.2 while the Plan for the operations phase is presented in Table 7.3.

Table 7.2: Environmental Monitoring Plan during Construction Phase

S.No.	Attributes	Stage	Parameters to be monitored	Location	Frequency	Responsibility (R) and Monitoring (M)
1.	Debris/ Construction materials disposal	Construction Stage	Safe disposal of construction wastes including bituminous wastes	One at WTP construction site, minimum five sites in the town (including OHTs construction sites and distribution	Minimum once in week	R- Contractor M- PMU,PIU and PMC

S.No.	Attributes	Stage	Parameters to be monitored	Location	Frequency	Responsibility (R) and Monitoring (M)
				network where sensitives area comes like Hospital, school etc.)		
2.	Dust Suppression	Construction Stage	No. of tankers for water sprinkling, Timing of sprinkling, Location of sprinkling, Log Book	One at WTP construction site, minimum five sites in the town (including OHTs construction sites and distribution network where sensitives area comes like Hospital, school etc.)	Minimum once in week	R- Contractor M- PMU, PIU and PMC
3	Ambient Air Quality	Construction Stage	PM10, PM 2.5, SO2, NOx, CO	One at WTP construction site, minimum five sites in the town (including OHTs construction sites and distribution network where sensitive area comes like Hospital, school etc.)	Once in a season (except monsoons) for the entire construction period	Contractor, to be monitor through Engagement of approved agency
4	Noise Levels	Construction Stage	Equivalent Day & Night Time Noise Levels	One at WTP construction site, minimum five sites in the town (including OHTs construction sites and distribution network where sensitive area comes like Hospital, school	Once in a season during construction and operation stages	Contractor to monitor

S.No.	Attributes	Stage	Parameters to be monitored	Location	Frequency	Responsibility (R) and Monitoring (M)
				etc.)		
5	Establishing Medical Facilities	Construction Stage	Access to health facilities for the construction workers	Workers Camp and one mobile medical vehicle.	Continuous	Contractor
6	Accident Record	Construction Stage	No. of fatal accidents, No. of injuries, No. of disabilities	All construction sites	Continuous	Contractor
7	Post construction clearance of site	Construction Stage	Whether temporary locations for workers camp, site office, batching plant and other construction locations are restored to pre-project conditions	All construction sites	Post construction	Contractor

Table 7.3: Environmental Monitoring Plan: Operation Phase

Monitoring Field	Monitoring parameters	Frequency	Responsibility	Cost & Source of Funds
Source water quality	pH,Cl,F,NO3,TC,FC, Hardness,Turbidity BOD,COD,DO,Total Alkalnity heavy metals & pesticides	Quarterly	DBO Contractor and KNP	Operating costs

Monitoring of quality of water supplied to consumers	pH, Nitrite, Nitrate, Turbidity, Total Alkalnity, Fluoride, Iron, Total coliform and Feacal coliform etc., and follow IS: 10500-2012	Monthly Once, five water samples	DBO Contractor and KNP	Operating costs

No land acquisition and R&R is anticipated. In case of Temporary impact on structures or loss of income due to construction activities if any is identified during implementation phase same shall be assessed through joint verification between PIU, ULB and contractor representatives and shall be managed as per the ESMP. The PIU and MPUDC shall monitor the implementation of ESMP and track indicators for IEC activities, grievance redressal, participation of women, scheduled Tribes and other vulnerable people. Quarterly report shall be prepared.

7.3. Project Implementation and Monitoring Agencies

Urban Development and Environment Department (UDED) of Government of Madhya Pradesh (GoMP) will be the Executing Agency for the Program, responsible for management, coordination and execution of all investment program activities. Implementing Agency will be the Madhya Pradesh Urban Development Company (MPUDC) of GoMP, which will implement this program via a Project Management Unit (PMU) at Bhopal, and Project Implementation Units (PIUs) at project towns. PMU will appoint contractors to build infrastructure and PIUs will coordinate the construction. PMU and PIUs will be assisted by Program Management Consultants (PMC). The organizational roles have been mapped in Table 7.4.

Table 7.4: Organizational Roles

Level	Organization	Role
State	UDED	Monitor and evaluate the works and execution of ESMP
State	MPUDC (PMU)	Review and approval of sub-projects and ESA and ESMP of sub project. Review and Monitor the implementation of ESMP Monitoring of all Community Awareness and Participation activities Organize Capacity Building Program
	Empowered Committees	Periodic Review of implementation of the project including safeguards
State	MPPCB	Approvals for WTP before start of Operation and Maintenance Periodic Monitoring of the effluent quality and ensure that it is according to the Standards laid down by CPCB/ CPHEEO Act as a regulatory body
Regional and Town	MPUDC (PIU)	Implementation of Environment and Social Management Plan through Contractor Implementation of ESMP and RAP as applicable. Obtaining various clearances and approvals required and essential for project implementation Ensure the applicability of ESMP during the project implementation Verify the ESA, RAP required jointly verify the temporary impacts along with D(R)BO contractor and update the ESA and ESMP

Level	Organization	Role
		Approval of updated ESA Make an assessment in co-ordination with the contractor of the likely issues regarding the land acquisition, R&R, loss of livelihood etc that may come up during project implementation and Implementation, supervision and progress monitoring of all Community Awareness and Participation activities
State and Town	Project Management Consultants	Assist PIU in the implementation and supervision of Environment and Social Safeguards Informing the PIU and PMU, if the contractor is not following the policies stated in Chapter legal framework. Assist PIU in evaluating R&R cases, if any, and assess the loss incurred Assist PIU in making a structured programme with respect to the implementation of the safeguards
State	Panel of Consultants	Will help MPUDC in detailed ESAs and preparation of ESMP, RAPs etc.
District Level	District Collector (Revenue)	Transfer of Government Lands, Grievance Redress,if any.
City level	Council	Overall monitoring of ESA execution In case of any grievance, bring it to the notice of appropriate authority through Mayor/Chairman / Commissioner/ Chief Municipal Officer
	ULB	Support in Implementation of safeguards Assistance in obtaining necessary government approvals and orders for implementation of project Implementation, supervision and progress monitoring of reforms consolidation activities Implementation, supervision and progress monitoring of town planning activities Take part in the Implementation of all Community Awareness and Participation activities Maintain account with provisional sums for R&R activities ULB shall carry out the social outreach and necessary

Level	Organization	Role
		Information, Education and Communication (IEC) activities to ensure adequate social acceptability through citizen participation, community engagement and will set up a mechanism for consumer grievance redress and attend to consumer complaints in a timely manner. It shall also obtain timely feedback of citizens on the services provided and keep updated MPUDC from time to time and take due care of needs of the urban poor and minorities.

8. Tribal Vulnerable Identification and Assessment

8.1. Distribution of Scheduled Tribes in Madhya Pradesh in Relation to India

The tribal population of Madhya Pradesh increased to 15,316,784 in 2011 from 12,233,474 in 2001.The decadal growth rate during this period is 25.20 percent. The trends in the population of the Scheduled Tribes by residence (total, Rural and Urban) for Census Years 1961- 2011 shows that the percentage of Scheduled Tribes Population in the Rural Areas (11.3 percent) much higher that Urban Population (2.8 percent). In Madhya Pradesh certain areas have been declared as scheduled area as Specified by the Scheduled Areas under the fifth Schedule of Indian Constitution[2]. List of Schedule Areas in Madhya Pradesh is provided in Appendix 6. The 8.61 percent of the Indian population is classified as ST. In comparison to the national figure, Madhya Pradesh has 14.7 percent of its populations classified as ST. The major tribes and list of scheduled V areas of Madhya Pradesh are classified in Appendix 7.

Khargone district is coming under scheduled V area declared by Goverment of India,as per census 2011 district population(including rural and urban areas) is 18,73046 out of this scheduled tribe population is 7,30169(38.98%) and scheduled castes were 209091(11.16%), whereas the project town Khargone nagar palika is having only 9.11% of Scheduled tribe population.

8.2. Presence of Indigenous People.

The identification of Indigenous people in project area done on the basis of secondary information:

1. Share of scheduled tribe population in project area as per census 2011 and
2. Declaration of scheduled V areas by Ministry of tribal welfare.

   On the basis of these two information the share of scheduled tribe and vulnerable composition in project area given in Table 8.1 and Khargone Nagar Palika is not coming under scheduled V area declared by GoI.

Table 8.1: Social Composition in Khargone Town

Social Composition	Population	Percentage of population
SC	8816	7.59
ST	10583	9.11
Others	75482	83.3
Total Population of Town	**116150**	**100**

(Source: Census, 2011)

The concentration of tribal population in particular areas were identified on the basis of wardwise population in 40 wards of KNP, detail of population given in Table 8.2.

[2]Scheduled areas are autonomous areas within a state, administered federally, usually populated by a predominant Scheduled Tribe.

Table 8.2: Wardwise detail of Scheduled Tribe population

S.no	Ward no.	Total population of ward	Total population (Schedule Tribe)	Male	Female	Total population (Schedule caste)	Male	Female
1	01	1340	4	1	3	10	6	4
2	02	2162	32	32	0	18	12	6
3	03	2756	58	29	29	49	23	26
4	04	6625	322	165	157	868	441	427
5	05	8332	776	431	363	563	285	278
6	06	2052	1	0	1	42	22	20
7	07	2960	04	02	02	567	290	277
8	08	1071	05	02	03	0	0	0
9	09	926	0	0	0	0	0	0
10	10	2809	11	7	4	0	0	0
11	11	2920	374	119	255	193	60	133
12	12	4173	465	215	250	236	117	119
13	13	7295	1792	893	899	746	387	359
14	14	4570	908	514	394	267	172	95
15	15	1918	5	1	4	0	0	0
16	16	1488	0	0	0	0	0	0
17	17	2612	6	4	2	0	0	0
18	18	858	0	0	0	41	19	22
19	19	1744	1	1	0	45	21	24
20	20	1629	0	0	0	88	49	39
21	21	1624	12	06	06	175	78	97
22	22	1888	164	8	156	95	30	65
23	23	9739	134	64	70	87	51	36
24	24	1795	21	15	06	5	3	2
25	25	1561	31	16	15	28	17	11
26	26	1546	12	06	06	219	120	99
27	27	1742	41	21	20	23	11	12
28	28	4877	287	143	144	743	378	365
29	29	6189	1171	618	563	1027	536	491
30	30	4792	318	151	167	259	124	135
31	31	6396	29	14	15	49	26	23
32	32	2160	295	155	140	196	106	90
33	33	1905	158	72	86	465	225	240
34	34	1226	86	45	41	64	26	38
35	35	1807(OG)	469	291	178	274	147	127

S.no	Ward no.	Total population of ward	Total population (Schedule Tribe)	Male	Female	Total population (Schedule caste)	Male	Female
36	36	3399	1011	526	435	1122	558	564
37	37	1212	325	158	167	167	85	82
38	38	900	743	401	342	29	14	15
39	39	568	173	95	78	39	19	20
40	40	584	339	181	158	17	11	6
Total			**10583**			**8816**		

Source: Census 2011

The above table reflects that percentage of vulnerable is more than scheduled tribe, the major concentration of scheduled tribes are in ward 15 wards (04, 05, 11, 12, 13, 14, 28, 29, 30, 32, 35, 36, 37, 38 and 40) the rest wards have population.

Assessment: An assessment done based on free, prior and informed consultations with the tribal communities in wards with higher Scheduled Tribes concentration was undertaken.

8.2. Public Consultation

During the entire planning phase, an effort has also been made to help people understand the positive impacts and benefits from the project for them in terms of better connectivity and linkage with the surrounding areas, reduction in the problems, minimization of health risks through provisions of good services of quality supply, underpasses, median control and other design interventions, improvement in the economy of the people, better access to health, education facilities in the region. The process has helped in building confidence amongst the Indigenous people of different wards and mainstreamed them in the process and making them partners in the project. For consultation the wards selected on the basis of highest population of SC/ST in KNP. During consultation process it was ensured the participation of Tribal and vulnerable people. The number of Tribal and Vulnerable people participated in consultation given in table ward wise is presented in Table 8.3.:

Table 8.3: Participation of ST/SC Population during Public Consultation

WARD no.	SC/ST Household		
	Total	M	F
04	12	07	05
05	14	05	09
11	16	06	10
12	15	08	07
13	22	12	10
14	27	13	14
29	39	20	19
36	25	15	10
TOTAL	**170**		

8.2.1. Key Issues

Key issues identified in the public consultations is presented below.

- Not getting sufficient drinking water, as in some wards are not having 100% piped supply and the supply is alternate days in KNP.
- People complaint about contaminated water due to leakage in existing lines.
- In summers due to scarcity of water livelihood of working men & women get hampered.
- Demanded subsidy in water connection and user charges.
- Safety measured during excavation must be ensured as some working couples leave their small children at home.

8.2.2 Interview and Meetings

An enquiry was made with concerned department officials/representatives, running different social and economic welfare schemes for Tribal groups. Information gathered about socioeconomic, religious and culture status from officials .During discussion with officials it was found that tribal people mainly migrated from rural to urban areas for their livelihood and for education.They does not reflect primitive characters (like living in groups,culture and dialect).

8.3 Conclusion

On the basis of social screening, identification, consultations and as per characteristics outlined in OP 4.10 indicated the identities and cultures of Indigenous peoples are inextricably linked to the lands on which they live and the natural resources on which they depend, both these circumstances, are not with ST people present in Khargone town, so on the basis of this criteria they are not categorized as Indigenous people, hence policy OP 4.10 not triggered for Khargone Water supply project.8.2.2. Other Vulnerable group population
The scheduled castes, Women headed household, destitute & disabled considered as vulnerable groups. The population of Scheduled caste in Khargone comprises of 7.59% of total population.

8.4 Strategy

The strategy for addressing concerns relating to tribal and vulnerable groups identified though through participation is presented below. This strategy is to be applied during implementation of the subproject.

i) Consultations and information disclosure are to ensure that the priorities, preferences, and needs of the tribaland vulnerable groups have been taken into consideration adequately. With that objective in view, a strategy for consultation with tribal communities and their leaders will be developed so that these are conducted in a participatory manner.

ii) The Beneficiaries tribal and vulnerablewill be actively engaged in all stages of the project cycle, including project preparation, and feedback of consultations will be reflected in the project design, followed by disclosure. Their participation in project planning will inform project design, the tribal and vulnerable should be convinced of their benefits from the project. The awareness material prepared will be translated into the local language and made available to them before implementation of the project.

iii) Local CBOs/tribal community representatives will be involved in implementation and resolving all issues related to thetribal and vulnerable through consultation and facilitation by the ULB and PMU. The PMU/ULB will ensure adequate flow of funds for consultation and facilitation of planned activities.

iv) The Schemes running by government of Madhya Pradesh for Vulnerable people, there participation will be ensured during project period.
v) One project information disclosure (PID) brochure will be prepared, translated into a language understandable to the tribal people, and distributed among them.
vi) Project Monitoring Indicators will be designed with project monitoring to monitor project impact as beneficiaries.The regular participation of will be ensured through the monitoring Indicators set with implementation monitoring.
vii) GRM will be monitored regularly by the Grievance redressal committee at Project level and redressal process will be monitored on priority basis.

8.4.1 Inclusion of Tribal and Vulnerable Groups during Implementation

The implementation comprise of gaining continued support of the Indigenous people tribal and vulnerable communities in the project area, during project implementation.

Free prior informed consultations during implementation stage as mentioned will be carried out at two levels (i) for consultation with communities for broad support for the project; and (ii) for participation in capacity building and awareness generation activities for mainstreaming.

9. Conclusion and Recommendations

The Environmental and Social Assessment (ESA) Study was carried out based on field assessments and public consultations with the community who are likely to benefit or to be affected by the proposed Project and the Proponent in compliance with the World Bank environmental policies and GoI , GoMP Regulations. The proposed sub-project is step towards providing water to the people of Khargone Town and in that case, there is overwhelming acceptance of the project by the local community.

There are no environmentally sensitive areas (like forest, sanctuaries etc) in or near sub-project area. Also there are no archeological and historical protected areas/ sites within or near the town.

There is no land acquisition is expected also no permanent adverse impacts on assests and livelihood is anticipated, hence no RAP is required as per ESMF. Only minor damage to road side properties and loss of income for certain days and locations during construction phase may be identified. Such impacts shall be assessed by D(R) BO contractor and this ESA and SMP will be updated and approved by MPUDC. As per Indigenous People Management Frame work (IPMF) quick social assessment is required to be carried out in the project area to identify indigenous people. No indigenous people were identified meeting the requirement of IPMF and hence, no separate IPP for this subproject is deemed required. However, a strategy for addressing concerns relating to tribal and vulnerable groups has been identified and is to be applied during subproject implementation.

The subproject is unlikely to cause significant adverse impacts because: (i) most of the individual components involve straightforward construction and operation, so impacts will be mainly localized; (ii) in most cases the predicted impacts are likely to be associated with the construction process and are produced because the process is invasive, involving excavation, obstruction at specific construction locations, and earth movements; and (iii) being located mainly in the already constructed facilities and built-up area will not cause direct impact on terrestrial biodiversity values. The potential adverse impacts that are associated with design, construction, and operation can be mitigated to standard levels without difficulty through proper engineering design and the incorporation or application of recommended mitigation measures and procedures.

The following recommendations are made with respect to the implementation of the proposed Khargone Water Supply Project:

- That since the laying of pipeline from Pipari to Proposed Intake at Kunda River by NVDA is a linked activity for the sub project of MPUDP, the Environment and Social Management Framework for MPUDP will also be strictly adhered to during its construction.
- That construction of all facilities in the proposed Project is carried out in accordance with approved plans, regulations, policies and laws.
- That the Operation and Maintenance of the Water Supply should comply with the international Best Practices and the principles of environmental management including the principles of sustainability, prevention, precaution and public participation.

Appendix

Appendix 1: Screening Checklist

Appendix 1: Environmental and Social Checklist

Checklist For Subprojects In Proposed Madhya Pradesh Urban Development Project

Part A

Name of the Department/cell: **Urban Development and Environment Department (UDED)**

Name of the City/Municipality: **KhargoneMunicipal Council**

Name,Address and Telephone of the Officers Responsible
(i) Chief Municipal Officer : Shri Nishikant Shukla.

(ii)Engineer: Shri G.N. Chouhan.

(iii)Others: _____

Name of the proposed sub project: **Water Supply Augmentation Scheme Khargone (M.P)**

Name of the proposed site: **Khargone**

Proposed utility sub component/functions at the site: **Intake well/WTP/ OHT/Rising main/distribution line** eg.Intake point/STP/WTP/Rising main/Distribution main/ distribution line etc..

Current land use of the proposed site(s):

S. no	Component proposed	capacity	Location	Khasra details	land availability / require area	ownership of land	Status of land	NOC
1	Proposed Intake well	45MLD	Near existing intake well	-	-	Water Resource Department (but in possession of ULB)	vacant	RecievedNoC for water extraction from Kunda
2	Proposed Water Treatment Plant	40 MLD	Umarkhali road	9/2	12.0 Ht	In possession of ULB	Vacant	Recieved
3	Over Head Tank	2250KL	Master colony Arampura	459,460	0.5 Ht.	In possession of ULB	vacant	Recieved
4	Over Head Tank	2250KL	Qilamaidan	37	0.5 Ht.	Government Land	vacant	To be received

5.	Over Head Tank	2250KL	Vindyaviha r colony	23/1,23 /2,21/4	0.5 Ht.	In possession of ULB	vacant	Received
6.	Over Head Tank	2250 KL	Aurangpur aZulwaniya road	10/3,10 /2	0.5 Ht.	Government Land	vacant	To be received

Part B
(Please tick mark √ in the appropriate column and provide relevant information in Col.6)

			Probable social Impacts		
Sl.No	**Social Screening Questions**	**Yes**	**No**	**Possible**	**Extent/Number/ Remarks**
1	2	3	4	5	6
1	Is land in the possession of Municipality? What is the area?	Yes			Yes, New WTP is proposed adjacent to existing WTP 1400m from intake well. The site is in the possession of ULB
2	Is the current ownership status of the proposed site clear? Who is the current owner?	Yes			Current ownership of existing Intake well is of Water Resource Department, WTP &OHTs are of Revenue Department
3	Is there any land transfer formalities to be completed before using the site for proposed function?	**Yes**			WTP land transferred to ULB,OHT land transfer proposals submitted to revenue Department .Transfer of land under process.
4	Will there be loss perennial crops (yielding and/or fruit bearing and other trees?		No		
5	Will the project displace residential structures (Houses)		No		

6	Will the project displace commercial structures (shops workshops, factory and other establishments)?		No		
7	Will there be loss of structures other than buildings? (Compound wall/gate/water tanks/ slabs/ wells/ septic tanks, etc.		No		
8	Are any cultural properties (place of worship, religious structure memorial, monument, cemetery, etc.) affected or displaced?		No		
9	Are any community properties (hand pump, well, tap, chabutra, community hall etc.) affected or displaced?			possible	during excavation/laying of pipeline in lanes
10	Are any tenants running enterprises or operating from the structures that would be displaced?		No		
11	Are there any tenants residing in the structures that would be displaced?		No		
12	Are there residential squatters within the proposed site boundary?	Yes			Within Project area there are in wards.
13	Are there commercial squatters/vendors/Hawkers within the proposed site boundary?	Yes			The street vendors and mobile hawkers are inside the project area
14	Will there be loss of incomes and livelihoods of employees of affected establishments / structures?			possible	The Street vendors and mobile hawkers around the congested market and near market areas get affected during laying.

15	Will people lose access to common facilities, services, or natural resources?			possible	May be common facilities get effected during excavation
16	Will there be loss of existing access to private properties and services?		No		
17	Is there any Tribal community members residing in group / cluster in close proximity to the site?			possible	As Khargone is declared scheduled area for Indigenous people. Tribal community members may reside in wards in scattered form.
18	Is there possibility of any conflict/Grievances by the surrounding land users due to proposed activities on the site?		No		

	Project Proximity to Environmental Sensitive Aspects			
Sr. No.	Components	Yes	No	Details
1.	Notified Protected Areas (National Parks/ Wildlife Sanctuaries, Eco-Sensitive Zones, Biosphere Reserves, Ramsar Sites, Mangrove forests, etc.)		√	The closest wild life sanctuary around Khargone is 49 km called Yawal Wildlife Sanctuary.
2.	Important Bird Areas in India (Ref: Priority sites for conservation, BNHS)		√	-
3.	Scheduled Areas	√		Khargone Comes under Declared schedule area V
4.	State borders (overlapping resource sharing such as rivers, lakes, roads etc.)		√	-

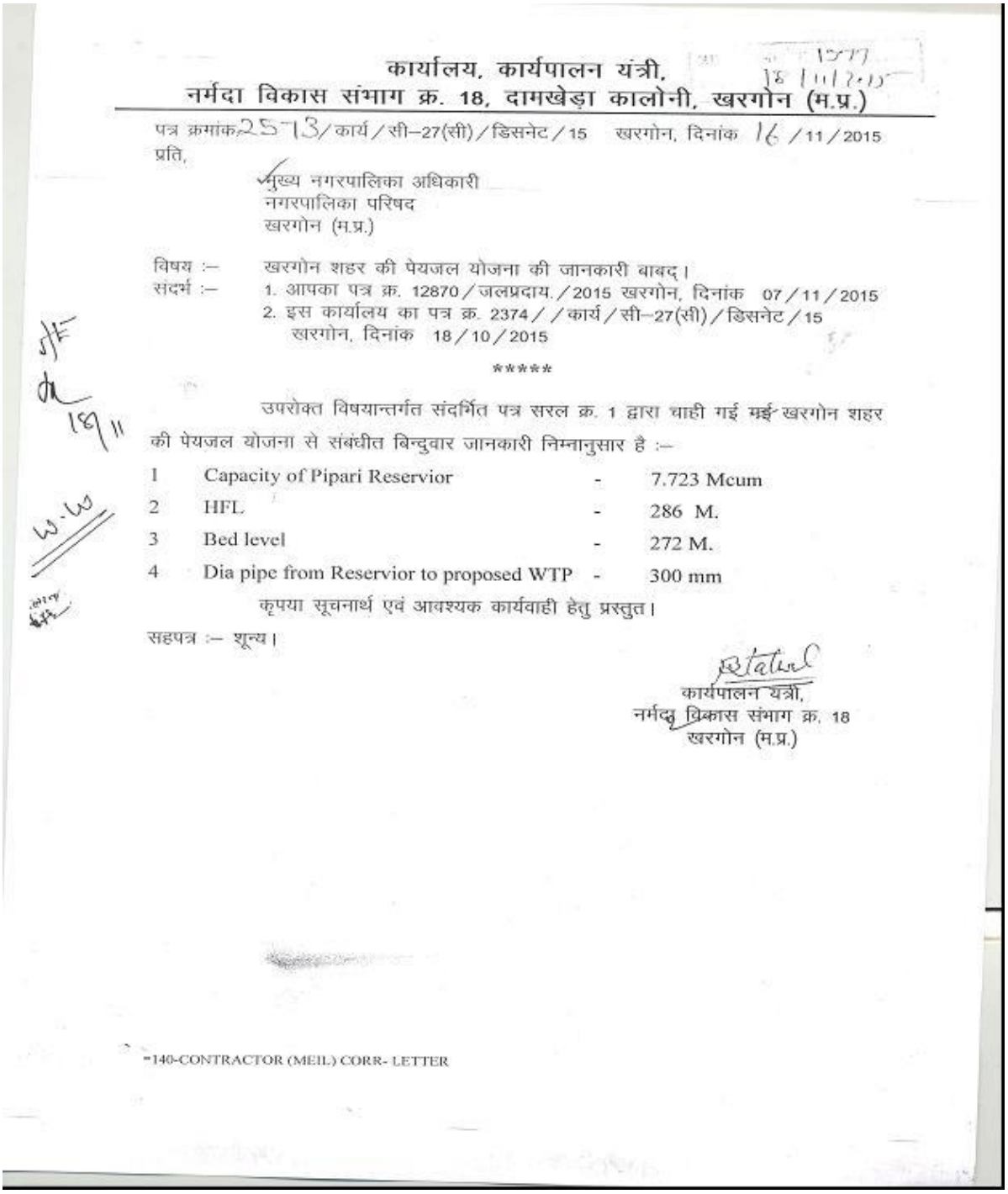
5.	Hazard Prone Areas (Floods, Earthquakes, Wind / Cyclones), Vulnerability Atlas of India, BMTPC		√	-
6.	Climate Change impacted area (water intakes in CC affected rivers, lakes), MP State Climate Change Action Plan and Other Sources		√	-
7.	Critically polluted areas (such as Indore Industrial cluster in MP)		√	Commercial and Industrial percentage of use of land is very less 6% and 8% only.
8.	Landuse (Sensitive receptors hospitals, residential areas, schools)		√	The land use pattern of Municipal council's administrative boundaries. Maximum land use is for Residential purpose in town ie.44.53%.Commercial and Industrial percentage of use of land is very less 6% and 8% only.
9.	Pre-existing litigations concerning E&S issues with the Project location or site		√	-
10.	Archeological Survey of India (ASI) sites		√	-
11.	Socio-Cultural- Economic activities (religious/heritage/ cultural sites, tourist interests, etc.)	√		The NavgrahMela is held at the Mela Grounds situated near the banks of river Kunda, near the famous Navagraha temple.
12.	Defense installations, specially those of security importance and sensitive to pollution		√	-
13.	Does the Project Involve the following:			
14.	Vegetation removal and Cutting of trees	√		

15.	Potential Habitat fragmentation		√	
16.	Quarrying, Mining or Resource Extraction		√	
17.	Excessive Resource Consumption or Waste Generation, Cutting and Filling of Earth	√		Approx. 160 km length of distribution network is proposed in Khargone town, hence large excavation activity takes place in the project.
18.	Risk to Neighborhood Community Health	√		Adverse impact on the health of the workers and residents in and around the due to deterioration of the air quality, increase of noise and traffic
19.	Use / release of Hazardous Chemicals, toxic materials	√		Potential hazard from the use of chlorine
20.	Generation of Air Emissions, Wastewater, Solid Wastes (including Hazardous Waste)	√		Exhaust and dust emissions from construction vehicles and machinery
21.	Is the project design considering energy conservation measures/ energy recovery options?	√		-
22.	Is the project considering waste minimisation or waste reuse/recycle options?	√		100% recyle of backwash water

Name: Nishikant Shukla.

Signature and name of the officer responsible:

Appendix 2: NVDA Letter for Details of Khargone WSS



कार्यालय, कार्यपालन यंत्री,
नर्मदा विकास संभाग क्र. 18, दामखेड़ा कालोनी, खरगोन (म.प्र.)

पत्र क्रमांक 2513/कार्य/सी–27(सी)/डिसनेट/15 खरगोन, दिनांक 16/11/2015

प्रति,

मुख्य नगरपालिका अधिकारी
नगरपालिका परिषद
खरगोन (म.प्र.)

विषय :– खरगोन शहर की पेयजल योजना की जानकारी बाबद्।

संदर्भ :– 1. आपका पत्र क्र. 12870/जलप्रदाय./2015 खरगोन, दिनांक 07/11/2015
2. इस कार्यालय का पत्र क्र. 2374//कार्य/सी–27(सी)/डिसनेट/15 खरगोन, दिनांक 18/10/2015

*****

उपरोक्त विषयान्तर्गत संदर्भित पत्र सरल क्र. 1 द्वारा चाही गई मई खरगोन शहर की पेयजल योजना से संबंधीत बिन्दुवार जानकारी निम्नानुसार है :–

1	Capacity of Pipari Reservior	-	7.723 Mcum
2	HFL	-	286 M.
3	Bed level	-	272 M.
4	Dia pipe from Reservior to proposed WTP	-	300 mm

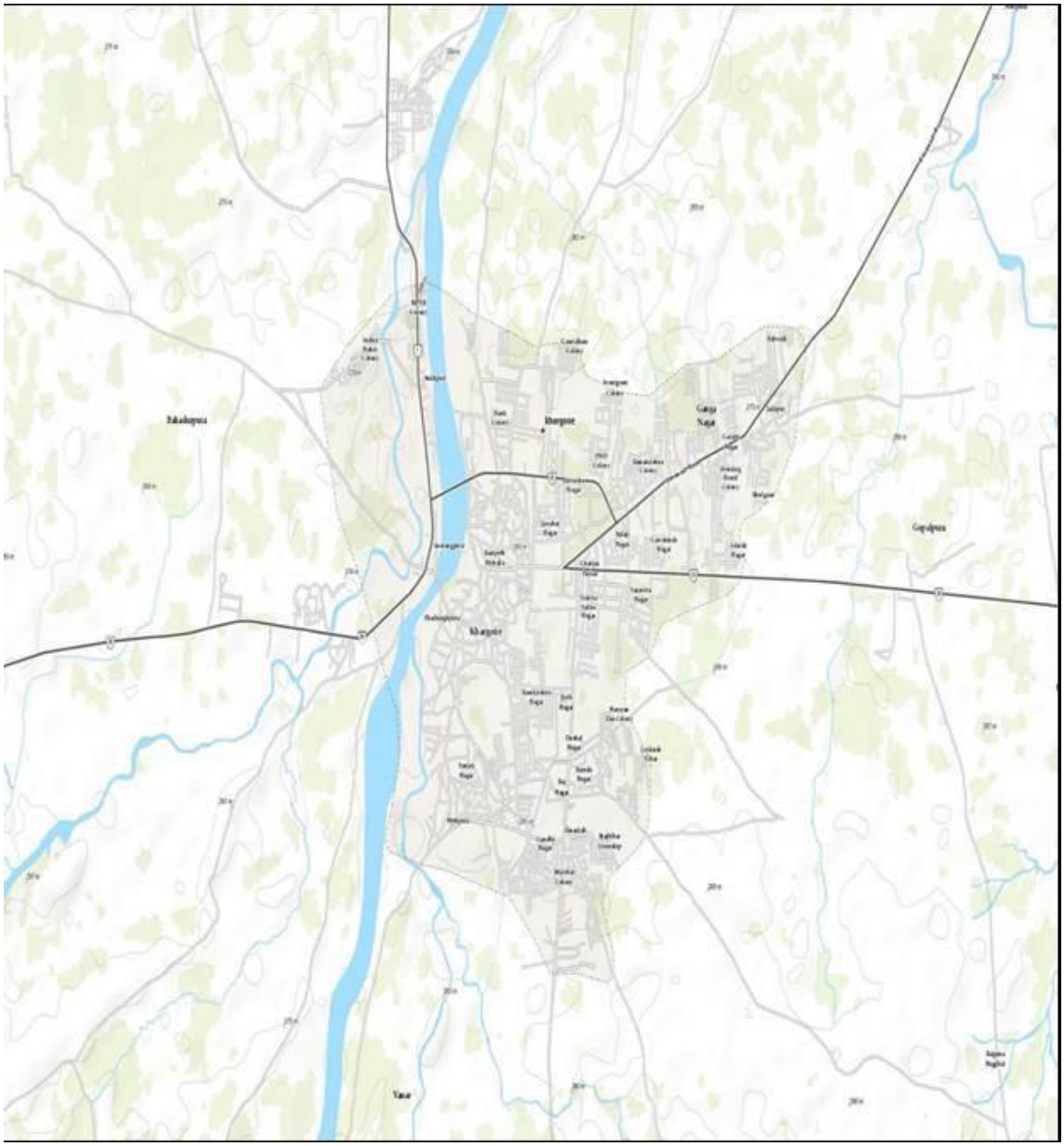
कृपया सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रस्तुत।

सहपत्र :– शून्य।

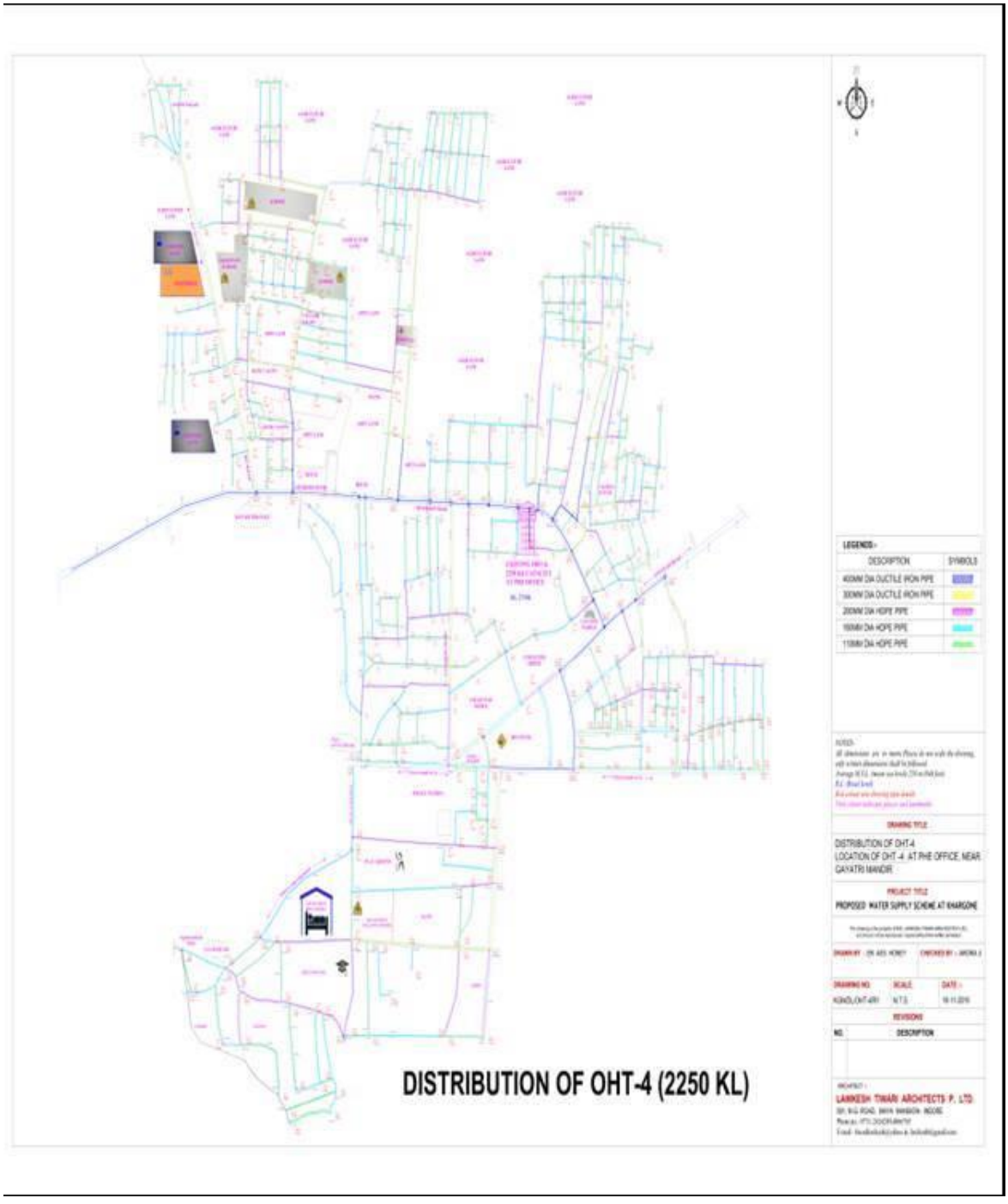
कार्यपालन यंत्री,
नर्मदा विकास संभाग क्र. 18
खरगोन (म.प्र.)

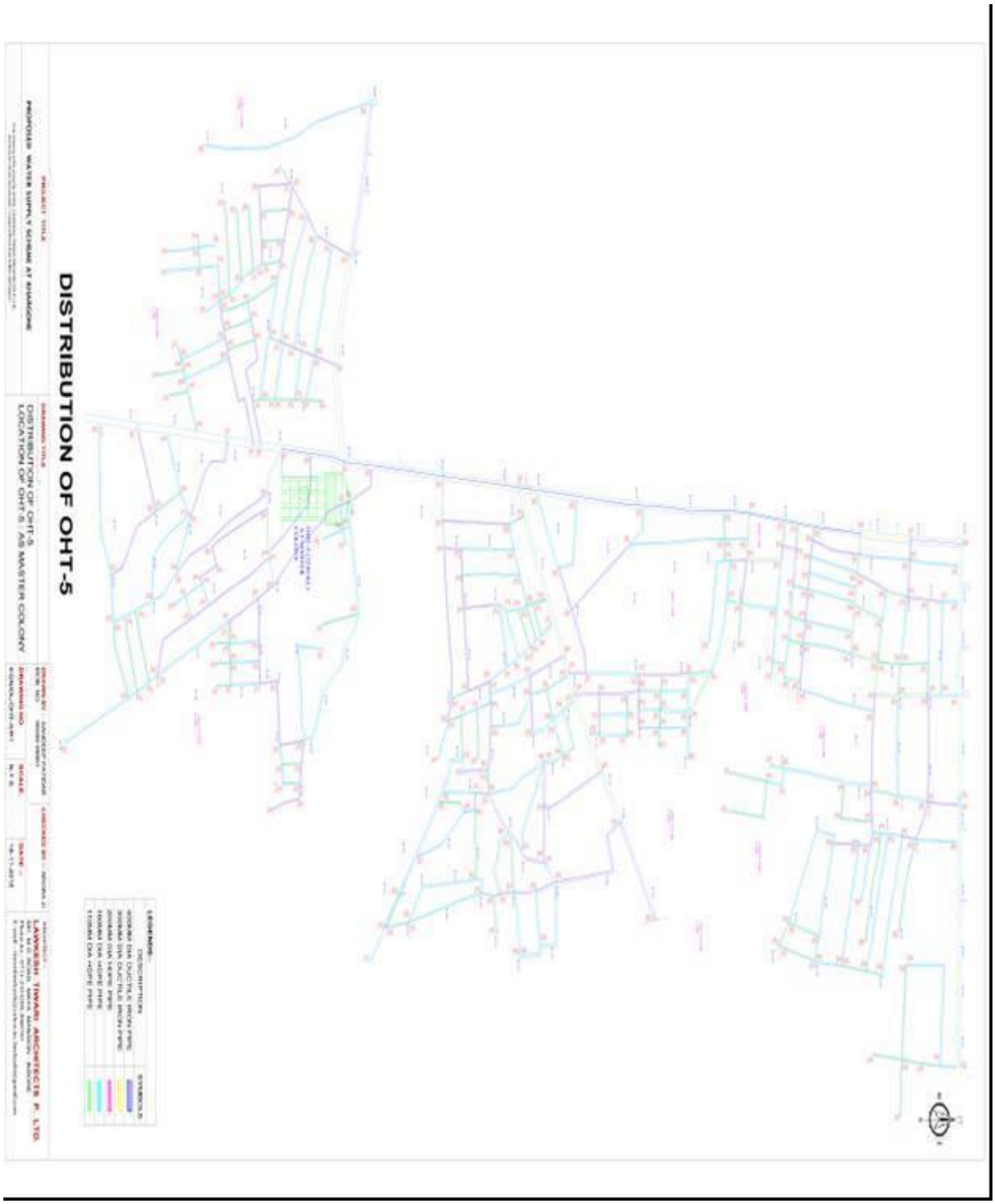
140-CONTRACTOR (MEIL) CORR- LETTER

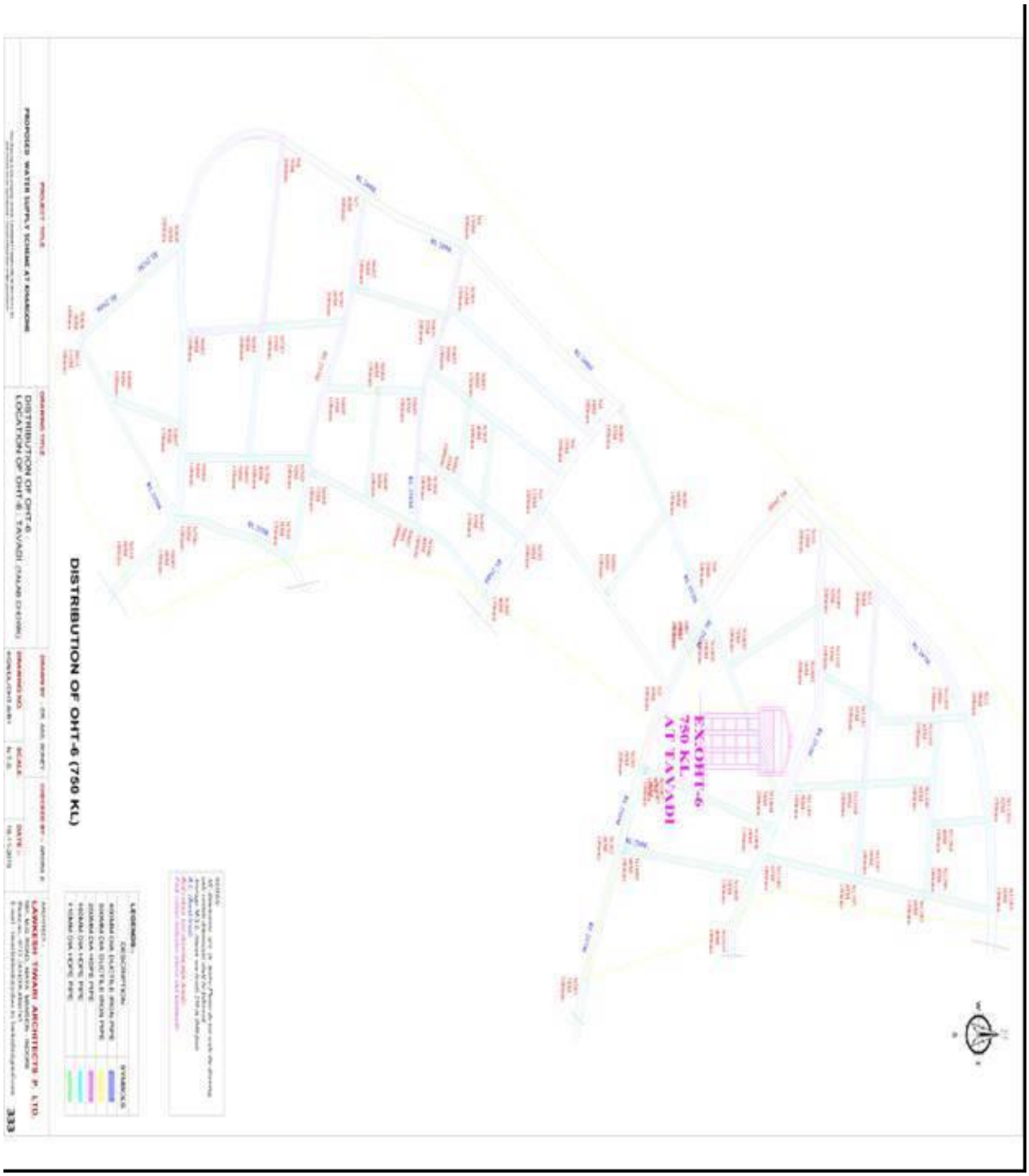
Appendix 3: Location of Proposed Sub-project on Survey of India Toposheet

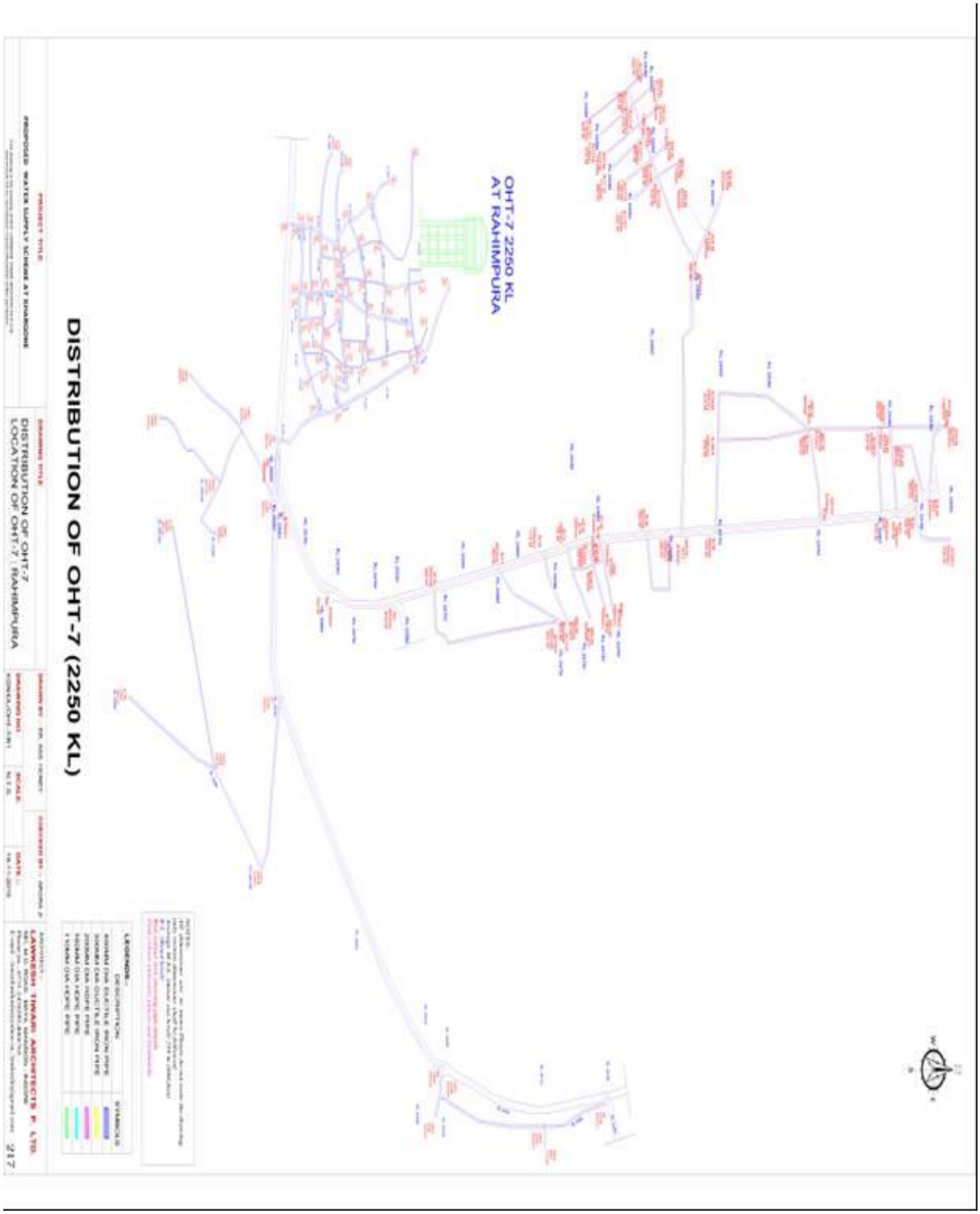


Appendix 4: Select Drawings of Proposed WSS




DISTRIBUTION OF OHT-5
PROPOSED WATER SUPPLY SCHEME AT KHARGONE
DISTRIBUTION OF OHT-5
LOCATION OF OHT-5 AS MASTER COLONY
LEGENDS
DESCRIPTION
SYMBOLS
LAWKESH TIWARI ARCHITECTS (P. LTD.


DISTRIBUTION OF OHT-6 (750 KL)
EX.OHT-6
750 KL
AT TAVADI


DISTRIBUTION OF OHT-7 (2250 KL)
OHT-7 2250 KL
AT RAHIMPURA
PROPOSED WATER SUPPLY SCHEME AT KHARGONE
DISTRIBUTION OF OHT-7
LOCATION OF OHT-7 : RAHIMPURA
LEGENDS
DESCRIPTION
SYMBOLS
LAVKESH TIWARI ARCHITECTS P. LTD.

Appendix 5: Photographs and List of Participants during Consultations

Ward No. 01

1	Mr Deepak Choure
2	Mr Kailash avole
3	Mr Devram avole
4	Mr rivaram avole
5	Mr parvat avole
6	Mr dinesh sindore
7	Mr kamal singh
8	Mr subhash sindore
9	Mr antar sindore
10	Mr ramlal sindore
11	Mr sodhan sindore
12	Mr parsuram sindore
13	Mr lakhan sindore
14	Mr jitendra hirve
15	Mr manish hirve
16	Mr ganesh sindore
17	Mr yogesh avore
18	Mr balram avore
19	Mr pannalal avore
20	Mr prakash avore

Ward No. 03

1	Lokesh bhavsar
2	Jmnntha mandloi
3	Bhart patedar
4	Baliram patrdar
5	Mukash patedar
6	Badre parshad patedar
7	Mahesh patedar
8	Chunelal patedar
9	Jidandr bhavsar
10	Lalu patedar
11	Ramesuwar patedar
12	Lkhan patedar
13	Heemnt patedar
14	Thulseram patedar
15	Pars patedar
16	Shuram patedar
17.	Aashish patedar
18	Verandr patedar
19	Sunel jane

Ward No. 06

1	Mr virendra singh bhadoriya
2	Mr ravindra tomar
3	Mr sintaram kushwah

4	Mr shubham shrivashtav	
5	Mr aloke siduwar	
6	Mr kamal singh	
7	Mr chhaganlal	
8	Mr bhavesh shukla	
9	Smt reva kushwah	
10	Mr bhimsingh chouhan	
11	Mr laxman rai	
12	Mr harindra Mishra	
13	Mr rahul joshi	
14	Mr tulsiram varma	
Ward No. 14		
1	Mr sahid khan	
2	Mr vajid ali sayad	
3	Mr altaf khan	
4	Mr idrish sekh	
5	Mr mohammd ramij	
6	Mr abhula khatri	
7	Mr harut kahtri	
8	Mr Abdullhak	
9	Mr sarukh	
10	Mr fejal khan	
11	Mr jahir khan	

12	Mr mujahit khan	
13	Mr saluddin sekh	
14	Mr vasuddin sekh	
15	Mr parvej khan	
16	Mr jakir khatri	
17	Mr jumarkaruk khatri	
18	Mr sahid bhopali	
Ward No. 15		
1	Mr ayaj ali	
2	Mr monish khan	
3	Mr shay khan	
4	Mr soheb khan	
5	Mr ramjan khan	
6	Mr Jaid ali	
7	Mr mohmmad amisekh	
8	Mr amjad khan	
9	Mr napisingh	
10	Smt kalo	
11	Smt gola	
12	Smt jeddisinh	
13	Smt kamish sah	
14	Mr rasul khan	
15	smt mumtaj khan	

16	smt sahida	
17	Mr anish khan	
18	Mr magbul bagwan	
19	Mr sherkhan	
20	Mr mehbub	
21	Mr majudin	
Ward No. 17		
1	Mr nilesh varma	
2	Mr mirja	
3	Mr rakesh yadav	
4	Mr rajesh varma	
5	Mr jagan yadav	
6	Mr mahesh varma	
7	Mr ajay dhangar	
8	Mr manish	
9	Smt manisha	
10	Smt santoshi	
11	Smt rekha	
12	Smt Padma	
13	Smt kiran	
14	Smt kaveri	
15	Smt santubai	
16	Smt durgabai	

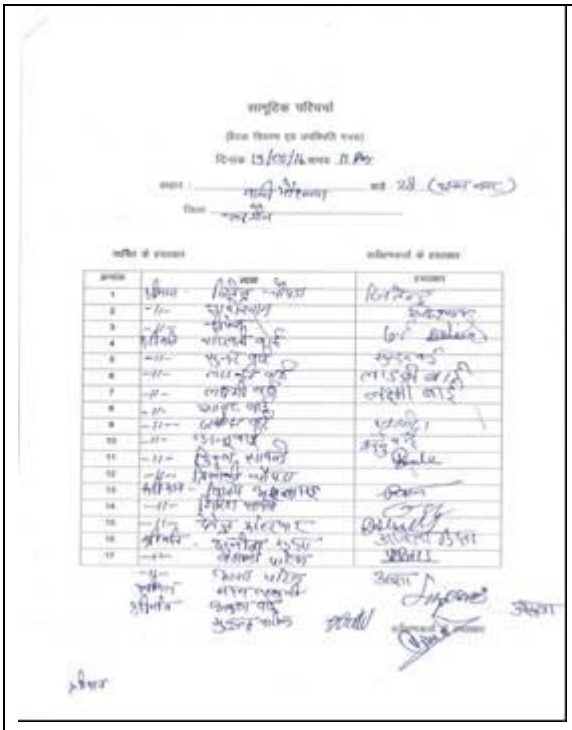
17	Smt nisha	
18	Mr krashnakant	
19	Smt chhya joshi	
20	Smt radhabai	
21	Smt vahkorebai	
22	Mr kishore varma	
23	Mr shivam	
24	Mr vinay	
25	Mr lakhan yadav	
26	Mr krashnalal	
27	Mr sekhsalim	
Ward No. 19		
1	Mr jitendra kevat	
2	Mr jagdish alival	
3	Mr hiralal chouhan	
4	Mr shubham pal	
5	Mr ganesh soniyar	
6	Mr kanha ji	
7	Mr rajendra	
8	Mr Ankit sen	
9	Mr rajeet pal	
10	Mr pinkis soniyar	
11	Mr rameshvar karma	

12	Mr arjun chouhan	
13	Mr mukesh sorya	
14	Mr pramod soniyar	
15	Mr gopal rao gomte	
16	Mr anhomali	
17	Mr anil patil	
18	Smt sangeeta	
19	Smt shital	
20	Smt sarita	
21	Smt sumitra	
22	Mr rajendra patel	
Ward No. 20		
1	Mr R.K telor	
2	Mr nandkishore pandit	
3	Mr badrilal pal	
4	Mr raja parmar	
5	Mr tisak patel	
6	Mr antiya pure	
7	Mr pramod manvade	
8	Mr nilesh solanki	
9	Mr pankaj soni	
10	Mr santosh varma	
11	Mr sunil pal	

12	Mr jitendra sen	
13	Mr nantu kevat	
14	Mr babulal pal	
15	Mr ravi pal	
16	Mr sandeep pal	
17	Mr ranjeet mane	
Ward No. 21		
1	Mr santosh sajjan	
2	Mr kailash	
3	Mr Mahesh	
4	Mr atul	
5	Mr kamlesh	
6	Mr jitendra karma	
7	Mr gajendra yadav	
8	Mr omprakash kumavat	
9	Mr santosh	
10	Mr mukesh	
11	Mr rakesh kohli	
12	Smt sushilabai	
13	Smt dondibai	
14	Smt ganubai	
15	Smt shila	
16	Smt gaytri	

17	Smt durupta	
18	Mr dharmendra dhangar	
19	Mr jagan bihari	
20	Mr mangilal kirade	
21	Mr Mahesh pal	
22	Mr mohit pal	
23	Mr rakesh viplode	
24	Mr sohan sirpure	
25	Mr pankaj soni	
26	Mr pramod mankhede	
27	Mr rajesh karma	
28	Mr sitaram pal	
29	Mr trilok vithore	
30	Mr ranjeeta mane	
Ward No. 28		
1	Jithendr chopdha	
2	Mr Radeshyam	
3	Mr Dipes	
4	Smt Suneeta bae	
5	Mr Sundar bae	
6	Smt Ladhke bai	
7	Smt Laxmi bhi	
8	Smt Sagar bai	

9	Smt Anpudha bae	
10	Smt Kiran sawla	
11	Mr Theelok chopdha	
12	Mr Vijay bhawsar	
13	Mr Girish savla	
14	Mr Dewandr aaherwar	
15	Smt Anita gupta	
16	Smt Veeshle patel	
17	Smt Aasha patel	
18	Mr Mukund patel	



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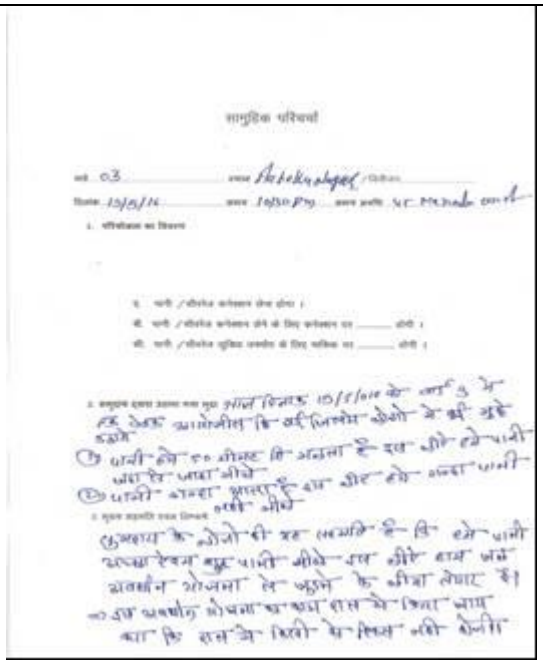
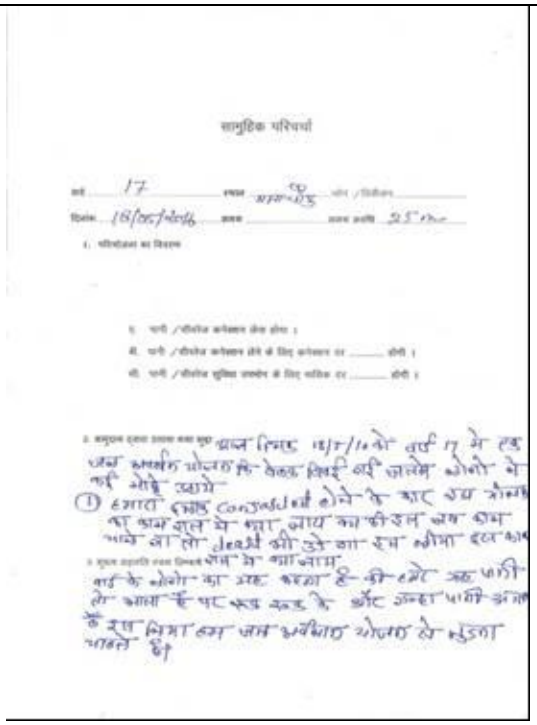
सामुहिक परिचर्चा

सामुहिक परिचर्चा



सामुहिक परिचर्चा

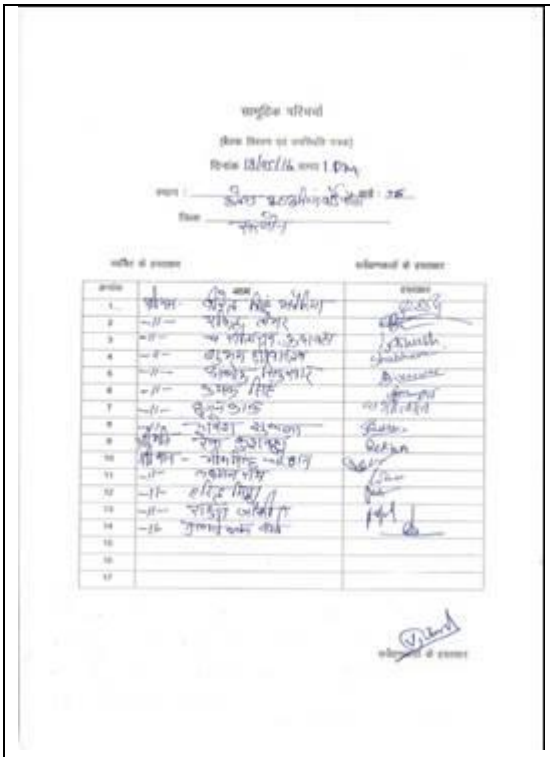
सामुदायिक परिषदों



सामुदायिक परिषदों

सामुदायिक परिषदों

सामुदायिक परिषदों



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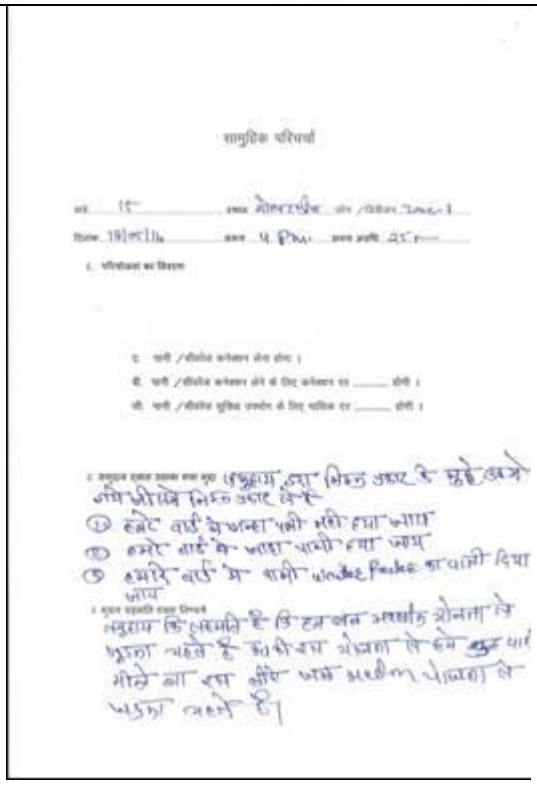

सामुदायिक परिचर्चा

Appendix 6: List of Tribal Communities in State of Madhya Pradesh as Provided by Ministry of Tribal Affairs, Government of India

1. Agariya
2. Andh
3. Baiga
4. Bhaina
5. Bharia Bhumia, Bhuinhar Bhumia, Bhumiya, Bharia, Paliha, Pando
6. Bhattra
7. Bhil, Bhilala, Barela, Patelia
8. Bhil Mina
9. Bhunjia
10. Biar, Biyar
11. Binjhwar
12. Birhul, Birhor
13. Damor, Damaria
14. Dhanwar
15. Gadaba, Gadba
16. Gond; Arakh, Arrakh, Agaria, Asur, Badi Maria, Bada Maria, Bhatola, Bhimma, Bhuta, Koilabhuta, Koliabhuti, Bhar, Bisonhorn Maria, Chota Maria, Dandami Maria, Dhuru, Dhurwa, Dhoba, Dhulia, Dorla, Gaiki, Gatta, Gatti, Gaita, Gond Gowari, Hill Maria, Kandra, Kalanga, Khatola, Koitar, Koya, Khirwar, Khirwara, Kucha Maria, Kuchaki Maria, Madia, Maria, Mana, Mannewar, Moghya, Mogia, Monghya, Mudia, Muria, Nagarchi, Nagwanshi, Ojha, Raj, Sonjhari Jhareka, Thatia, Thotya, Wade Maria, Vade Maria, Daroi
17. Halba, Halbi
18. Kamar
19. Karku
20. Kawar, Kanwar, Kaur, Cherwa, Rathia, Tanwar, Chattri
21. (Omitted)
22. Khairwar, Kondar
23. Kharia
24. Kondh, Khond, Kandh
25. Kol
26. Kolam

27. Korku, Bopchi, Mouasi, Nihal, Nahul Bondhi, Bondeya

28. Korwa, Kodaku

29. Majhi

30. Majhwar

31. Mawasi

32. Omitted

33. Munda

34. Nagesia, Nagasia

35. Oraon, Dhanka, Dhangad

36. Panika [in (i) Chhatarpur, Panna, Rewa, Satna, Shahdol, Umaria, Sidhi and Tikamgarh districts, and (ii) Sevda and Datia tehsils of Datia district]

37. Pao

38. Pardhan, Pathari, Saroti

39. Omitted

40. Pardhi, Bahelia, Bahellia, Chita Pardhi, Langoli Pardhi, Phans Pardhi, Shikari, Takankar, Takia [In (i) Chhindwara, Mandla, Dindori and Seoni districts, (ii) Baihar Tahsil of Balaghat District, (iii) Betul, Bhainsdehi and Shahpur tahsils of Betul district, (iv) Patan tahsil and Sihora and Majholi blocks of Jabalpur district, (v) Katni (Murwara) and Vijaya Raghogarh tahsils and Bahoriband and Dhemerkheda blocks of Katni district, (vi) Hoshangabad , Babai, Sohagpur, Pipariya and Bankhedi tah sils and Kesla block of Hoshangabad district, (vii) Narsinghpur district, and (viii) Harsud Tahsil of Khandwa district]

41. Parja

42. Sahariya, Saharia, Seharia, Sehria, Sosia, Sor

43. Saonta, Saunta

44. Saur

45. Sawar, Sawara

46. Sonr

Appendix 7: List of Schedule Areas in Madhya Pradesh as Specified by the Scheduled Areas under the fifth Schedule of Indian Constitutions

1. Jhabua district

2. Mandla district

3. Dindori district

4. Barwani district

5. Sardarpur, Dhar, Kukshi, Dharampuri, Gandhwani and Manawar tahsils in Dhar district

6. Bhagwanpura, Segaon, Bhikangaon, Jhirniya, Khargone and Meheshwar tahsils in Khargone district

7. Khalwa Tribal Development Block of Harsud tahsil and Khaknar Tribal Development Block of Khaknar tahsil in Khandwa district

8. Sailana and Bajna tahsils in Ratlam district

9. Betul tahsil (excluding Betul Development Block) and Bhainsdehi and Shahpur tahsils in Betul district 10. Lakhanadone, Ghansaur and Kurai tahsils in Seoni district

11. Baihar tahsil in Balaghat district

12. Kesla Tribal Development Block of Itarsi tahsil in Hoshangabad district

13. Pushparajgarh, Anuppur, Barhi, Kotma, Jaitpur, Sohagpur and Jaisinghnagar tahsils of Shahdol district

14. Pali Tribal Development Block in Pali tahsil of Umaria district

15. Kusmi Tribal Development Block in Kusmi tahsil of Sidhi district

16. Karahal Tribal Development Block in Karahal tahsil of Sheopur district

17. Tamia and Jamai tahsils, patwari circle Nos. 10 to 12 and 16 to 19, villages Siregaon Khurd and Kirwari in patwari circle no. 09, villages Mainawari and Gaulie Parasia of patwari circle No. 13 in Parasia tahsil, village Bamhani of Patwari circle No. 25 in Chhindwara tahsil, Harai Tribal Development Block and patwari circle Nos. 28 to 36,41,43,44 and 45B in Amarwara tahsil Bichhua tahsil and patwari circle Nos. 05,08,09,10,11 and 14 in Saunsar tahsil, Patwari circle Nos. 01 to 11 and 13 to 26, and patwari circle no. 12 (excluding village Bhuli), village Nandpur of patwari circle No. 27, villages Nikanth and Dhawdikhapa of patwari circle no 28 in Pandurna tahsil of Chhindwara district.

Appendix 8: Draft ESA Consultation and Disclosure Details






Photographs of Draft ESA Consultation

Public Disclosure

दैनिक जनसत्ता संदेश 11-7-16

अधिक से अधिक वृक्षा रोपण कर

सुझाव हेतु नगरपालिका ने बुलाई महत्वपूर्ण बैठक

खरगोन। खरगोन नगर में नागरिकों की मूलभूत आवश्यकताओं की पूर्ति के लिय कटिबद्ध नगरपालिका खरगोन द्वारा नगर की पेयजल से जुडी महत्वाकांक्षी जल आवर्धन योजना तैयार की गई है। जिसका क्रियान्वयन शीघ्र ही राज्य शासन की मुख्य प्रदेश अर्बन डेवलपमेंट कंपनी के माध्यम से आरंभ किया जाना है। नगरपालिका द्वारा इस योजना के क्रियान्वयन हेतु योजना से संबंधित विभिन्न पक्षो पर जन सामान्य के विचार जानने के लिये योजना तैयार करते समय व्यक्तिशः संपर्क किया गया है। इसी श्रृखला में अपरान्ह 3:00 बजे नगरपालिका सभा कक्ष मे एक महत्वपूर्ण बैठक आयोजित की गई है, योजना के तकनीकी, पर्यावरणीय एवं सामाजिक पक्षों को जन सामान्य के समक्ष प्रस्तुत किया जावेगा। इस बैठक मे नगर के सभी राजनैतिक दलो से जुडे जनप्रतिनिधियों, नगरपालिका परिषद के सभी पूर्व अध्यक्ष, नगरपालिका पार्षद, समाजसेवी एवं स्वयंसेवी संगठनो के पदाधिकारी प्रचार माध्यमों के प्रतिनिधि एवं सभी गणमान्य नागरिकों को आमंत्रित किया गया है। नगरपालिका अध्यक्ष विपिन कुमार गौर, मुख्य नगरपालिका अधिकारी निशिकांत शुक्ला एवं उपाध्यक्ष कन्हैया कोठाने ने सभी से अनुरोध किया है कि, वे नगर की पेयजल से जुडी इस महत्वपूर्ण योजना के क्रियान्वयन हेतु निश्चित समय पर स्थानीय नगरपालिका सभा गृह में उपस्थित होकर अपने बहुमूल्य सुझाव प्रदान करे। ताकि, इस योजना का निर्बाध एवं सफलता पूर्वक क्रियान्वयन नगर हित मे सुनिश्चित किया जा सके।

जनसंख्या स्थिरीकरण माह एवं दस्तरोग नियंत्रण पखवाडे का शुभारंभ

खरगोन। जिला चिकित्सालय खरगोन में जनसंख्या स्थिरीकरण माह एवं सघन दस्तरोग नियंत्रण पखवाडे, विशाल नसबंदी शिविर एवं परिवार कल्याण कार्नर तथा जिंक-ओ.आरएस कार्नर का शुभारंभ विधायक बालकृष्ण पाटीदार, के करकमलों द्वारा फिता काटकर किया गया। इस अवसर पर मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी जिला खरगोन डॉ. गोविंद गुप्ता, डीएचओ डॉ. बीएस कनेय, सिविल सर्जन डॉ. रमेश नीमा एवं अन्य अधिकारी/ कर्मचारी उपस्थित थे। उक्त अवसर पर नसबंदी शिविर में 25 महिलाओं का नसबंदी ऑपरेशन किया जाएगा। साथ ही परिवार कल्याण कार्नर पर महिला रोग विशेषज्ञ डॉ. गुप्ता मेडम द्वारा अनिसर पति असलम खरगोन को दो बच्चों में अंतर रखने हेतु कॉपर-टी के लिए प्रोत्साहित किया गया, जिससे संबंधित द्वारा कॉपर-टी हेतु सहमति दी गई। जिंक-ओआरएस कार्नर से बच्चों में दस्त रोकने के लिए ओआरएस पैकेट वितरित किए गए।

स्वात्वाधिकारी, प्रकाशक और मुद्रक ज्योति माहेश्वरी
R.N.I.No.-MPHIN/2014/59433 सम्पादक -ज्योति माहे

Minutes of Draft ESA Consultation:

कार्यालय नगरपालिका परिषद, खरगोन, जिला खरगोन (म.प्र.)

दूरभाष (कोड–07282) ☎ 231333 फेक्स – 21333 – E-Mail : cmokhargone@mpurban.gov.in

खरगोन नगर में विश्व बैंक के वित्त पोषण से प्रस्तावित " जल आवर्धन योजना" के तकनीकी, पर्यावरणीय एवं सामाजिक पक्षों का जन साधारण के समक्ष डिस्क्लोजर

दिनांक 11.07.2016 अपरान्ह 3.00 बजे

स्थान – नगर पालिका सभाकक्ष, खरगोन

–––00–––

आज दिनांक 11.07.2016 को नगर पालिका परिषद, खरगोन के सभाकक्ष में विषयाकिंत के संबंध में बैठक दोपहर 3.00 बजे प्रारंभ हुई । आयोजित बैठक में परिषद के पार्षदगण, शहर के सामाजिक संगठनों के अध्यक्ष एवं प्रतिनिधि उपस्थित हुए है, साथ ही शहर के प्रबुद्ध पत्रकारगण भी उपस्थित हुए ।

बैठक के दौरान पार्षद एवं जनता के द्वारा निम्नानुसार मत प्रस्तुत किये गये :–

1. पार्षद द्वारा पर्यावरण संबंधी विचार व्यक्त करते हुए बताया गया कि, खरगोन शहर की जल आवर्धन योजना में वाटर ट्रीटमेंट प्लांट साईट पर किसी तरह के पर्यावरणीय हानि जैसे – वृक्ष, पेड़ पौधों को हटाकर पर्यावरण हानि तो नहीं होगी ? साथ ही जो योजना के तहत टंकिया प्रस्तावित की गई है उनके निर्मित होने पर भी किसी प्रकार की पर्यावरणीय हानि तो नहीं हो रही है ?

   कार्यालय द्वारा प्रोजेक्ट रिपोर्ट अनुसार जानकारी दी गई कि, जल आवर्धन योजना के क्रियान्वयन पर किसी भी प्रकार के वृक्ष, पेड़–पौधों को हटाया जाना प्रस्तावित नहीं है और न ही पानी की टंकिया निर्माण के दौरान किसी भी प्रकार की पर्यावरणीय हानि नहीं होगी ।

2. जल आवर्धन परियोजना के तहत कौन सी पाईप लाईन का उपयोग किया जा रहा है ? तथा पाईप लाईन डालने पर किसी भी प्रकार के मकान या समुदाय को हानि तो नहीं होगी ?

   कार्यालय द्वारा प्रोजेक्ट रिपोर्ट अनुसार जानकारी दी गई कि, जल आवर्धन योजना के तहत शहर में पाईप लाईन डाली जाने के दौरान किसी भी मकान या समुदाय को हानि नहीं होगी ।

3. जनता का सुझाव आया कि, मीटर लगाने के पहले ट्रायल रन किया जावे। तथा यह सुनिश्चित हो सके की पानी पर्याप्त मात्रा में मिल रहा है, इस संबंध में विस्तृत रूप से जानकारी दी गई ।

4. जनता द्वारा कहा गया कि खरगोन नगर पालिका परिषद द्वारा लागू की जा रही जल आवर्धन योजना का क्रियान्वयन का विचार अच्छा है, परन्तु योजना शुरू होने में कितना समय लगेगा तथा नागरिकों की सम्पत्ति को योजना क्रियान्वयन के कारण नुकसान पहुंचे तो उसके लिए समाधान कारक कार्यवाही समय सीमा में की जावें ।

   इस पर जानकारी दी गई कि, जल आवर्धन योजना के पूर्ण होने मे अनुमानित 2 वर्ष का समय लगना है तथा शिकायत निवारण की कार्यवाही समय सीमा पर की जावेंगी । यदि किसी को मुआवजा देने की आवश्यकता पड़ी तो भी समय सीमा में कार्यवाही की जावेगी ।

5. जनता द्वारा कहा गया कि, योजना पूर्ण होने पर योजना के रखरखाव की क्या व्यवस्था होगी ?

   इस पर जानकारी दी गई कि, ठेकेदार द्वारा कार्य पूर्ण होने के 05 वर्षो तक रख रखाव /मरम्मत करने का दायित्व होगा ।

6. जनता द्वारा कहा गया कि, कोई नागरिक पर्यावरण के क्षेत्र में कार्य कर पेड़, पौधे लगाता है तो उस व्यक्ति को जलकर में कोई सुविधा प्रदान की जावेगी ?

   इस पर कार्यालय द्वारा बताया गया कि, आपका सुझाव अच्छा है । जलकर में सुविधा प्रदान करने हेतु शासन से मार्गदर्शन प्राप्त किया जावेगा ।

श्री दिनेश प्रजापति ने सभी को अवगत कराया गया कि ESMF Disclosure हिन्दी व इंग्लिश में नगरीय निकाय, नगरीय प्रशासन एवं विकास, आदि की वेबसाईट पर किया जावेगा । शिकायत निवारण की प्रक्रिया के लिए भी नागरिकों को विभिन्न माध्यमों से सूचित किया जायेगा । समस्त उपस्थित सदस्य **Enviroment and Social Management Framework** से अवगत हुए तथा प्रावधानों से सहमत हुयें ।

(3)

उपस्थित परिषद के सदस्य, पत्रकारगण एवं शहर के सामाजिक संगठनों के प्रतिनिधियों के द्वारा जल आवर्धन योजना के क्रियान्वयन किये जाने के संबंध में परिषद को बधाई दी गई तथा खरगोन शहर की जल आवर्धन योजना का शीघ्र क्रियान्वयन के संबंध में शासन को उपरोक्त सुझाव एवं मत भेजे जाने की सहमति दी गई ।

(श्री निशिकांत शुक्ला)
मुख्य नगरपालिका अधिकारी,
नगरपालिका परिषद, खरगोन

VIJAYANT
PAGE NO.:
DATE:

कार्यालय नगर पालिका परिषद खरगोन, जिला खरगोन

निकाय जल आवर्धन योजना क्रियान्वयन हेतु आयोजित बैठक दिनांक 11/07/2016 समय दोप. 3.00 बजे का कार्य विवरण :-

बैठक उपस्थित सदस्यों की उपस्थिति

क्र.	नाम	निवास का पता	उपस्थिति हस्ताक्षर
1	माननीय अध्यक्ष श्रीमती साधना [illegible]	[illegible]	[illegible]
2	डॉ. नीलिमा परसाई [illegible]	[illegible]	[illegible]
3	प्रवीण सराफ (पं. पार्षद)	[illegible] (1)	[illegible]
4	श्री श्याम [illegible]	[illegible]	[illegible]
5	[illegible] जोशी	[illegible]	[illegible]
6	[illegible]	[illegible]	[illegible]
7	श्रीमति कलाबाई [illegible]	[illegible]	[illegible]
8	हीरालाल	[illegible]	हीरालाल
9	[illegible]	[illegible]	[illegible]
10	राजेन्द्र [illegible]	[illegible]	[illegible]
11	पुरुषोत्तम जोशी [illegible]	[illegible]	[illegible]
12	[illegible]	[illegible]	[illegible]
13	Ayyub Khan	[illegible]	[illegible]
14	पवन [illegible]	[illegible]	[illegible]
15	[illegible] Raghuvanshi	Dainik Bh[illegible]	[illegible]
16	[illegible]	[illegible]	[illegible]
17	[illegible]	[illegible]	[illegible]
18	गोपाल [illegible]	[illegible]	गोपाल

VIJAYANT
PAGE NO.:
DATE:

क्र.	नाम	निवास का पता	उपस्थिति हस्ताक्षर
39	शिव तिवारी अध्यक्ष शहर कांग्रेस खरगोन	9425326725	[signature]
40	श्याम कलीम पार्षद वार्ड क्र 16	9826831831	[signature]
41	सौ. कुसुम नीमा अध्यक्षा [illegible] क्लब	9826399884	कुसुम नीमा
42	श्रीमती शालिनी [illegible] सचिव	94258518[illegible]	[signature]
43	रोहित [illegible]	9926357150	[signature]
44	अजय तिवारी [illegible]	9826626075	[signature]
45	श्री जगदीश [illegible]	[illegible]	[signature]
46	श्रीमती [illegible]	[illegible]	[signature]
47	श्रीमति [illegible]	[illegible]	[signature]
48	[illegible]	[illegible]	[signature]
49	Hemant Khede Ad 9424554355	[illegible]	[signature]
50	[illegible]	98263 30048	[signature]
51	अनवर जिन्दाल उपाध्यक्ष प्रेस क्लब	9406688111	[signature]
52	संजय चौहान	9926953224	[signature]
53	दिलमोहन [illegible]	9584[illegible]	[signature] 11-6-16
54	[illegible]	9977349854	[signature]
55	सुनील कुमार [illegible]	8827057535	[signature]

जल आवर्धन योजना से पर्यावरण पर नहीं पड़ेगा विपरित प्रभाव

खरगोन निप्र। नगर को पर्याप्त पेयजल आपूर्ति से जुड़ी एवं विश्व बैंक तथा म.प्र. शासन के सहयोग से क्रियान्वित होने वाली 103.04 करोड़ लागत वाली जल आवर्धन योजना के क्रियान्वयन मे स्थानीय पर्यावरण पर किसी भी तरह का विपरित प्रभाव नहीं पड़ेगा। यह योजना पर्यावरण एवं सामाजिक हितों को ध्यान मे रखकर ही क्रियान्वित की जाएगी। ये बात योजना बनाने वाली एजेंसी एवं मुख्य नगर पालिका अधिकारी निशिकांत शुक्ला ने बताई। कार्यशाला के प्रारंभ में नगर पालिका अध्यक्ष विपिन गौर ने इस योजना को लेकर संक्षिप्त जानकारी दी।

जैसे आवर्धन योजना के क्रियान्वयन मे पर्यावरणीय एवं सामाजिक प्रभावो जैसें संवेदनशील मुद्दो पर जन सामान्य की जिज्ञासाओं एवं प्रश्नो के जवाब के लिए स्थानीय नगरपालिका परिषद सभागृह मे नगर पालिका द्वारा आयोजित एक महत्वपूर्ण बैठक मे जनप्रतिनिधियों, समाजसेवी, स्वयंसेवी संस्थाओं के पदाधिकारियों नगर पालिका के वर्तमान पार्षदों, गणमान्य नागरिको एवं पत्रकारो की उपस्थिति मे मुख्य नगर पालिका अधिकारी श्री निशिकांत शुक्ला ने इस योजना के संबंध में जानकारी दी। जिज्ञासाओ एवं पूछे गए प्रश्नों के जवाब दिए।

बैठक मे विशेष रूप से जलावर्धन योजना से जुडे श्री दिनेश प्रजापति सिविल इंजीनियर एवं सामाजिक पक्ष से जुड़े राकेश शांडिल्य ने योजना के क्रियान्वयन मे नगर के विभिन्न क्षेत्रों मे किसी भी प्रकार की व्यक्तिगत सम्पत्ति को नुकसान नहीं होने देने का विश्वास दिलाया। उल्लेखनीय है कि, नगरवासियों को इस महती जल आवर्धन योजना से 24 घण्टें एवं पर्याप्त पेयजल उपलब्ध कराया जाएगा। नगर के लिए यह महत्वकांक्षी योजना सिद्ध होगी। जिसका लाभ आने वाले कई वर्षो तक नगरवासियों को मिलेगा।

बैठक की अध्यक्षता नगर पालिका परिष के अध्यक्ष श्री विपिन कुमार गौर ने करते हु कहा कि, यह जलावर्धन योजना शहर के लि वरदान सिद्ध होगी। उन्होंने कहा कि योजन निश्चित समयावधि मे क्रियान्वित होकर पूरी हो इसमें शहर के जिम्मेदार गण मान्य नागरिक जन-प्रतिनिधियों एवं सार्वजनिक क्षेत्र मे का करने वाले समाज सेवियों का सहयोग ए उनके परामर्श अत्यावश्यक हैं। योजना क्रियान्वयन मे इनसे प्राप्त सुझाओं का ध्या रखा जाएगा।

बैठक मे नगरीय विकास विभाग के संभागी कार्यपालन यंत्री श्री गजानन्द चैहान ने विशे रूप से उपस्थित होकर इस योजना से जु विभिन्न जिज्ञासाओं का संतोषजनक समाध किया। बैठक मे नगरपालिका के सहायक य श्री रघुनाथ वर्मा, उपयंत्री श्री सरजू सांग सहित नगरपालिका के अधिकारी एवं कर्मच उपस्थित थें।

दैनिक भास्कर "चौथा संसार" - दिनांक 12/07/2016

समस्त आवश्यक ... जिसमें कलेक्टर विभागीय अधिकारियों के ... के बाद शाका भाग से

Appendix 9: Punasa Canal Irrigation Project including Peepari Reservoir

With an objective to provide irrigation facility in the West Nimar Area of Madhya Pradesh, Water Resource Department through Narmada Valley Development Authority, in the year 1996, prepared an ambitious scheme "Khargone Lift Canal". This project envisaged irrigation of a Culturable Command area of 33140 Hectare and providing water to 151 villages and Khargone town. The various components envisaged include—Jack wells, Balancing Reservoirs, Rising Mains, Distribution networks, Peepari Reservoir etc. The project is based on the existing Indira Sarovar (Punasa) Dam. The project is to be executed in three stages with a total discharge of 8.29 Cumecs:

Stage 1: This stage includes Lifting water from Punasa main canal near Ahirkheda Village through Jackwell to Balancing Reservoir of 6.127 MCM near Village Nimoni. The works of this stage are already complete. This stage has an irrigation potential of 9387 Hectare and water supply to 40 villages.

Stage 2: This stage includes Lifting water from Punasa main canal near Ahirkheda Village through Jackwell to Reservoir of 9.765 MCM near Village Gopalpura. The works of this stage are almost complete. This stage has an irrigation potential of 11202 Hectare and water supply to 46 villages.

Stage 3: This stage includes Lifting water from Punasa main canal near Ahirkheda Village through Jackwell to Reservoir of 7.727 MCM near Village Peepari. The works of this stage are in progress. This stage has an irrigation potential of 12551 Hectare and water supply to 65 villages. This stage also includes raw water supply to Khargone town through gravity pipe. The water will be supplied within the Kunda River. NVDA has also included the component of anicut within the banks of river Kunda near the existing WTP. The proposed height of the anicut is appx 2.0 m. The Peepari reservoir is 80% complete. The distribution pipes are being laid. Out of the total length of 8 km from Peepari to Khargone, pipe has been laid in appx 6km length. The lands required for various components, are already in possession of NVDA.