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LIST OF ABBREVIATIONS

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highways and Transportation Officials
WB	World Bank
ADT	Average Daily Traffic
BBD	Benkelman Beam Deflection
NH	National Highway
BOQ	Bill of Quantities
CBR	California Bearing Ratio
CD	Cross Drainage
DPR	Detailed Project Report
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EMP	Environmental Management Plan
FMC	Field Management committees
GPS	Global Positioning System
GSB	Granular Sub-Base
HDM	Highway Design Manual
ICB	International Competitive Bidding
IMD	Indian Meteorological Department
IRC	Indian Roads Congress
IS	Indian Standard
MoEF	Ministry of Environment and Forests
MoRT&H	Ministry of Road Transport & Highways
NGOs	Non Government Organizations
NPV	Net Present Value
NTHS	Non Title Holders
Km	Kilometre
OD Survey	Origin Destination Survey
ONGC	Oil & Natural Gas Corporation
PAP	Project Affected Person
PCU	Passenger Car Units
PIA	Project Influence Area
PWD	Public Works Department
RAP	Resettlement Action Plan
R & R	Resettlement and Rehabilitation
RCC	Reinforcement Cement Concrete
ROW	Right of Way
RUCS	Road User Cost Study
BC	Bituminous Concrete
SPM	Suspended Particulate Matter
TBM	Temporary Bench Mark
ToR	Term of Reference
THs	Title Holders
VOC	Vehicle Operating Costs

CHAPTER - 0.: EXECUTIVE SUMMARY

0.1 Background

Ministry of Road Transport & Highways (MORT&H) “the Authority” is engaged in the development of National Highways and as part of this endeavour, the Authority has decided to upgrade Ras - Beawar- Asind - Mandal section of NH-158 in the state of Rajasthan.

The National highways Authority of India (NHAI) has appointed M/s. Feedback Infra Pvt. Ltd. for providing the required consultancy services for preparation of Feasibility Report cum Preliminary Design for up gradation of Ras-Beawar-Asind-Mandal section of NH 158, in the state of Rajasthan on Engineering, Procurement and Construction (EPC) basis.

0.2 Corridor Description

The project road starts near Ras (0.000) and ends at mandal (116.750) connecting to NH-79. The project road is approximately 116.750 (Design Length) km long. The project road falls under Pali, Ajmer, Rajasamand and Bhilwara districts of Rajasthan. The existing length of project highway is 134 km with considering the overlapping sections of NH-48 road.

0.3 Resettlement Action Plan: Objectives

The RAP is prepared to ensure that the affected persons are: (i) informed about their options and rights pertaining to resettlement; (ii) provided prompt and effective compensation at full replacement cost for loss of assets caused due to the project; (iii) provided assistance (such as shifting allowance, transition allowance, etc.) during relocation and for a transition period, to restore their livelihood and standards of living; and, (iv) provided with skill development assistance such as training, in addition to compensation.

The Objectives of RAP are:

- To identify adverse impacts and determine mitigation measures;
- To present the entitlements and action plan for the affected persons for payment of compensation and assistance for restoring livelihoods and improving or at least retaining the living standards in the post resettlement period.
-

0.4 Right of Way

The RoW for the proposed project is 30m throughout the project. The impacts on land and other assets have been minimized, within acceptable design principles and standards.

0.5 Resettlement Policy Framework

Resettlement Policy Framework (RPF) has been prepared formulated based on the applicable and relevant laws relating to the project and also based on the World Bank OP 4.12 on involuntary resettlement. RPF suggests avoiding or minimizing adverse impacts by exploring all viable alternative project designs.

0.6 Cut-off Date

Cut-off date i.e. start date of Census survey for non-titleholders is 22nd September 2018.

0.7 Impact on Land and Structures

Census surveys were conducted along the proposed project stretch, with respect to the approved alignment. Minimum acquisition and disturbance to the existing features is the prime objective of design. An impact has been minimized with realignments and bypasses in proposed design.

0.8 Land Acquisition

The private land acquisition of 160.208 hectare is required for the proposed project in which includes 91.891 hectare of agricultural land, 43.776 hectare of barren, 11.86 hectare forest land and 9.851 hectare of residential/commercial land and remaining 2.83 hectare of any other land.

0.9 Categories of Impact

The proposed road improvement affects 653 structures which includes 400 private, 82 government, 79 community and 92 religious properties along the corridor.

0.10 Socio-Economic Profile

Total numbers of affected Project Affected Household (PAHs) are 400. The 400 PAHs comprise 2508 PAPs. There are 117 vulnerable households among the affected households.

0.11 Public Consultations

Public consultation meetings were held in 34 locations along the project corridor with road side communities to obtain their views and suggestions regarding the proposed project interventions. The consultations have provided inputs towards mitigation of impacts, improvement in designs, and preparation of resettlement plan and its implementation. Based on the suggestions, design modifications including realignment and bypasses, provision of road safety measures such as pedestrian crossings, warning signs, markings, etc have been carried out.

0.12 Implementation Arrangement

Institutional arrangements for the **implementation of RAP have been made** part of the RPF. The Institutional Arrangements will be set up at three levels viz., MoRT&H (Central Govt.), State Level and Sub-Project Level on partnership model wherein concerned agencies at different levels supplement and complement each other efforts. The key elements of institutional arrangements are co-operation/ support, collaboration and sharing of responsibilities with clearly defined roles, involvement of key stakeholders and vertical and horizontal linkages amongst different agencies.

0.13 Grievance Redress Mechanism

The Resettlement Policy Framework (RPF) mandates formation of Grievance Redressal Mechanism in order to resolve disputes in an effective manner and at the door steps of the PAPs. Compensation and assistance as per eligibility is provided in the entitlement matrix of the approved RPF. Grievance of PAPs will be brought to the grievance redress committee for redressal. The decision of the GRC will be binding, unless vacated by court of law.

0.14 RAP Implementation Schedule

The construction tenure of the corridor is 24 months. The on-ground rehabilitation and resettlement exercises and handing over the encumbrance free stretch for civil works will take

5 months and afterwards, the NGO will carry out awareness programmes on road safety, HIV/AIDS prevention campaign, repeat training for PAPs, facilitate overall monitoring, etc.

0.15 Resettlement Budget

The resettlement budget **Rs 234.38 Crores** includes components such as compensation for land and structure (private property, cultural property and community assets), R&R assistance and contingency to cover unforeseen / unanticipated costs.

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CHAPTER - 1.: PROJECT BACKGROUND

1.1 Project Background

The Public Works Department (PWD) National Highway (NH) division, under Ministry of Road Transport & Highways, MORT&H (“Authority”) is intended to develop and maintain National Highway 158 (declared in 2013) connecting to Ras-Beawar-Asind-Mandal in the State of Rajasthan. The objective of the project is to establish the technical, economical and financial viability of the project and prepare Feasibility and Preliminary Design report for rehabilitation and up gradation of existing highway to two lanes / four lanes with paved shoulders.

NHAI Delhi through their letter NHAI/RJ/11019/BOT/DPR/NH-158/2013/3718 dated 25th September, 2013 instructed the consultants to commence the Assignment, and the project activities thereafter (**Letter is attached as annexure 1.1**). The Contract agreement for the assignment was signed on 24th September, 2013. In 11th November 2014, Project Authority was transferred from NHAI to Public Works Department, NH Division, Rajasthan, through tripartite agreement.

1.2 Project Location

Project highway starts from Ras (26°18'18.80"N Latitude, 74°11'17.42"E Longitude) and ends near Mandal (25°26'09.49"N Latitude, 74°35'54.06"E Longitude) connecting to NH-48. The existing length of project highway is km 116.750 excluding the overlapping sections of NH-8, and Shree Cement Road (about 134 km including overlapping sections). The project stretch traverses through rolling and hilly terrain and have mostly poor geometry except few locations where curve improvement may not be required. Project road is located in Pali, Ajmer, Rajsamand and Bhilwara districts of Rajasthan. Project road connects the important towns / villages like Ras, Jagatiya, Bhagatpura, Babra, Roopnagar, Beawar, Laxmipura, Nimba Hera, Asind, Badnor and Mandal.



Source: Design report

Figure 1-1: Key Map of the Project Road

1.3 Importance and Need of the project:-

The project stretches once upgraded will provide shortest route to connect North and North-West part of Rajasthan to South-East Rajasthan. Project road provides connectivity to major tourist spots of Nagaur, Ajmer and Chittorgarh. The project road will provide straight route connectivity to Chittorgarh and further going to Mandsaur and Indore in Madhya Pradesh. On the north of project road, it connects to Nagaur and Bikaner via Merta.

The Project road connects major centres like Bikaner, Nagaur and Merta in Northern Rajasthan, Jodhpur and Pali in the Western Rajasthan, Kishangarh, Ajmer and Jaipur on Western side and Bhilwara, Chittorgarh, Rajsamand, Nathdwara and Udaipur on Southern Rajasthan.

Rajasthan is also a part of the Mumbai-Delhi Industrial corridor is set to benefit economically. The State gets 39% of the DMIC, with major districts of Jaipur, Alwar, Kota and Bhilwara. The main industries are based on Minerals, Agriculture and Textiles. Many prominent chemical and engineering industries are located in Southern Rajasthan. Rajasthan is also eminent in Mining. Makrana is a hub for White Marbles. Rajasthan has rich salt deposits at Sambhar, Copper Mines at Khetri, Jhunjhunu. Zinc mines at Dariba, Zawar Mines near Bhilwara. Jodhpur leads in Handicrafts and Guar Gum industry.

The major agricultural produce of the region is Oilseed, Mustard, Pearl Millet, Coriander, Bajra, Barley, Fenugreek, and Guar. Rajasthan is the second largest producer of oilseeds. Rajasthan produces over 72% of guar of the world and 60% of India's barley. Rajasthan is also a major producer of Aloe Vera, Indian Gooseberries and Oranges and leading producer of Maize. Bhilwara is one of the largest markets in the south eastern Rajasthan for selling and buying the agricultural produce and fruits.

Bhilwara is also known for flourishing industry of textiles, with more than 850 manufacturing units in the town. The main textile product is synthetic fabric used in trousers. Now the city boasts of producing around 1 million metres per annum of trouser fabric, making Bhilwara one of the major textile centres in India. The turnover of the textile industry is more than Rs. 1000 crore per annum. The city has nine major and five small spinning mills. The total spindlage installed at Bhilwara are approximately 4.50 lacs, about 40% of the state capacity. It has 18 modern process houses to process polyester/viscose suiting with the annual capacity of a billion metres of fabric. In the weaving sector it has approximately 13,500 looms out of which about 9000 are modern shuttleless ones. An annual export of textiles from the district is of more than Rs. 270 crores.

Bhilwara is the only centre in the country producing insulation bricks. There are about 33 units in district. In the mining sector there is large scale mining of sandstone, soap stone feldspar, quartz, mica China clay, granite etc. Mica mining has played a very important role in development of economic and social condition of Bhilwara.

The recent and most important development in Bhilwara is the recognition of the district as major metallic mineral i.e. Iron Ore, Lead, Zinc, producing hub. The district has huge deposits of low-grade sponge iron ore, which were simply ignored by the industry giants so far. Jindal SAW recognized the potential and with guidance of GSI developed a huge iron ore mining and beneficiation plant in the district. Now the district has become a magnet for all major steel companies of the country. It has put the state of Rajasthan on the map of steel industries of the Hindustan Zinc Ltd owned mining at village Agucha wherein Asia's largest deposit of Zinc, lead and silver.

The major centres on the project road are Ras, Beawar, Asind and Mandal. Beawar is the largest producer of cement in northern India and home to Shree Cement. It is situated in a mineral-rich region having reserves of feldspar, quartz, asbestos, soapstone, magnesite, calcite, limestone, mica, emerald, granite, and masonry stone. Reserves of barytes, fluorite, wollastonite and vermiculite have also been found.

1.3.1 Population of Influence Regions

The project will pass through 4 districts of Rajasthan which has a total population of 81,85,745, out of which Pali-20,37,573, Ajmer-25,83,052, Rajsamand- 11,56,597 and Bhilwara-24,08,523. Considering that these districts are major business centers, the project is expected to boost economic and industrial development of the area. The table below represents the population of broadly influencing regions on the project road.

Table 1-1: Population of broadly influencing regions near project

Sr.No.	District	Population
1	Pali	20,37,573
2	Rajsamand	11,56,597
3	Bhilwara	2408523
4	Ajmer	2583052

Source: Census of India, 2011

During the initial design, 9 major towns/ villages were identified which will be directly benefitted from this project. The table below represents the population of direct influence area along the project road.

Table 1-2: Population distribution in project influence area

Sr.No.	Village/Town	Population
1	Ras	9511
2	Babra	4118
3	Roopnagar	3245
4	Rajiyawas	2950
5	Badnor	9217
6	Asind	16,611
7	Brahmano ki Sareri	4,576
8	Mod ka Nimbahera	4,686
9	Mandal	17,361

Source: Census of India, 2011

1.4 Need for Social Impact Assessment (SIA) and Resettlement Action Plan (RAP)

The proposed project passes through 4 districts and 23 nos. of Major Built-up / settlements. Proposed project will have adverse impact on land and structures. Total 160.208 hectare of private land is required, apart from that 653 structure affects which includes 400 of private and 253 of CPRs.

1.5 Scope and Objectives of Social Impact Assessment and Resettlement Action Plan

SIA and RAP are project specific, which outlines the extent of impacts on communities due to the proposed development project and the mitigation of the potential impacts. It details necessary implementation procedures for rehabilitation and resettlement.

The SIA/RAP study is done for 116.750 km that start from Ras and ends at Mandal excluding the overlapping sections of NH-8, and Shree Cement road. The design length includes 2 bypasses and 11 realignments also.

The SIA study has been carried out with following objective:

- Ensuring social factors are considered in the decision-making process and in final design
- Ensuring that possible adverse social impacts are either avoided or minimised and brought to acceptable level
- More informed decision making by involving public since the beginning of project, informing the public about the proposal, allowing people to examine the underlying need for a project and giving them opportunity to identify problem and suggesting social friendly locally available solutions to the identified problem
- Improved integration of projects into their social setting
- A contribution towards achieving goal of sustainable development

The RAP is prepared to ensure that the affected persons are: (i) informed about their options and rights pertaining to resettlement; (ii) consulted, provided with technically and economically feasible resettlement alternatives and offered choices among them; (iii) provided prompt and effective compensation at full replacement cost for loss of assets caused due to the project; (iv) provided R&R assistances (such as shifting allowance, transition allowance, etc.) during relocation and for a transition period, to restore their livelihood and standard of living; and, (v) provided with skill development assistance such as training, in addition to compensation. The objectives of RAP are: -

- To identify adverse impacts and determine mitigation measures;
- To present the entitlements and action plan for the affected persons for payment of compensation and assistance for restoring livelihoods, and improving or at least retaining the living standards in the post resettlement period.
- Facilitate the design of a monitoring programme to check the adequacy and implementation of mitigate measures.

1.6 Approach and Methodology:-

This Report has been based, largely, on primary data collected during field survey and is well supported by a review of available secondary data for preparation of baseline information. The field research includes preliminary social survey of the project affected persons and properties within the proposed ROW. The methodology used for SIA study and preparation of RAP is discussed below:

- **Census and Socio-economic survey:** Census and socio-economic survey was conducted for each structure and properties covering owners and squatter (format of survey format attached as **Annexure 1.2**). This survey was conducted to assess the extent of impacts due to proposed upgrading of project road.

- **Data Collection from Secondary Sources**

Relevant baseline data on socio-economic were collected from available secondary sources, like census of India 2011, District Handbooks and respective government portals and website.

- **Stakeholder's Consultations**

Consultations with potential project affected persons and local people were conducted to inform people about the proposed widening and improvement of the project road and also to understand perceptions and obtain their suggestions. Outcome of the consultations was shared with the design team of the consultant for integrating the social concerns wherever feasible. The main objective of consultations was to promote public understanding and find out meaningful solutions for issues related to local needs and problems, loss of livelihoods, impact on religious structures, alternatives, resettlement issues, etc.

1.7 Structure of the Report:-

Keeping in mind the above requirement at this stage of detailed study, this report is organized in following Chapter including Introduction ones:-

Chapter 1:	Background and Methodology
Chapter 2:	Description of the Project
Chapter 3:	Socio-Economic Profile of Project Influence Area
Chapter 4:	Regulatory Framework and Entitlement Matrix
Chapter 5:	Analysis of Alternatives
Chapter 6:	Stakeholder's Consultations and Disclosure
Chapter 7:	Evaluation of Social Impacts
Chapter 8:	Gender Analysis
Chapter 9:	Resettlement Budget and Financing
Chapter 10:	Institutional Arrangements
Chapter 11:	Grievance Redress Mechanism
Chapter 12:	Implementation Schedule
Chapter 13:	Monitoring and Evaluation

CHAPTER - 2.: PROJECT DESCRIPTION

2.1 Project Profile

Project road starts from Ras (26°18'18.80"N Latitude, 74°11'17.42"E Longitude) and ends near Mandal (25°26'09.49"N Latitude, 74°35'54.06"E Longitude) connecting to NH-48. The project stretch traverses through rolling and hilly terrain and have mostly poor geometry except few locations where curve improvement may not be required. Proposed length of the project road is km 116.750 excluding the overlapping sections of NH-8, and Shree Cement road.

The length of the project road is 134 km including overlapping bypasses which passes through Pali, Ajmer, Rajsamand and Bhilwara districts of Rajasthan. The project road under consideration was declared as NH-158 by MoRTH in January 2013 and it comprises of SH-39 (Ras to Beawar), Shree Cement Road which is a part of NH-8 (Beawar), MDR-84 and SH-61. As per the initial design, the project road had overlapping sections at two stretches and since these overlapping sections are already four lane, so these sections were excluded from the project after discussion with NHAI. The details of these two stretches are given below:

1. **Overlapping section of Shree Cement Road:** There is an existing bypass at Beawar which is actually a part of NH-8. After series of discussions with Client during finalization of alignments, the Shree Cement Road was dropped from this project, as informed during our site visit, this is an extension of existing Beawar bypass of NH-8. The movement of traffic and existing bypasses to Beawar also considered in finalizing the alignment.
2. **Overlapping section of NH-8:** The detailed inventory and analysis of NH-14 bypass and NH-8 is also excluded from this report as these sections forming part of project highway for connectivity is already developed and under operation by NHAI. Figure 1.1 shows changes made to alignment i.e. NH declared as per Gazette notification and project section included in the development.

Key map of the project highway is shown in Figure below.



Source: Design report

Figure 2-1: Key Map of the Project Road

The project road starts at km 129.000 (SH-39) at Ras and ends at km 10.940 (SH-61) near Mandal connecting to NH-48. District wise project length is given below.

Table 2-1: District wise project Road alignment

Road section	Design Chainage		Length(km)	District
	From (km)	To (km)		
NH-158	0.000	19.400	19.400	Pali
	19.400	36.600	17.200	Ajmer
	36.600	44.100	7.500	Rajsamand
	44.100	46.350	2.250	Bhilwara
	46.350	48.100	1.750	Rajsamand
	48.100	116.750	68.650	Bhilwara

Source: Design report

2.2 Existing Alignment

- The present road is having two lane carriageways in most of the length i.e. 94.660 km; remaining length comprises of single and intermediate lane.
- The existing carriageway is flexible, with exception of rigid pavements for about 5.560 Km
- The width of shoulders is varying from 0.000 to 1.200 m. Shoulders are in fair to poor condition in most of the project length

- 75% (by length) of the project road is in good condition, 17.6% length of project road is fair condition and 11.4% length of project road is in poor condition. Failed sections are in 5.8% of the length

Table 2-2: Chainage wise breakup of proposed highway

Existing Chainage (Km)		Existing Length (Km)	Project Alignment
From	To		
129.000	148.660 / 73.000	19.660	SH-39
73.000	75.660	2.660	SH-39
103.640 (of MDR-84)	30.000	73.640	MDR-84
30.000 (of MDR-84 and SH-61)	10.940 (SH-61)	19.060	SH-61 connect to NH-79
Existing Length		115.020 km	
Proposed Project Length with improvement		116.750 km	

Source: Design report

2.3 Existing Road Features and Constraints

The major constraints or challenges of utilizing the current facility are as listed below:

- Dense Built-up and Settlements
- Right of Way availability
- Condition of the existing pavement
- Condition of existing cross drainage structures
- Safety of Road Users
- Poor Geometry

Project immediate outcome will be improved accessibility to social services and markets, increased fuel efficiency, reduced travel time, accidents, vehicle emissions and better employment opportunities apart from agriculture, both through improved access to economic centres and increased industrial activities in the project area.

2.3.1 Dense Built Up Areas & Settlements

Project road traverses through 23 nos. of Major Built-up / settlements. The presence of these settlements obstructs the flow of traffic due to reduction in speed. The traffic flowing through these sections also creates potential hazard to pedestrians. The major settlements are listed in Table below.

Table 2-3: List of Major Built-Up / Settlements along Project Road

S. No.	Chainage (Km)		Length (Km)	Name of the Village / Town	Remarks
	From	To			
1	129/250	130/000	0.75	Ras Village	SH-39 At Km 149.000 of there is another
2	131/600	131/700	0.10	Jagatiya	
3	133/300	133/400	0.10	Mandi Chauraha	

S. No.	Chainage (Km)		Length (Km)	Name of the Village / Town	Remarks
	From	To			
4	135/000	135/300	0.30	Bhagatpura	km stone showing 74.000
5	138/600	140/200	1.60	Babra Village	
6	141/500	141/700	0.20	Babra Village	
7	143/700	143/800	0.10	Bhanwariya Patti	
8	149=74/000	149/600=74/600	0.60	Roopnagar	
9	93/500	91/300	2.20	Jaswantpur Village	MDR-84
10	88/100	88/300	0.20	Barr Village	
11	82/000	80/100	1.90	Laxmipura Village	
12	80/800	79/700	1.10	Ojiyana Village	
13	77/500	77/200	0.30	Mawla Village	
14	72/900	71/100	1.80	Badnor Village	
15	59/500	58/600	0.90	Pratapura Village	
16	58/000	54/000	4.00	Asind	
17	42/000	41/500	0.50	Pali Kheda Village	
18	40/200	39/200	1.00	Brahmano Ka Sareri Village	
19	37/700	37/500	0.20	Hithiya Village	
20	36/350	36/100	0.25	Kerjalin Village	
21	33/600	33/200	0.40	Nimbahera Village	
22	29/500	29/900	0.90	Mod ka Nimbhera	SH-61
23	14/900	12/000	2.90	Mandal	

Source: Design report and primary

The constraint of improving or upgrading the current road is the land availability in these built-up sections.

2.3.2 Deficient Vertical and Horizontal Geometry and Improvement

The existing alignment predominantly passes through barren land and traverses through patches of dense urban built up sections. Alignment comprises of 16 nos. of Vertical and 96 nos. sharp horizontal curves and blind spots. The deficient / substandard horizontal curves will be improved by providing the required radius as per the codal provision for the design speed of 80kmph / 100kmph. The curves are improved for maximum possible radius.

2.3.3 Deficient Cross Drainage Structures and Improvements

Some of the major rivers crossing the alignment are Lilri River, Khari River and Mansi River. Lilri River is flowing from left to right and other two rivers are flowing from right to left in the direction of increasing chainage.

Part of the project road from chainage km 0.000 to km 36.500, contribute the rainwater through tributaries, flowing from right to left and finally joined in Lilri River. Lilri River is crossing the project road at chainage 1.443 Km.

Similarly, Part of the project road from chainage 36.500 Km to 64.000 Km, country slope is from right to left side of the project road considering increasing chainage. Only small streams lie in-between, therefore, minor bridges and culverts are proposed in this section.

Similarly, last part of the project road from chainage 64.000 Km to 116.700 Km, country slope is from right to left side of the project road considering increasing chainage. Two main rivers namely Khari River at chainage 71.650 Km & Mansi River at chainage 92.554 Km crossing alignment from right to left. Major bridges are proposed on these rivers. Other than these locations minor bridges and culverts are proposed.

The project road is having one major bridge, one RoB, 14 minor bridges, 83 slab culverts, 143 pipe culverts, 3 box culverts and 1 causeway. Existing Causeway at Ch.1.479 gets overtopped and obstructs the continuous traffic during rainy season. All minor bridges are having RCC solid slab type superstructure, stone masonry wall type substructure and with open foundation. The pipe culverts are generally in poor working condition, with pipe dia less than or equal to 0.6 m, however some of them are found in choked condition due to accumulation of waste / garbage and siltation.

Table 2-4: Summary of Existing Structures

S. No.	Type of structure	Nos.
1	Railway Over Bridge (RoB)	1
2	Major Bridges	1
3	Minor Bridges	14
4	Slab Culverts	83
5	Pipe Culverts	143
6	Box Culverts	1
7	Causeway	3
Total		246

Source: Design report

2.3.4 Safety of the Users

With improvement of existing single / intermediate lane to two lane / four lane with paved shoulder standards, safety of the commuters will increase as this will improve the visibility and additional carriageway space. Road user will also be facilitated with different project amenities, slope protection measures, road markings and sign etc., which will improve the safety of commuters along the project road.

The project stretches passes through Pali, Ajmer, Rajsamand and Bhilwara districts of Rajasthan. Project road traverses through 23 nos. of Major Built-up / settlements. The presence of these settlements obstructs the flow of traffic due to reduction in speed. The traffic flowing through these sections also creates potential hazard to pedestrians. So, Realignments and Bypasses are proposed are proposed in order to provide a safe and congestion free passage to road users.

2.4 Proposed Structures

The project road is having one major bridge, one RoB, 14 minor bridges, 83 slab culverts, 143 pipe culverts, 3 box culverts and 1 causeway. Three new major bridges are proposed on project road. Out of Sixteen minor bridges, five are proposed for repair and widening, four are proposed for reconstruction and remaining seven are proposed as new structures. One

of the existing ROB is retained with repairs and one additional RoB is proposed over Beawar bypass. Total 217 number of culverts are proposed including pipe and box culverts. New 5 pedestrian subway has also been proposed. The summary of proposed structures on the project road is presented in Table below.

Table 2-5: List of Structures

S. No.	Type of proposed structure	Retained with Repair	Repair & Widening	Reconstruction	New Structures	Total Structures
1	MJB	0	0	0	3	3
2	MNB	0	5	4	7	16
3	Pipe	1	7	80	0	88
4	Slab	0	0	0	0	0
5	Box	0	9	71	49	129
6	ROB	1	0	0	1	2
7	VUP	0	0	0	3	3
8	VUP Grade-II	0	0	0	8	8
9	Pedestrian Subway	0	0	0	5	5
Total		2	21	155	76	254

Source: Design report

2.4.1 Major and Minor Bridge

All existing minor bridges are having RCC solid slab type superstructure, stone masonry wall type substructure and with open foundation. The pipe culverts are generally in poor working condition, with pipe dia less than or equal to 0.6 m, however some of them are found in choked condition due to accumulation of waste / garbage and siltation.

A detailed survey (visual inspection) of the existing structures has been carried out by the concerned key professionals to assess and ascertain the existing condition / characteristics of bridges and other structures.

3 major bridges are proposed on Lildi, Mansi and Khari River respectively. Details of proposed bridges (major and minor both) are provided in Tables below.

Table 2-6: Proposed Major Bridge

S. No.	Existing Chainage (km)	Design Chainage (km)	Existing Structure Details			Proposed Structure Details			Improvement Proposal
			Type	Span / Length	Width (m)	Span (C/C of exp.)	Width (m)	Type	
1	130+362	1+479	Pipe	34x0.6	-	5x30	2x12.5	PSC Girder	New Construction

2	-	71+760	-	-	-	5x30	16	PSC Girder	New Construction
3	-	92+554	-	-	-	5x19 *	16	RCC Girder	New Construction

Source: Design Report

Table 2-7: Minor Bridges to be repaired and widening

Sl. No	Existing Chainage (km)	Design Chainage (km)	Existing Structure Details			Proposed Structure Details			Improvement Proposal
			Type	Span / Length	Width	Span (C/C of exp.)	Width (m)	Type	
1	35+912	7+018	RCC Slab	3x4.5	13.3	3x4.5	12.5+Median+12.5	RCC Box	Widening on both side-2+2 lane(4 lane)
2	37+930	9+033	RCC Slab	3x6.5	13.1	3x6.5	12.5+Median+12.5	RCC Box	Widening on both side-2+2 lane(4 lane)
3	44+098	15+278	RCC Slab	2x5.5	13.5	2x5.5	12.5+Median+12.5	RCC Box	Widening on both side-2+2 lane(4 lane)
4	79+028	52+836	RCC Slab	5x2.9	12.2	5x2.9	16	RCC Box	Widening with repair
5	12+160	115+785	RCC Slab	2x3.5	12	2x3.5	16	RCC Box	Widening and Repair.

Source: Design report and primary survey

Table 2-8: Minor Bridges in Re-Construction

S. No.	Existing Chainage (km)	Design Chainage (km)	Existing Structure Details			Proposed Structure Details			Improvement Proposal
			Type	Span / Length	Width (m)	Span (C/C of exp.)	Width (m)	Type	
1	79+338	52+527	RCC Slab	3x2.8	12	2x4.5 (Clear span)	16	RCC Box	Re-Construction
2	79+210	52+655	RCC Slab	3x2.9	12	2x4.5 (Clear span)	16	RCC Box	Re-Construction
3	78+296	53+578	RCC Slab	5x2.9	12.2	3x5.0 (Clear span)	16	RCC Box	Re-Construction

S. No.	Existing Chainage (km)	Design Chainage (km)	Existing Structure Details			Proposed Structure Details			Improvement Proposal
			Type	Span / Length	Width (m)	Span (C/C of exp.)	Width (m)	Type	
4	52+993	74+458	RCC Slab	3x2.8	12	2x4.5 (Clear span)	16	RCC Box	Re-Construction

Source: Design report and primary survey

Table 2-9: Minor Bridges in New-Construction

Sl. No	Existing Chainage (km)	Design Chainage (k m)	Existing Structure Details			Proposed Structure Details			Improvement Proposal
			Type	Span / Length	Width	Span (C/C of exp.)	Width (m)	Type	
1	130+342	1+350	Pipe	8x0.6	-	2x4.5 (Clear span)	12.5+Median+12.5	RCC Box	New Construction
2	142+151	13+356	Pipe	2 x1.2	-	2x4.5 (Clear span)	12.5+Median+12.5	RCC Box	New Construction
3	-	16+492	-	-	-	3x6.0 (Clear span)	12.5+Median+12.5	RCC Box	New Construction
4	-	29+644	-	-	-	1x19.0	12.5+Median+12.5	RCC Girder	New Construction
5	-	46+072	-	-	-	3x18.0	16	RCC Girder	New Construction
6	-	89+308	-	-	-	1x10.0	16	RCC Slab	New Construction
7	-	89+830	-	-	-	1x19.0	16	RCC Girder	New Construction

Source: Design report and primary survey

2.4.2 Vehicular Under Pass (VUP)

Following are the grade separated structures proposed along the project road. Vehicle underpasses will have minimum vertical clearance of 5.5m while the grade-II vehicle underpasses will have minimum vertical clearance of 4m.

Table 2-10: Improvement Proposal of VUP

S. No	Design Chainage (Km)	Improvement Proposal			Width (m)
		Proposal	Type	Span arrangement (m)	
1	10+123	New construction	RCC Box	2x10x5.5	10.5+Median+10.5
2	25+834	New construction	RCC Box	2x10x5.5	10.5+Median+10.5

3	97+825	New construction	RCC Box	2x10x5.5	13
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Source: Design report and primary survey

Table 2-11: Improvement Proposal of VUP Grade-II

Sl. No	Design Chainage (Km)	Improvement Proposal			Width (m)
		Proposal	Type	Span arrangement (m)	
1	9+643	New construction	RCC Box	1x12x4	10.5+Median+10.5
2	20+264	New construction	RCC Box	1x12x4	10.5+Median+10.5
3	60+810	New construction	RCC Box	1x12x4	13
4	71+518	New construction	RCC Box	1x12x4	13
5	71+875	New construction	RCC Box	1x12x4	13
6	73+019	New construction	RCC Box	1x12x4	13
7	84+250	New construction	RCC Box	1x12x4	13
8	88+527	New construction	RCC Box	1x12x4	13

Source: Design Report

2.4.3 Toll Plazas

There are two toll plaza locations proposed along project corridor.

Table 2-12: Proposed toll plaza locations

S. No.	Location	Tollable section	Applicable Length (km)	Remark (Traffic Adopted)
1	Toll Plaza 1 (Km 13.905)	km 0.000 to km 30.050	30.050	km 147.000 of SH-39
2	Toll Plaza 2 (Km 73.850)	km 30.050 to km 116.745	86.695	km 42.000 of MDR-84
Total Tollable Length(km)			116.750	

Source: Design report

2.5 Right of Way (RoW)

The existing RoW varies from 15 - 30m. RoW of 30m is proposed throughout the road. Additional ROW is required for curve improvements and realignments and for two toll plazas, Bus Bay, Truck Lay bye and wayside amenities as per final design. Below table provides details of the locations which will require additional RoW.

Table 2-13: Design chainage with length and RoW at additional locations

S. No.	Design Chainage		Length (m)	Proposed Row		Remarks
	From	To		LHS	RHS	
1	2940	3160	220	20	20	Bus Bay
2	3510	3750	240	15	25	Truck Lay bye
3	4340	4590	250	20	20	Bus Bay

S. No.	Design Chainage		Length (m)	Proposed Row		Remarks
	From	To		LHS	RHS	
4	8040	8260	220	20	15	Bus Bay
5	13780	14030	250	30	80	Toll Plaza-1
6	16250	16450	200	15	100	Way Side Amenities
7	17340	17560	220	15	20	Bus Bay
8	60880	61120	240	25	15	Truck Lay bye
9	67600	67800	200	15	100	Way Side Amenities
10	73725	73975	250	22	22	Toll Plaza-2
11	107130	107370	240	25	15	Truck Lay bye

Source: Design report and primary survey

2.6 Typical Cross Sections

Keeping these basic requirements, various typical cross sections are developed to meet the need of land use along the project road. Details of Cross Sectional Elements for particular typical cross sections and location-wise application of TCS are given in tables below and corresponding typical cross sectional layout are shown in **Figure 2.2**.

Table 2-14: List of Typical Cross Sections

S. No.	Design Chainage (m)		Design Length (m)	TCS Type
	From	To		
1	0	780	780	Widening / Reconstruction with rigid pavement (4-lane)
2	780	1270	490	New construction with Rigid pavement (4-lane)
3	1270	1400	130	Widening / Reconstruction with rigid pavement (4-lane)
4	1400	1550	150	Major Bridge
5	1550	1700	150	Widening / Reconstruction with rigid pavement (4-lane)
6	1700	2050	350	New construction with Rigid pavement (4-lane)
7	2050	3190	1140	Widening / Reconstruction with rigid pavement (4-lane)
8	3190	3510	320	New construction with Rigid pavement (4-lane)
9	3510	4830	1320	Widening / Reconstruction with rigid pavement (4-lane)
10	4830	5960	1130	New construction with Rigid pavement (4-lane)
11	5960	7250	1290	Widening / Reconstruction with rigid pavement (4-lane)
12	7250	9240	1990	New construction with Rigid pavement (4-lane)

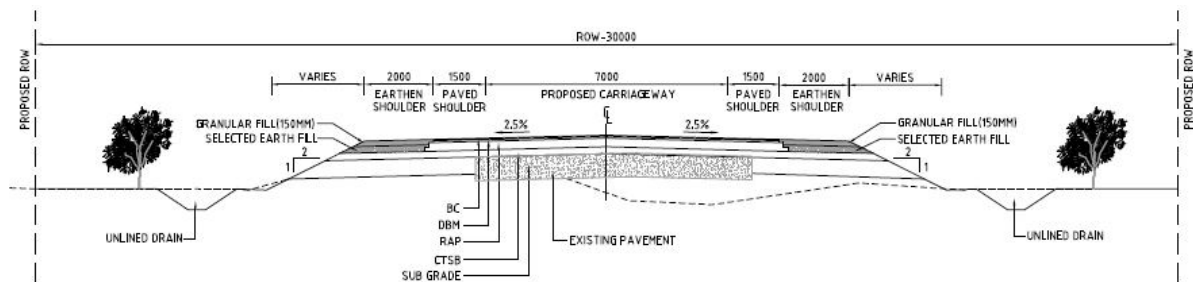
S. No.	Design Chainage (m)		Design Length (m)	TCS Type
	From	To		
13	9240	10350	1110	New construction with Flexible pavement (4-lane) ROB/VUP
14	10350	11770	1420	New construction with Rigid pavement (4-lane)
15	11770	13020	1250	Widening / Reconstruction with rigid pavement (4-lane)
16	13020	13780	760	New construction with Rigid pavement (4-lane)
17	13780	14030	250	Toll plaza
18	14030	15190	1160	New construction with Rigid pavement (4-lane)
19	15190	16220	1030	Widening / Reconstruction with rigid pavement (4-lane)
20	16220	16600	380	New construction with Rigid pavement (4-lane)
21	16600	17550	950	Widening / Reconstruction with rigid pavement (4-lane)
22	17550	19550	50	New construction with Rigid pavement (4-lane)
23	19550	20910	960	New construction with Flexible pavement (4-lane) ROB / VUP
24	20910	25550	4640	New construction with Rigid pavement (4-lane)
25	25550	26920	1370	New construction with Flexible pavement (4-lane) ROB/VUP
26	26920	30050	3130	New construction with Rigid pavement (4-lane)
27	30050	30650	600	Widening / Reconstruction with flexible pavement
28	30650	31670	1020	New construction with flexible pavement
29	31670	31800	130	Widening / Reconstruction with flexible pavement
30	31800	33500	1700	New construction with flexible pavement
31	33500	36050	2550	Widening / Reconstruction with flexible pavement
32	36050	37100	1050	New construction with flexible pavement
33	37100	43000	5900	Widening / Reconstruction with flexible pavement
34	43000	43480	480	New construction with flexible pavement
35	43480	43600	120	Widening / Reconstruction with flexible pavement
36	43600	44000	400	New construction with flexible pavement
37	44000	47000	3000	Widening / Reconstruction with flexible pavement

S. No.	Design Chainage (m)		Design Length (m)	TCS Type
	From	To		
38	47000	48630	1630	New construction with flexible pavement
39	48630	49600	970	Widening / Reconstruction with flexible pavement
40	49600	49800	200	New construction with flexible pavement
41	49800	50060	260	Widening / Reconstruction with flexible pavement
42	50060	50700	640	New construction with flexible pavement
43	50700	58650	7950	Widening / Reconstruction with flexible pavement
44	58650	59770	1120	New construction with flexible pavement
45	59770	60250	480	Widening / Reconstruction with flexible pavement
46	60250	61350	1100	Flyover Approach with Retaining Structure And Service Road
47	61350	70020	8670	Widening / Reconstruction with flexible pavement
48	70020	70850	830	New construction with flexible pavement
49	70850	71400	550	Two lane carriageway with service road (New construction / Reconsrtuction)
50	71400	71550	150	Flyover Approach with Retaining Structure and Service Road
51	71550	71685	135	New construction with flexible pavement
52	71685	71835	150	At Major Bridge
53	71835	72600	765	Widening / Reconstruction with flexible pavement
54	72600	73600	1000	Flyover Approach with Retaining Structure and Service Road
55	73600	73720	120	Widening / Reconstruction with flexible pavement
56	73720	73970	250	Toll plaza
57	73970	83640	9670	Widening / Reconstruction with flexible pavement
58	83640	84750	1110	Flyover Approach with Retaining Structure And Service Road
59	84750	86800	2050	Widening / Reconstruction with flexible pavement
60	86800	88100	1300	New construction with flexible pavement

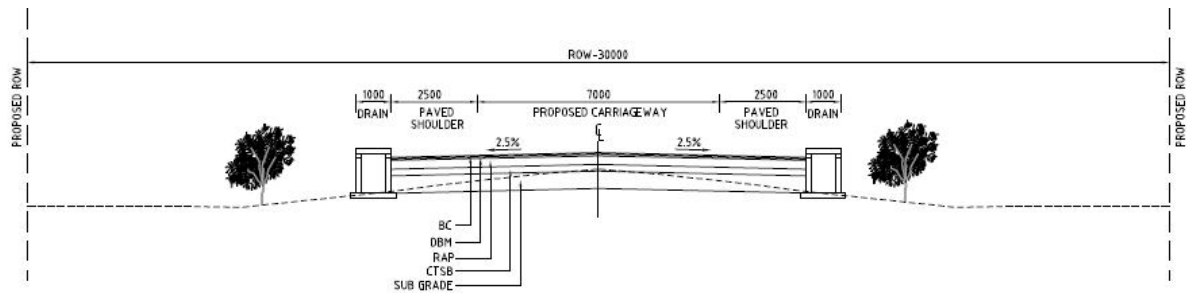
S. No.	Design Chainage (m)		Design Length (m)	TCS Type
	From	To		
61	88100	88900	800	Flyover Approach with Retaining Structure and Service Road
62	88900	90100	1200	New construction with flexible pavement
63	90100	92510	2410	Widening / Reconstruction with flexible pavement
64	92510	92600	90	At Major Bridge
65	92600	92900	300	New construction with flexible pavement
66	92900	93700	800	Widening / Reconstruction with flexible pavement
67	93700	95700	2000	New construction with flexible pavement
68	95700	97600	1900	Widening / Reconstruction with flexible pavement
69	97600	98550	950	Flyover Approach with Retaining Structure And Service Road
70	98550	112830	14280	Widening / Reconstruction with flexible pavement
71	112830	115430	2600	New construction with flexible pavement
72	115430	116745	1315	Widening / Reconstruction with flexible pavement

Source: Design Report

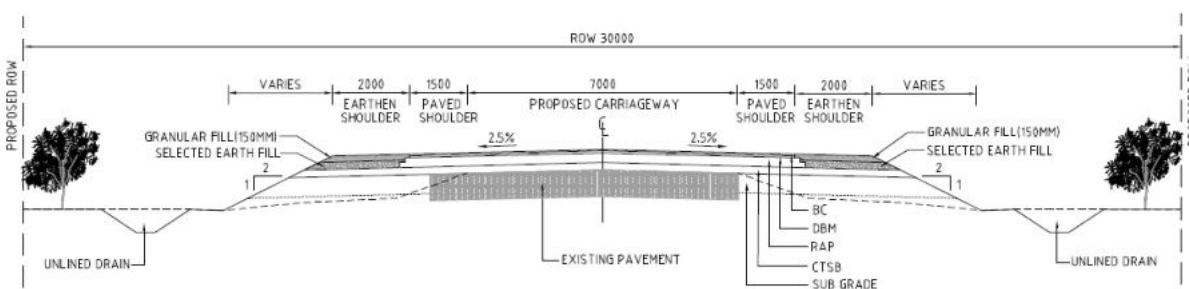
Figure 2-2: Typical Cross Section



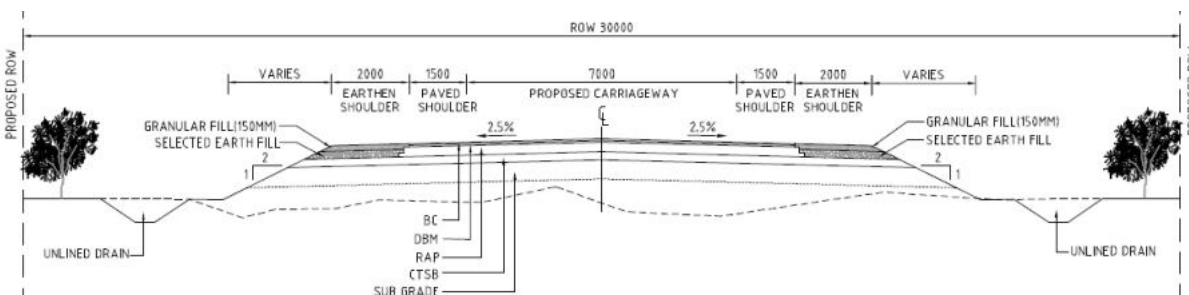
Typical Cross Section VI: Widening to Two lane with Paved Shoulder (Widening & Reconstruction - Existing Pavement)



Typical Cross Section VII: Two lane with Paved Shoulder with Foot Path and Drain in Urban section (Widening & Reconstruction - Existing Pavement)



Typical Cross Section VIII: Two Lane with Paved Shoulders - Bypasses New Construction (over Existing Road)



Typical Cross Section VIIIA: Two Lane with Paved Shoulders - Bypasses New Construction

2.7 Bypasses and Realignments

Total two bypasses and 11 realignments have been proposed for project road. A list of Bypasses proposed, are given in Table below.

Table 2-15: Bypass Locations

S. No.	Design Chainage		Design Length (km)	Type of Road	Bypass
	Start	End			
1	21.470	30.050	8.580		Beawar
2	86.860	90.100	3.240	MDR-84	Sareri
Total			15.020		

Source: Design Report

Re-alignments have been proposed for 11 locations to avoid settlement areas mainly villages, where geometrics are required to be improve as per design standards. Location wise list of realignments are provided in Table below.

Table 2-16: Realignment Locations

S. No.	Design Chainage		Length	Village	Existing RoW	Remarks
	Start	End				
1	9.075	11.660	2.585	Babra	8 to 10	Realignment
2	19.690	21.470	1.780	Roopnagar	8 to 10	Realignment
3	30.650	33.500	2.850	Rajiyawas	10 to 15	Realignment
4	36.045	37.100	1.055	Peepli ka Badiya	8 to 10	Realignment
5	43.000	44.100	1.100	Heera ka Badiya	8 to 10	Realignment
6	47.030	48.630	1.600	Kaniya Kheda	8 to 10	Realignment
7	49.600	50.600	1.000	Oziyana	8 to 10	Realignment
8	57.950	59.770	1.820	Badnor	8 to 10	Realignment
9	70.020	72.625	2.605	Asind	15 to 20	Realignment
10	93.700	95.700	2.000	Mod ka Nimhera	7 to 8	Realignment
11	112.830	115.430	2.600	Mandal	10 to 15	Realignment

Source: Design report

2.8 Service roads

Service road has been proposed in major settlement for use by the locals to avoid any conflict with the Highway Traffic. Locations of service roads are tabulated below.

Table 2-17: Locations of the Service Road

Design Chainage		Length (in Kms)
From	To	
60.250	61.350	1.100
70.850	71.400	0.550
71.400	71.550	0.150
72.600	73.600	1.000
83.640	84.750	1.110
88.100	88.900	0.800
97.600	98.550	0.950

Source: Design report

2.9 Other Structures

2.9.1 Pedestrians

5 nos. of subway are proposed along the project highway and locations are detailed in Table below.

Table 2-18: Pedestrian Subway

S. No.	Design Chainage (Km)	Pedestrian Subway				Width (m)
		Proposal	Type	Span arrangement (m)	Vertical clearance (m)	
1	2.630	New Construction	RCC Box	1x4.8	2.75	26
2	12.895	New Construction	RCC Box	1x4.8	2.75	26
3	21.730	New Construction	RCC Box	1x4.8	2.75	26
4	35.360	New Construction	RCC Box	1x4.8	2.75	14
5	106.890	New Construction	RCC Box	1x4.8	2.75	14

Source: Design Report

2.9.2 Wayside Amenities

The wayside amenities are proposed at the locations as per the below table.

Table 2-19: Proposed Wayside Amenities

S. No.	Existing Chainage (km)	Design Chainage (km)	Side	Section
1	145.170 (SH-39)	16.350	RHS	Ras-Beawar
2	63.380 (MDR-84)	67.700	LHS	Beawar-Mandal

Source: Design report

2.9.3 Bus bays and Truck lay-bys

Truck lay byes has been proposed to cater large number of trucks traversing on project road. Bus Shelters with and without Bus bays are proposed at the locations given in Table below.

Table 2-20: List of Proposed Bus bay

S. No.	Design Chainage	Remarks	Design Chainage	Remarks
	Left		Right	
1	4.480		3.050	Both
2	8.150		4.450	
3	36.650		17.450	
4	40.330		36.275	Shelter Only
5	44.650	Shelter Only	38.960	
6	45.780	Shelter Only	42.600	Shelter Only
7	62.805		44.800	Shelter Only
8	63.950		48.100	
9	66.460		48.750	Shelter Only
10	68.925		52.200	
11	74.600	Shelter Only	54.050	
12	77.000		56.300	
13	89.500		61.050	

S. No.	Design Chainage	Remarks	Design Chainage	Remarks
	Left		Right	
14	91.800		66.750	
15	94.886		68.200	
16	97.750		77.200	
17	101.200		80.200	
18	106.586		91.850	
19	114.086		94.736	
20			98.020	
21			106.786	
22			109.536	
23			114.216	

Source: Design report

2.10 Road Safety

2.10.1 Road Accident Black Spot Identification and Removal

Based on the analysis of the accident data, 2 locations were identified as black spot along the project road as given below:-

- Harnia Mangri near Badnor (17 Fatalities) in 2017-18
- Para Chowk near Asind (6 Fatal Accidents) in 2017 -18

The major road accident locations are marked in the **Figure 2-3**.¹

¹ Fatalities data collected from police stations of 7 tehsils i.e. near of the road.

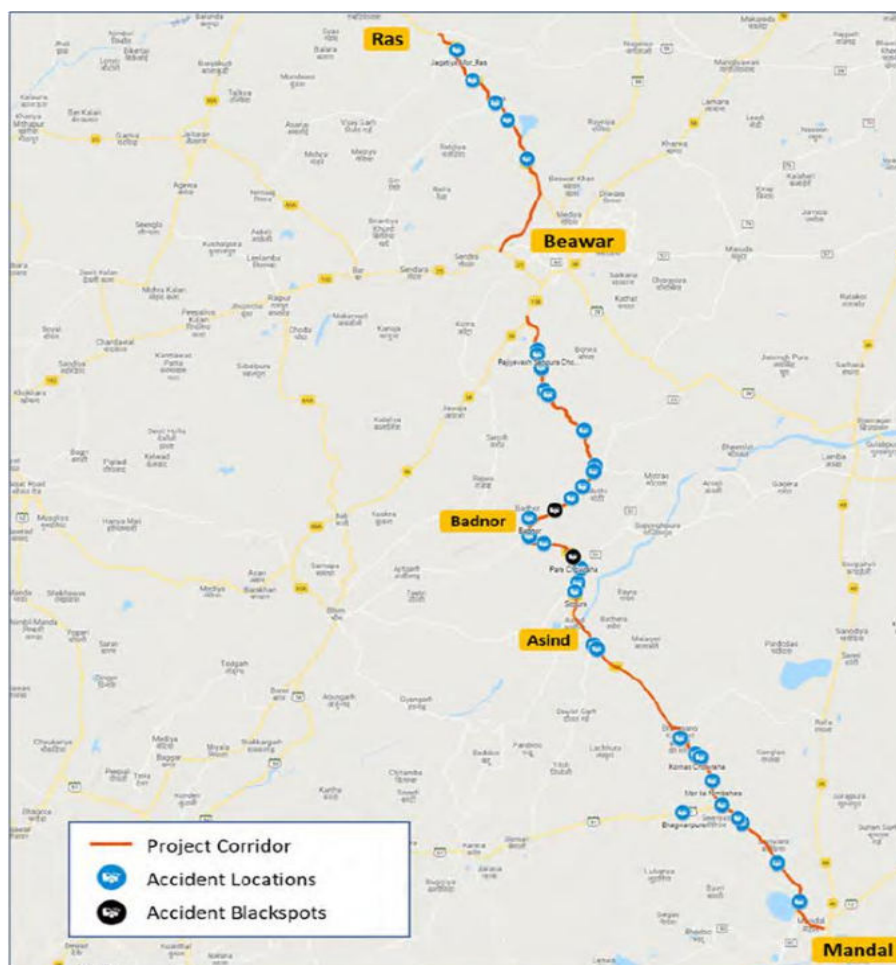


Figure 2-3: Black Spot

2.10.2 Road User Safety Solutions

a) Highway Design: Geometry of the road will be designed as per the applicable Design speed and relevant codes and standards. The deficient curves (horizontal and vertical) along the existing geometry will be improved. Super elevation as per the curve radius will be provided in order to avoid overturning of vehicles due to speed.

Adequate sight distances will be provided in order to avoid blind spots both horizontally and vertically.

b) Road Signs: As per the applicability and requirement Road signs will be place all along the road in order to guide the road user to traverse safely. A combination of road signs like Mandatory – Regulatory signs, Cautionary-Warning signs and Informatory signs will be installed. Variable Message signs will also be placed at identified locations in order to inform road user about various details like climatic conditions ahead, diversions, accident zones, speed reduction zones etc.

c) Traffic Lights / Signals: Traffic signals will be generally installed at intersections to control the movement of vehicles. All traffic must move in conformity with the traffic lights or signals. Traffic Signals, Pedestrian Signals and Lane Marking signals,

d) Pavement Markings: Pavement markings will be provided to delineate the centre of road, identify travel lane, define road edge. Pavement markings also provide information

about special lane use. Markings can also be in the form of patterns, arrows, or other devices set into or attached to the carriageway or kerbs or to objects within or adjacent to the carriageway, for control, warning, guidance or information of road users.

2.10.3 Pedestrian Safety

1) Pedestrian Signals

Pedestrian Signals will be installed at the urban locations where pedestrian movement is heavy.

At crossings with medium pedestrian crossings a push button traffic light can be installed. Pedestrians can push the button and wait for the light to turn green and then move on and cross cautiously.

2) Guard Rails and Lighting

Pedestrian Guard Rails will be installed at the following locations.

a) Hazardous locations on Straight Sections: In particularly busy reaches where the road is congested and vehicles move at a fast pace, guard rails will be provided on both sides of the carriageway so as to channelize the pedestrian on to the planned crossing locations.

b) At Junctions/Intersections: Railing barriers will be provided to prevent people from crossing the junctions diagonally at signalised intersections. The barrier must open only at planned crossing facility (at zebra crossing). At Signalised junctions' sufficient length of guard rail will be provided to guide the pedestrian to the neared planned pedestrian crossing.

c) School Colleges: Guard rails will be provided near schools in order to prevent children's to run straight into the road.

d) Bus Stops, Railway Stations, Temple etc: Guard rails will be provided alongside walks with suitable access at bus stops, railway stations and other areas of heavy pedestrian activity such as cinema houses, stadiums etc.

e) Overpass, Subway etc.: Guard-rails is to be provided at Overpasses and subways in order to compel the pedestrians to use the facilities provided for them.

3) Pedestrian Crossings

a) Zebra Crossings: Zebra crossings will be provided along with stop lines as per IRC 35 for safe crossing of pedestrians.

b) Hump Subways: Hump subways are provided by providing the subway partially under ground and partially over the ground in order to reduce the walking length.

c) Full Subways: Full subways are provided by providing the subway fully under the ground.

d) Foot Overbridge: FoB will be provided where there are space constraints and heavy pedestrian movement.

4) Footpath

Footpath with Kerb and pedestrian guard rail will be proposed continuously throughout the urban and built-up sections in order to provide a safe passage for pedestrians to walk along the traffic.

2.10.4 Road Safety Schedule and Traffic Calming Measures

Detailed Road Safety Schedule and Traffic Calming Measures are provided in the form of detailed design report. The schedule contains the provision and locations of Road Markings and Road Signs for all the Major Junctions, Minor Junctions, Schools, Temples, Govt. Offices, other community buildings etc.

CHAPTER - 3.: SOCIO – ECONOMIC PROFILE OF PROJECT INFLUENCE AREA

3.1 Introduction

The following sections provide briefly the socio-economic profile of the state (Rajasthan), and affected districts. The project influence area has been considered as the administrative boundaries of the districts through which the project road traverses. These districts are Ajmer, Pali, Rajasamand and Bhilwara. The Direct Impact Zone are the census villages and towns which are likely to be impacted in terms of land acquisition, loss of assets, loss of livelihood etc., due to the project implementation.

3.2 Overview of Rajasthan

Rajasthan is located in the north-western part of the country, between 69°30'E to 78°13'E longitudes and 23°30'N to 30°12'N latitudes. In terms of area it is the largest state in India and covers an area of about 3,42,239 sq. km, which accounts for 11 percent of the total area and about five per cent of the population of the country. Presenting a rhomboid shape, the State has a maximum length of 869 km from west to east and 826 km from north to south. The State is bound on the west by Pakistan, in the north by Haryana and Punjab, in the east by Uttar Pradesh and Madhya Pradesh, and in the south by Gujarat (**Figure 3.1**).

The State has 33 administrative districts. More than three-fourth proportion of the total population is residing in rural areas. An overview of the State is presented below in **Table 3.1**:

Table 3-1: An Overview of Rajasthan

Socio – Economic Profile of Project Influence Area	
An Overview of Rajasthan	
Indicators	As of March, 2011
Area (Sq. km)	342239
Population	68621012
Rural population (%)	75
Urban population (%)	25
SC population (%)	17.16
ST population (%)	12.56
Sex ratio (females+ 1000 males)	926
Overall literacy (%)	67.06
Female literacy (%)	52.66
Contribution to Gross State Domestic Product	
Agriculture (%)	26.37
Industry (%)	27.1
Services (%)	46.53
Roads density+100 sq. km	55.09
Annual rainfall (average mm)	575
Per capita income (at current prices)- Rs.	39967 p.a. or 3330 p.m.
Source: Rajasthan Micro-Finance Report, 2011	



Figure 3-1: Key map of Rajasthan

The economy of the state is characterized by high incidence of poverty, low literacy rate, unemployment and low per capita income. The share of agriculture has been declining even then even then agriculture continues to play an integral part of the development process in the state as 75% of the population still live in villages and continue to depend on agriculture and allied activities as a prime source of their livelihood.

3.3 Project Influence Area (PIA)

The project influence area covers Ajmer, Pali, Rajsamand and Bhilwara districts. The area with its sub-tropical climate has three very well-defined seasons - summers, winters and monsoons. On the basis of climatic conditions and prevailing agricultural practices, Rajasthan has been divided into ten agro-climatic zones, each one having special characteristics of its own. Ajmer district forms part of the Semi-Arid Eastern Plain (IIIA) whereas Pali District and Rajsamand Districts forms part of Flood Prone Eastern Plain (IIIB). The details of the districts are presented in **Table 3.2:**

Table 3-2: Districts at a Glance

Indicators	Census 2011			
	Pali	Ajmer	Rajsamand	Bhilwara
Latitude	25.7667° N	26.4500° N	25.0667° N	25.3500° N
Longitude	73.3167° E	74.6333° E	73.8667° E	74.6333° E
Area (sq. km)	12387	8481	4655	10455
Households (No.)	418157	494832	243078	498125
Population (No.)	2037573	2583052	1156597	2408523
Male (%)	50.33	51.26	50.26	50.68
Female (%)	49.67	48.74	49.74	49.32
Urban population (%)	22.58	40.08	15.89	21.28
Rural population (%)	77.42	59.92	84.11	78.72
SC (%)	19.54	18.51	12.81	16.94
ST (%)	7.10	2.46	13.90	9.52
Population growth rate (%)	11.94	18.40	17.18	19.60
Population density (per sq. km.)	164	305	248	230

Indicators		Census 2011			
		Pali	Ajmer	Rajsamand	Bhilwara
Sex Ratio (females+ 1000 males)		987	951	990	973
Average Literacy Rate		62.39	69.33	63.14	61.37
Male Literacy		76.81	82.44	78.42	75.27
Female Literacy		48.01	55.68	47.95	47.21
Work Participation Rate (WPR)		41.34	40.79	47.63	47.67
WPR (Male) - %		51.01	51.82	54.97	55.26
WPR (Female) - %		31.54	29.20	40.21	39.87
Main Workers		605288	827181	362584	883329
Main workers (Male) - %		73.31	72.72	71.14	65.78
Main workers (Female) - %		26.69	27.28	28.86	34.22
Main Workers (%)	Cultivation - %	33.06	29.79	39.33	52.28
	Agriculture - %	19.14	9.40	11.74	8.77
	Household - %	3.15	3.36	2.39	2.41
	Others - %	44.65	57.45	46.53	36.54
Marginal workers		237039	226541	188247	264836
Marginal workers (Male) - %		33.48	37.34	32.73	35.32
Marginal workers (Female) - %		66.52	62.66	67.27	64.68
Marginal Workers- %	Cultivation - %	18.31	23.14	34.51	35.25
	Agriculture - %	51.23	29.90	34.00	32.30
	Household - %	2.96	3.46	2.56	3.36
	Others - %	27.50	43.50	28.92	29.09
Non-Workers - %		1195246	1529330	605766	1260358
Male - %		42.03	41.71	43.22	43.33
Female - %		57.97	58.29	56.78	56.67

Source: Census of India, 2011

3.4 Demographic Composition: Pali District

3.4.1 Population

As per Census of India 2011, the total population of the Pali district is 2037573 in which 1025422 (50.33%) are males and 1012151 (49.67%) are females. An average gender ratio of the district is 987, which shows that there is slightly imbalanced composition of male and female. 14.60% of population belongs to 0-6 age group. An average gender ratio of the 0-6 age group of the district is 899 females' children per 1000 male children.

3.4.2 Social Stratification

As per census 2011, an average SC and ST population constitute 26.63% in which 19.54% are SC and 7.10% are ST.

3.4.3 Literacy and Literacy Rate

As per census 2011, an average literacy rate of the district is 62.39% in which male literacy is 76.81% with respect to the male population and female literacy is 48.01% with respect to the female population, creating a gender gap of 28.81%.

3.4.4 Workers and Work Participation Rate

As per Census of India 2011, the total number of workers in the district is 842327 and the WPR is 41.34%, in which male's WPR is 51.01% with respect to male population and female's WPR is 31.54% with respect to the female population, creating a gender gap of 19.47%.

3.4.5 Categorization of Main Workers on the basis of Occupation

As per census of India 2011, 44.65% of main workers are involved in other work followed by the cultivation with 33.06%, agricultural labor with 19.14% and household industrial work with 3.15%.

3.4.6 Categorization of Marginal Workers on the basis of Occupation

As per census of India 2011, 51.23% of marginal workers are involved in agricultural labor followed by the other worker with 27.50%, cultivation with 18.31%, and only 2.96% workers are involved in household industrial work.

3.5 Demographic Composition: Ajmer District

3.5.1 Population

As per Census of India 2011, the total population of the Ajmer district is 2583052 in which 1324085 (51.26%) are males and 1258967 (48.74%) are females. An average gender ratio of the district is 951, which shows that there is slightly imbalanced composition of male and female. 14.76% of population belongs to 0-6 age group. An average gender ratio of the 0-6 age group of the district is 901 females' children per 1000 male children.

3.5.2 Social Stratification

As per census 2011, an average SC and ST population constitute 20.96% in which 18.51% are SC and 2.46% are ST.

3.5.3 Literacy and Literacy Rate

As per census 2011, an average literacy rate of the district is 69.33% in which male literacy is 82.44% with respect to the male population and female literacy is 55.68% with respect to the female population, creating a gender gap of 26.76%.

3.5.4 Workers and Work Participation Rate

As per Census of India 2011, the total number of workers in the district is 1053722 and the WPR is 40.79%, in which male's WPR is 51.82% with respect to male population and female's WPR is 29.20% with respect to the female population, creating a gender gap of 22.62%.

3.5.5 Categorization of Main Workers on the basis of Occupation

As per census of India 2011, 57.45% of main workers are involved in other work followed by the cultivation with 29.79%, agricultural labor with 9.40% and only 3.36% workers are involved in household industrial work.

3.5.6 Categorization of Marginal Workers on the basis of Occupation

As per census of India 2011, 43.50% of marginal workers are involved in other work, followed by agricultural labor with 29.90%, cultivation with 23.14% and only 3.46% workers are involved in household industrial work.

3.6 Demographic Composition: Rajsamand District

3.6.1 Population

As per Census of India 2011, the total population of the Rajsamand district is 1156597 in which 581339 (50.26%) are males and 575258 (49.74%) are females. An average gender ratio of the district is 990, which shows that there is slightly imbalanced composition of male and female. 15.22% of population belongs to 0-6 age group. An average gender ratio of the 0-6 age group of the district is 903 females' children per 1000 male children.

3.6.2 Social Stratification

As per census 2011, an average SC and ST population constitute 26.71% in which 12.81% are SC and 13.90% are ST.

3.6.3 Literacy and Literacy Rate

As per census 2011, an average literacy rate of the district is 63.14% in which male literacy is 78.42% with respect to the male population and female literacy is 47.95% with respect to the female population, creating a gender gap of 30.47%.

3.6.4 Workers and Work Participation Rate

As per Census of India 2011, the total number of workers in the district is 550831 and the WPR is 47.63%, in which male's WPR is 54.97% with respect to male population and female's WPR is 40.21% with respect to the female population, creating a gender gap of 14.76%.

3.6.5 Categorization of Main Workers on the basis of Occupation

As per census of India 2011, 46.53% of main workers are involved in other work followed by the cultivation with 39.33%, agricultural labor with 11.74% and only 2.39% workers are involved in household industrial work.

3.6.6 Categorization of Marginal Workers on the basis of Occupation

As per census of India 2011, 34.51% of marginal workers are involved in cultivation, followed by agricultural labor with 34.00%, other worker with 28.92% and only 2.56% workers are involved in household industrial work.

3.7 Demographic Composition: Bhilwara District

3.7.1 Population

As per Census of India 2011, the total population of the Bhilwara district is 2408523 in which 1220736 (50.68%) are males and 1187787 (49.32%) are females. An average gender ratio of the district is 973, which shows that there is slightly imbalanced composition of male and female. 15.02% of population belongs to 0-6 age group. An average gender ratio of the 0-6 age group of the district is 928 females' children per 1000 male children.

3.7.2 Social Stratification

As per census 2011, an average SC and ST population constitute 26.46% in which 16.94% are SC and 9.52% are ST.

3.7.3 Literacy and Literacy Rate

As per census 2011, an average literacy rate of the district is 61.37% in which male literacy is 75.27% with respect to the male population and female literacy is 47.21% with respect to the female population, creating a gender gap of 28.06%.

3.7.4 Workers and Work Participation Rate

As per Census of India 2011, the total number of workers in the district is 1148165 and the WPR is 47.67%, in which male's WPR is 55.26% with respect to male population and female's WPR is 39.87% with respect to the female population, creating a gender gap of 15.39%.

3.7.5 Categorization of Main Workers on the basis of Occupation

As per census of India 2011, 52.28% of main workers are involved in cultivation followed by the other work with 36.54%, agricultural labor with 8.77% and only 2.41% workers are involved in household industrial work.

3.7.6 Categorization of Marginal Workers on the basis of Occupation

As per census of India 2011, 35.25% of marginal workers are involved in cultivation, followed by agricultural labor with 32.30%, other worker with 29.09% and only 3.36% workers are involved in household industrial work.

CHAPTER - 4.: REGULATORY FRAMEWORK AND ENTITLEMENT MATRIX

4.1 Introduction

This chapter details out the legal and regulatory framework under the ambit of which the SIA was undertaken and RAP has been prepared. It also reviews the national and state laws of Rajasthan relevant to the scope of activities under the project, and, discusses the implications for the project design and implementation.

4.2 Applicable National and State Policy Framework

Below section discusses the National and State policies that are applicable to this project.

4.2.1 The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 has been effective from January 1, 2014 after receiving the assent of the President of Republic of India. This Act extends to the whole of India except the state of Jammu and Kashmir. The Act replaced the Land Acquisition Act, 1894. The Act has since late December 2014 been amended to make it more flexible and the description of the amendment is described below.

The aims and objectives of the Act include is to ensure, in consultation with institutions of local self-government and Gram Sabhas established under the Constitution of India, a humane, participative, informed and transparent process for land acquisition for industrialization, development of essential infrastructural facilities and urbanization with the least disturbance to the owners of the land and other affected families. It provides for compensation and resettlement assistance to the affected families whose land or other assets are affected by the project. A few of key features that are revised from the old Act include the recognition of non-title holders to compensations if they have lived in the area proposed to be acquired in the past three years as well as compensations for loss of livelihood.

Section 26 of the Act defines the method by which market value of the land shall be computed under the proposed law. Schedule I outlines the proposed minimum compensation based on a multiple of market value. Schedule II through VI outline the resettlement and rehabilitation entitlements to land owners and livelihood losers, which shall be in addition to the minimum compensation per Schedule I.

4.2.2 The Rajasthan Right to Fair Compensation and Transparency in land Acquisition, Rehabilitation and Resettlement Rules, 2016

This Rule was framed and notified by GoR for the RFCTLARR Act, 2013. The rule is detailing the process of social impact assessment and multiplication factor for award of land acquisition.

4.3 Resettlement Framework Principles and Entitlement Matrix

Based on the above analysis of government provisions, the following key resettlement principles, definitions and Entitlement Matrix have been adopted for the Project.

A. Key Resettlement Principles

- (i) land acquisition, and other involuntary resettlement impacts will be avoided or minimized exploring all viable alternative sub-project designs;
- (ii) where unavoidable, time-bound resettlement plans (RAPs) will be prepared and APs will be assisted in improving or at least regaining their pre-program standard of living;
- (iii) consultation with APs on compensation, disclosure of resettlement information to APs, and participation of APs in planning and implementing sub-projects will be ensured;
- (iv) vulnerable and severely affected households will be provided special assistance;
- (v) payment of compensation to APs including non-titled persons (e.g., informal dwellers/squatters, and encroachers) for acquired assets at replacement rates;
- (vi) payment of compensation and resettlement assistance prior to the contractor taking physical acquisition of the land and prior to the commencement of any construction activities;
- (vii) provision of income restoration and rehabilitation;
- (viii) Establishment of appropriate grievance redress mechanisms.

B. Key Working Definitions

Cut-off dates: For Titled-Holders, the cut-off date will be the date of publication of preliminary notification for acquisition under Section 4(1) of the RFCT in LARR Act, 2013. For non-titleholders such as squatters, the cut-off date will be the start date of the project census survey as per the final detailed design or updated census survey during RP implementation.

Vulnerable Affected Households: Vulnerable Households are defined as affected families who are: (i) below the national poverty level; (ii) headed by women and below the average income of affected households; (iii) headed by disabled or elderly and below the average income of affected households; (iv) scheduled tribes and marginalized scheduled castes.

C. Entitlement Matrix

All persons affected by the project and meeting the cut-off date requirements will be entitled to a combination of compensation packages and resettlement assistance depending on the nature of ownership rights on lost assets and scope of the impacts:

- a. Compensation for the loss of land ,crops/trees at their replacement cost;
- b. Compensation for structures (residential/ commercial) and other immovable assets at their replacement cost;
- c. Assistance in lieu of the loss of business/ wage income and income restoration assistance;
- d. Assistance for shifting and provision for the relocation site (if required), and
- e. Rebuilding and/ or restoration of community resources/facilities
- f. Additional Support to Vulnerable Families

An **Entitlement Matrix**, delineated in **Table 4.1** has been developed to summarize entitlements.

Table 4-1: Entitlement Matrix

All awards below shall be exempt from income tax, stamp duty and fees.

Sl. No.	Impact	Entitled Unit	Entitlement Details
A. Loss of Private Agricultural, Home-Stead & Commercial Land			
1	Loss of Land (agricultural, homestead, commercial or otherwise) within the Corridor of Impact (COI)	Titleholder/owner/families families with traditional land right/occupiers	<p>For all land acquired under NH Act; Compensation/lease amount shall be calculated and payable in accordance with Sections 26 to 30 and Schedule I of RFCTLARR Act 2013</p> <p>i. Partial Impact on Land: In case only part of any land plot is affected, and its owner desires the whole plot be acquired on grounds that the plot has become uneconomic or has been severed due to LA (under Section 94 and Note C), the competent authority can award compensation for remaining part of the plot or award 25% of actual value upto of the remaining land holding as additional compensation, allowing the owner to retain the remaining land plot, if agreeable.</p> <p>For all land acquired under NH Act; or direct purchase or acquisition of missing land parcels/plot (MoRT&H circular date 28th Decemebr, 2017), Rehabilitation and Resettlement Assistance shall be as follows (Schedule II of Act 2013):</p> <p>ii. If as a result of land acquisition, the land owner becomes landless or is reduced to the status of a “small” or “marginal” farmer, assistance amount of Rs. 6 lakhs</p> <p style="text-align: center;">OR</p> <p>annuity policies that shall pay not less than two thousand rupees per month for each affected land owner for twenty years with appropriate indexation to the Consumer Price Index for Agricultural Labourers.</p> <p>iii. Each land owner shall be given a one-</p>

Sl. No.	Impact	Entitled Unit	Entitlement Details
			<p>time "Resettlement Allowance" of Rs. 60,000/- only.</p> <p>iv. Refund of stamp duty and registration charges incurred for replacement land to be paid by the project; replacement land must be bought within a year from the date of payment of compensation to project affected persons</p>
B. Loss of Private Structures (Residential/Commercial)			
2	Structure within the Corridor of Impact (Col)	Title Holder/ Owner	<p>i. Compensation in accordance with Sections 26 to 30 and Schedule I of RFCTLARR Act 2013</p> <p>ii. Right to salvage material from affected structures</p> <p>iii. Three months advance notice to vacate structure</p> <p>iv. For those losing cattle shed, a one-time assistance of Rs. 28,000/- would be payable</p> <p>v. For each affected family of an artisan or self-employed or own non-agricultural land, that is displaced and must relocate, a one-time assistance of Rs. 28,000/- would be payable; and</p> <p>vi. One-time subsistence grant of Rs. 40,000/- for each displaced family who are displaced and require to relocate;</p> <p>vii. One-time financial assistance of Rs. 60,000/- for each affected family towards shifting/transportation cost for shifting of the family, building materials, belongings and cattle</p> <p>viii. Refund of stamp duty and registration charges for purchase of new alternative houses/shops at prevailing rates on the market value as determined. Alternative houses/shops must be bought within a year from the date of payment of compensation</p> <p>ix. For a house lost, a constructed house shall be provided as per the Indira Awas Yojana Specifications or equivalent cost of the constructed house in lieu, shall be payable.</p> <p>x. <u>In case of partial impact</u>, 25% additional award to be paid on compensation award for the affected</p>

Sl. No.	Impact	Entitled Unit	Entitlement Details
			part of the structure to enable damage repair where the owner/occupier of his/her own will, interested to retain the remaining part of the structure, provided the unimpaired continuous use of the such structure is possible without hazards
3	Structure within the Corridor of Impact (Col)	Tenants/ Lease Holders	i. Registered lessees will be entitled to an apportionment of the compensation payable to structure owner as per applicable local laws. ii. One-time financial assistance of Rs. 60,000/- as transportation. iii. Three months notice to vacate structures.
C. Loss of Trees and Crops			
4	Standing Trees, Crops within the Corridor of Impact (Col)	Owners and beneficiaries (Registered/ Un-registered tenants, contract cultivators, leaseholders & sharecroppers	i. Cash compensation as estimated under Section 29(3) of Act to be paid at the rate estimated by: <ul style="list-style-type: none"> • The Forest Department for timber trees • The State Agriculture Extension Department for crops • The Horticulture Department for fruit/flower bearing trees. ii. Three months advance notice to project affected persons to harvest fruits, standing crops and removal of trees, or compensation in lieu as determined above. Registered tenants, contract cultivators & leaseholders & sharecroppers will be eligible for compensation for trees and crops as per the agreement document between the owner and the beneficiaries. Un-registered tenants, contract cultivators, leaseholders & sharecroppers will be

Sl. No.	Impact	Entitled Unit	Entitlement Details
			eligible for compensation for trees and crops as per mutual understanding between the owner and the beneficiaries
D. Loss of Residential/ Commercial Structures to Non-Title Holders			
5	Structures within the Corridor of Impact (Col) or Govt. land	Owners of Structures or Occupants of structures (Encroachers, Squatters) identified as per Project Census Survey	<p>For loss of House</p> <ul style="list-style-type: none"> i. Compensation at PWD BSR without depreciation for structure ii. One-time resettlement cost of Rs. 28,000 /- iii. Shifting/transportation assistance of Rs. 60,000/- iv. Encroachers shall be given three months' notice to vacate occupied land or cash assistance at replacement cost for loss of structures. v. Right to salvage the affected materials <p>For loss of shop</p> <ul style="list-style-type: none"> i. Compensation at PWD BSR without depreciation for structure ii. One-time subsistence grant of Rs. 40,000/- iii. Oneitme rehabilitation grant of Rs. 28,000/- iv. Shifting/transportation assistance of Rs. 60,000/- v. Encroachers shall be given three months' notice to vacate occupied land or cash assistance at replacement cost for loss of structures. vi. Right to salvage the affected materials
6	Loss of employment in non-agricultural activities or daily agricultural	Livelihood loser	<p>Subsistence allowance equivalent to Minimum Wages/Minimum Agricultural Wages² for 3 months</p> <p>Only agricultural labourers who are in</p>

² As per rates issued by Department of Labor, Government of project state for different skills and trades

Sl. No.	Impact	Entitled Unit	Entitlement Details
	wages or other wage workers		fulltime / permanent employment of the land owner, or those affected full time employees of the business, will be eligible for this assistance. <i>Seasonal agricultural labourers will not be entitled for this assistance.</i>
F. Additional Support to Vulnerable Group			
7	Families within the Corridor of Impact (Col)	Vulnerable affected families	<ul style="list-style-type: none"> i. One-time Resettlement Allowance of Rs. 60,000/- ii. Training for skill development. This assistance includes cost of training and financial assistance for travel/conveyance and food. iii. Additional Subsistence Grant of Rs. 60,000/- for displaced families belonging to Scheduled Caste and tribe Category iv. Displaced vulnerable households will be linked to the government welfare schemes, if found eligible and not having availed the scheme benefit till date.
G. Loss of Community Infrastructure/Common Property Resources			
8	Structures & other resources (e.g. land, water, access to structures etc.) within the Corridor of Impact (Col)	Affected communities and groups	Reconstruction of community structure and common property resources, will be done in consultation with community
H. Temporary Impact During Construction			
9	Land and assets temporarily impacted during construction	Owners of land and assets	<ul style="list-style-type: none"> i. Compensation for temporary impact during conversion e.g. diversion of normal traffic, damage to adjacent parcel of land/assets (crops, trees, structures, etc.) due to movement of heavy machinery and plant site ii. Contractor shall bear the cost of compensation of any impact on structure or land due to movement of

Sl. No.	Impact	Entitled Unit	Entitlement Details
			machinery during construction or establishment of construction plant. iii. All temporary use of land outside ROW, would be done based on written approval/ prior approval landowner and contractor

CHAPTER - 5.: PUBLIC INFORMATION AND CONSULTATIONS

5.1 Introduction

Project affected people were informed about the proposed road development and potential impacts during consultations. The involvement of the Public consultation has been carried out in this Project with the objectives of minimizing probable adverse impacts of the project through alternate design solutions (cross-sectional) and to achieve speedy implementation of the project through bringing in awareness among the community on the benefits of the project.

5.2 Classification of Stakeholders

Stakeholder analysis typically classifies stakeholders or all those who have an interest in the project, into three categories:

- *Primary stakeholders* are those who are directly or indirectly affected by a project, such as the project beneficiaries and the people who are likely to be adversely affected by a project.
- *Secondary stakeholders* are those who are involved in the delivery of the project outputs, such as the government, the *implementing* agency, the executing agency (e.g., contractors, consultants), if any and NGOs, etc.
- *External stakeholders* are those who are “outside” the ambit of the project activities, but who can influence the outcome of the project, such as the media, politicians, religious leaders and other opinion leaders.

For this project, affected people, influential person, village Sarpanch and panchayat members, members of the affected villages, local women were considered as Primary stakeholders.

5.3 Consultation Process

The process of stakeholder consultation included:

- Identification of the relevant stakeholders including all those individuals, groups and organizations potentially affected by or interested in the project;
- Pre informing the stakeholders about the consultation dates and location;
-
- During the consultation process, imparting information about the project interventions and its potential impacts;
- Recording of their concerns and aspirations through discussions;
- Responding to their queries in a neutral manner.

5.4 Stakeholder's consultation

Public consultations meetings were conducted in project corridor villages at 34 locations as part of the SIA & RAP. Majority of the stakeholders expressed their full support for the widening and improvement of the proposed project road with suitable compensation. They agreed that proposed project will have both positive and adverse impact on the community and assets, especially those who are along the project road. But at the same time, they were aware that road development will also improve the connectivity of the villages to the major district headquarters. They anticipated construction activities will generate employment opportunities for the local people. During public consultation, it was informed that proposed project will have impacts on residential and commercial structures as well as religious and community structures, along the road. Details of number and type of consultation conducted

along the road are presented in **Table 5-1** and the photographs and list of participants is given in **Appendix 5.1 and 5.2 respectively**.³

5.4.1 Consultations with Local Community

Consultations were carried out with community affected on the project road to get their views and suggestions regarding the proposed project. Mostly local people were very interested and showed their support for proposed project but also expressed their concerns regarding payment of compensation for assets attached to land and timely completion of the project. The details of the consultation are given in **Table 5-1**.

Table 5-1: Details of Consultation with local community

Sr. No	Date	Locations	Issues discussed	Views and Suggestion	Remarks
1	03.11.2015	Market place, Roopnagar	Bypass Option	Basically, people of the village are having no issues with respect to the proposed project; they felt that project will bring development with respect to the economic, health, education, transportation and water etc. in the project corridor. People asked for bypass in the village to avoid involuntary resettlement.	Realignment is proposed in final design.
			Drainage system	Drainage system should be developed, and proposed road should not be raised from the existing road otherwise village will be bound with water during rainy season.	Accordingly drain has to be constructed
			Transportation & communication system	The proposed project will enhance the transportation system in the area	
				People will commute easily and in less time to Ras-Beawar-Asind-Mandal.	
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan Rules 2016
2	04.11.2015	City, Babra	Bypass Option	People asked for bypass in the village to avoid involuntary resettlement.	Realignment is proposed in final design.
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and

³ The list of persons involved in the public consultation is limited to those who were willing to allow their name to be added in the document.

Sr. No	Date	Locations	Issues discussed	Views and Suggestion	Remarks
					Rajasthan rules 2016
			Occupation	Local people of the village are involved in agriculture and labour work and demanded for employment during construction.	Local labour and women will be preferred during construction.
			Women	Women are involved in agriculture and rearing animal.	
3	04.11.2015	City, Rajiya was	Bypass Option	Local people demanded to proposed bypass to avoid resettlement in the village.	Realignment is proposed in final design.
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016
			Occupation	Local people demanded employment during construction.	Local labour will be preferred during construction.
			Women	Women are involved in agriculture and rearing animal.	
4	05.11.2015	Asind	Related to revenue record	People even showed their concern regarding the ownership status as reflected in revenue records. In many cases, the name of owner in the land records is not updated after the land is sold to another party/ person. The land record thus still shows the name of the previous owner.	Ownership details of the affected land would be verified during RAP implementation. NGO will be appointed to undertake this activity and accordingly compensation will be paid.
			Compensation	Compensation should be given on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
			Structures	Demanded to save structures.	The existing road is being widened as per the final design
5	05.11.2015	Badnor	Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016
			Gender based violence	It has been recorded during the consultation that no gender-based violence has been recorded at the project corridor.	
6	19.09.2018	Badnor	Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016
			Related to revenue record	People demanded that compensation to be given to the person having possession on affected land.	Ownership details of the affected land would be verified during RAP implementation. NGO will be appointed to undertake this activity and accordingly compensation will be paid.
7	05.11.2015	Sopura	Widening of the road	Agreed with the proposal. During discussion reveals that there is 30-meter land is available in market area. They asked to provide safety signage in the market area	The existing road is being widened as per the final design
			Compensation	Compensation should be calculated on market rate where land acquisition is applicable.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
			Occupation	Considering the migration of small farmer to other states like Gujarat and Humpy, for need of work, local people demanded that local labour should be provided with employment opportunities during construction stage.	Local labour will be preferred during construction.
			Women	Women are involved in agriculture and rearing animal.	
			Desired skill in Youth	Mainly youth desired engineering in electrical, mechanical, civil and IT.	
8	06.11.2015	Kaniya Khera & Kotda	Bypass option	Bypass has been proposed in the village, community welcomed the proposal of bypass	Realignment is proposed in final design.
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016
			Occupation	Local people of the village are involved in agriculture and labour work therefore demanded employment opportunity during construction.	Local labour will be preferred during construction.
			Women	Women are involved in agriculture and rearing of animal.	
9	16.09.2018	Ras	Bypass option	Bypass should be proposed in Ras market up to proposed chainage 0+000 to 3+000 km.	The existing road is being widened as per the final design and all construction activities will be confined within existing RoW.
				If not possible, minimize the RoW to save their residential as well as commercial structure.	
				RoW should not be more than 30 meter in agricultural land.	
			Widening on both side	Widening of the road should be equal on both side of the road.	
			Drainage system	Drainage system should be developed as per area need	Accordingly drain has to be constructed.
			Safety	Men were showed their interest on heavy traffic during school time. There should be signboard for crossing the road	Appropriate measures will be taken for safety.
			Compensation	Compensation should be given as per market rate	Compensation will be given based on RFCTLARR

Sr. No	Date	Locations	Issues discussed	Views and Suggestion	Remarks
					Act, 2013 and Rajasthan rules 2016
			Structures	Lose of residential as well as commercial structure, mean a psychologically disturbance to the affected families therefore demanded to save their structures.	The existing road is being widened as per the final design
				Hanuman temple falling along the RoW (7mtr) which should be avoided	
10	18.09.2018	Chhatarpura	Widening on both side	Local people asked to widening should be on both side of the road.	The existing road is being widened on both sides.
			Safety	Local villages people happy with the proposed project and they are demanding for signage along the roadside	Appropriate measures will be taken for safety.
			Compensation	Compensation should be on current market price.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016
			Water	Main source of the water is a well and hand pump only.	
11	19.09.2018	Mawala - Fatehgarh	Bypass option	Affected people including sarpanch suggested saving the village proposed bypass in the village. They suggested that land is available in right hand side of the existing road near the pond.	The existing road is being widened as per the final design.
			Loss of structure	Local people will lose their residential as well as commercial structure due to widening of the road.	
			Safety	Both men and Women were showing their concern regarding the safety of children and animal. They asked to proposed bypass for their safety.	Appropriate measures will be taken for safety.
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016
			Water	Main source of the water is a well and hand pump only.	

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
12	20.09.2018	Palari	Structures	Loss of residential as well as commercial structure, mean a psychological disturbance to the affected families. They demanded to save their structures. Available land from structure to structure is 24-26 meter in the market.	The existing road is being widened as per the final design.
			Safety	During consultation it was recorded that an accident took place before 7-8 years. They are showing their concern regarding the safety of their small children and animals.	Appropriate measures will be taken for safety
			Occupation	Local people of the village are involved in agriculture and labor work therefore demanded employment opportunity during construction. Women are involved in agriculture and rearing animal.	Local labour will be preferred during construction.
13	21.09.2018	Brahmano ki Sareri	Bypass Option	People of Brahmano ki Sareri have no issues with the proposed project. The bypass already has been proposed in the village but they demanded that existing road is to be repaired at the time of construction of proposed project.	The bypass is being proposed as per the final design.
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan rules 2016
			Occupation	Local people of the village are involved in agriculture and labor work therefore demanded employment opportunity during construction.	Local labour will be preferred during construction.
			Women	Women are involved in agriculture and rearing animal.	
14	21.09.2018	More ka Nimbaheda	Bypass Option	People of the village welcome to the proposed project and they having no issues with respect to the proposed project. The bypass already has been proposed in the village. Local people asked to repair the existing road.	The realignment is being proposed in final design.
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
					Rajasthan rules 2016
			Occupation	Local people of the village are involved in agriculture and labor work therefore demanded employment opportunity during construction.	Local labour will be preferred during construction.
			Women	Women are involved in agriculture and rearing animal.	
			Desired skill in Youth	Mainly youth desired engineering in electrical, mechanical, civil and IT.	

Major recommendations and outcome of the consultation

- People demanded bypass for Ras market, Mawla village and Asind market.
- Saving of the structures is the major concern along the project road.
- Jagtiya, Bhagatpura and Kundiya kapadiya villagers want to avoid their structure and road to be constructed within availability of land.
- Ras, Kundiya Kapaiya, Pipli Kapadiya village having temple and will be affected in proposed project; therefore, it should be avoided.
- The land owners expecting compensation as per market value.
- Expecting employment opportunities from the project.
- Ground water level is 100-120 feet; therefore, they asked that government should arrange water supply in the project corridor.
- Trauma center is not available on or near the project corridor therefore demanded to propose trauma center.
- Villager's advice to engage local people during the construction.
- The people expressed concerns over movement of heavy traffic, as their children are not safe to cross the road.

5.5 Consultation with Land Owner

Consultations were carried out with affected land owners to get their views and suggestions regarding proposed project. Most of the land owner were very interested and showed their support for proposed project but also expressed their concern regarding payment of compensation and timely completion of the project. The detail of the consultation is given in Table 5-2.

Table 5-2: Details of consultation with land owner

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
1	03.11.2015	Near Sarpanch house, Sahapura	Compensation	Compensation should be calculated on market rate. Land owner showed their concern compensation rates as DLC rate and market rate having a huge difference.	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan rules 2016

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
			Related to revenue record	People even showed their concern regarding the ownership status as reflected in revenue records. In many cases, the name of owner in the land records is not updated after the land is sold to another party/ person. The land records thus still shows the name of the previous owner.	Ownership details of the affected land would be verified during RAP implementation. NGO will be appointed to undertake this activity and accordingly compensation will be paid.
			Avoid CPR	People suggested that efforts should be made during design finalisation to save trees and dharmshala wherever possible. And in case of any impact on CPRs, facilities like waiting room with water facility should be provided.	
2	04.11.2015	Chouraha, Fatakheda	Related to revenue record	It was informed during the consultation that as per the existing culture of the area, villagers distribute or transfer their land with mutual consent and the name of the new owner is not reflected in the land records.	Ownership details of the affected land would be verified during RAP implementation. NGO will be appointed to undertake this activity and accordingly compensation will be paid.
				Farmers wanted, competent authority checked each plot and give compensation to the occupier.	
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan rules 2016.
				Land owner showed their concern compensation rates as DLC rate and market rate having a huge difference.	
			Unviable Land	Compensation for unviable land to be given also.	-
			Irrigated Resources	In case of impact on resources used for irrigation purpose, alternatives sources may be provided by the competent authority.	-
3	04.11.2015	Post office, Badnor	Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan
				Land owner showed their concern compensation rates	

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
				as DLC rate and market rate having a huge difference.	rules 2016
				Appropriate compensation to be given for loss of trees and wells.	
			Related to revenue record	Landholders showed their concern regarding the ownership status as reflected in revenue records. In many cases, the name of owner in the land records is not updated after the land is sold to another party/ person. The land records thus still shows the name of the previous owner.	Ownership details of the affected land would be verified during RAP implementation. NGO will be appointed to undertake this activity and accordingly compensation will be paid.
			Migration	Considering the migration of small farmer to other states like Gujarat and Humpy, for need of work, local people demanded that local labour should be provided with employment opportunities during construction stage.	Local labour will be preferred during construction.
4	05.11.2015	Chauraha, Jaswantpura	Patta	Patta owners of the village has demanded for compensation of the loss of structures built on patta land.	Affected owner having patta is considered as a title holder and compensation will be given the same.
			Compensation	Compensation should be given on market rate.	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan rules 2016
5	05.11.2015	Mawala-Fatehgarh	Bypass option	Initially the land owner suggested for realignment or bypass at this location. Later, they have demanded for widening of existing road.	The existing road is being widened as per the final design
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan rules 2016
				Land owner showed their concern compensation rates as DLC rate and market rate having a huge difference.	
			Related to revenue record	land owner demanded that compensation should be given to the affected person having	Ownership details of the affected land would be verified

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
				possession of acquiring land after verification by Patwari.	during RAP implementation. NGO will be appointed to undertake this activity and accordingly compensation will be paid.
6	05.11.2015	Chauraha, Badiya Hira	Compensation	Compensation should be calculated on market rate. Land owner showed their concern compensation rates as DLC rate and market rate having a huge difference.	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan rules 2016
			Employment	Affected family to be preferred in employment during construction	Local labour will be preferred during construction.
			Religious place	Two very old temples exists near Badiya Hira village on forest land and there is no other option to widen the road therefore, villagers suggested a bridge on the same temple.	The existing road is being widened as per the final design.
7	06.11.2015	Bar	Land in place of Land	Landholders losing small land plots have demanded for providing government land available in the village.	Based on the design feasibility, the existing road is being widened. Compensation will be paid to the affected land holders as per their entitlements.
			Compensation	Compensation should be calculated on market rate. Land owner showed their concern about the compensation amount as DLC rate and market rate having a huge difference.	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan rules 2016.
			Irrigation resources	With the loss of irrigation resources due to road widening, the land will become unirrigated. Landholders demanded that the competent authority should provide alternative irrigation arrangements. Farmers demanded that the implementing agency should dig wells at their own cost as	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan rules 2016.

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
				the government compensation is much less than the actual cost incurred (approx. 5 lakh rupees).	

Major outcome and suggestion

- Compensation of land and attached asset to be given based on market rate.
- Expectation of employment opportunities from the project.
- Land owner demanded that compensation to be given to the person having possession on affected land and a joint verification should be done to ascertain the ownership status before payment of compensation

5.6 Consultation with Women

Focus group discussions were conducted with women group to take their suggestions and concerns related to the implementation of this project. It was noted during the discussions that women in the study area consistently lagging behind in terms of access to education, health care, jobs etc.

During consultation with women group, issues related to safety of their children, resettlement of their residential as well as commercial structure, gender-based benefits and constraints of the project, were discussed. As many households do not have tap water facility in the area, so women and girls need to cross the road to fetch water as many a times the water resources are on the other side of the road. Safety of children is also a concern considering the increase in the number of vehicles due to better road connectivity. Cattle also cross the road and there are issues related to their safety as well. They suggested avoiding demolition of the structure because they have been settled there from a long time and proposed considering bypasses to avoid any impact on the settlements.

During consultation it was also recorded that no one complained about any gender-based violence issue.

In general, women welcomed the road project as it will help the villagers to easily avail the medical facility near Beawar, Mandal and Bhilwara town. Mostly girls drop their education after 10th and 12th due to unavailability of the colleges near the village/town. With better connectivity, the women group anticipated that more girls will avail better educational and health facilities. The details of Focus Group Discussions/ consultations are given in **Table 5-3**.

Table 5-3: Details of consultation with women

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
1	16.09.2018	RAS	Employment	Local women are involved in agriculture and household work and a few women go in MGNREGA and demanded for employment during construction	Local labour and women labor will be preferred during construction.

Sr. No	Date	Locations	Issues discussed	Views and Suggestion	Remarks
			Safety	Women showed their concern on heavy traffic during school time. Considering this, adequate provisions should be made in road designs	Appropriate measures will be taken for safety.
			SHG	Mahila Sangathan are working in village but sangathan not participate in any social activity. Even these sangathan are not involved in any economic activity.	
				Sangathan are interested if they get some kind of work like mess for construction worker. Such opportunities may be provided during road construction.	
2	18.09.2018	Kundiya Kapadiya	Mahila Sangathan	Mahila Sangathan are working in village but sangathan not participate in any social activity. Even these sangathan are not involved in any economic activity.	
			Women involvement	Women are involved in agriculture and household work	
			Safety	Safety signage should be marked in the residential area. Traffic speed near the settlement area should be restricted.	Appropriate measures will be taken for safety
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR, Act 2013 and Rajasthan rules 2016.
			Structures	Structure should be saved whereas possible. One temple is located on the LHS of the existing road. Efforts should be made to save the temple.	The existing road is being widened as per the final design.
			Water	Main source of the water is a well only.	
			Hospital	Hospital is available in Pipli Kapadiya and hospital doesn't have proper staff. Due to unavailability of medical facility villagers went to Beawar and Mandal town.	
3	19.09.2018	Mavla	Bypass option	Affected women suggested to save the village and proposed	The existing road is being widened as per the final

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
				bypass in the village.	design.
			Involvement of women	<p>Women are involved in agriculture and household activities.</p> <p>They do not participate in any social activity.</p> <p>Main decision taken by male member in village.</p>	

5.7 Village Panchayat/Municipality corporation

Panchayat and municipality welcomed the project and expected that the construction of the road will be completed by end 2020. During the SIA and RAP preparation, consultations were conducted with 4 panchayats and 1 Municipality. Details of the consultation is given in **Table 5-4**

Table 5-4: Details of consultation with Panchayat and Municipality

Sr. No.	Date	Panchayat/ Municipality	Issues discussed	Views and Suggestion	Remarks
1	17.09.2018	Panchayat- Sahapura	Widening on both side	Widening of the road should be equal on both side of the road and demanded to save the structure.	The existing road is being widened on both sides of the road.
			Safety	Safety signage should be marked in the residential area.	
			Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan land acquisition rules 2016.
2	19.09.2018	Panchayat- Badnor	Compensation	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan land acquisition rules 2016.
			Delaying in construction	Local people demanded that project to be timely complete.	
			Employment	Sarpanch demanded preference of local people in employment during	Local labour will be preferred during

S r . N o .	Dat e	Panchaya t/ Municipal ity	Issues discussed	Views and Suggestion	Remarks
				construction.	construction.
3	20. 09. 201 8	Municipali ty- Asind	Bypass option	Municipality chairman and member of municipality demanded for bypass in entire Asind city.	The existing road is being widened as per the final design.
				Municipality has been proposed a residential colony which may disturbed due to widening.	
			Master Plan	Asind municipality has been proposed master plan in city so they have concern that it may affect the plan.	
			Structures	Demanded to avoid to the demolition of the structure.	
4	20. 09. 201 8	Panchaya t- Shekhawa s	Loss of structure	Local people will lose their residential as well as commercial structure due to widening of the road. Sarpanch demanded to save these structures whereas possible.	The existing road is being widened as per the final design.
			Compensati on	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan land acquisition rules 2016
			Gender based violence	It has been recorded during the consultation no gender-based violence has been recorded in and near the village.	
5	21. 09. 201 8	Panchaya t- Mandal	Compensati on	Compensation should be calculated on market rate.	Compensation will be given based on RFCTLARR Act, 2013 and Rajasthan land acquisition rules 2016
			Occupation	Local people of the village are involved in agriculture, labour and some are working in the textile factories in Mondal and Bhilwara.	Local labour will be preferred during construction.
			Women	Women are involved in private jobs, agriculture, rearing animal and household work.	

Major recommendation and outcomes

- As the road passes through a market area in Asind Municipality, The Chairman of the Municipality has demanded to void the existing market area. This will also not interfere with any of the activities/ interventions as planned under the master plan.
- The Gram Panchayats consulted was observed to be supportive of the project. They felt that the proposed project can bring development in the area and they demanded greater engagement of local community as well as to avoid structures wherever possible
- Village *Panchayat* expect local benefits like enhancement of the local infrastructure, targeted social investment programme through government initiatives.
- The panchayat also expressed concerns over movement of heavy traffic, as they fear safety of children and livestock which roam around freely in the area.
- The Village *Panchayat* hinted at the following activities:
 - *Measures to improve the water availability of the area; and*
 - *Contribute towards developmental activities of the area.*
 - *Start govt bus transport system in the project corridor.*

5.8 Consultation with Industries

Cement factories were identified as a major beneficiary of the project i.e. Ambuja Cement and Shree Cement in Ras and Beawar respectively and consultations were carried out with both factories. Approx. 500 truck trips from Ras and Beawar to Chittore, Gujarat and Madhya Pradesh of each factory that shows the value of the road for these cement factories. Considering this, consultations were also conducted with different agencies and factory owners to take note of their concerns and suggestions also. Details of the consultation is given in **Table 5-5**.

Table 5-5: Details of consultation with industries

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
18	17.09.2018	Railway Station, Beawar	Export and Import	No export and import of raw materials in a large scale at Beawar railway station. Major movement of materials is done by roads only.	Existing road is being used for export and import.
				Goods train stopped only 2 minutes in Beawar railway station	
19	17.09.2018	Shree cement limited	Daily Truck trip	Approx 500 daily trips from Ras-Beawar to Chittore, Gujarat and Madhya Pradesh	Cement Industry is major beneficiary of the project.
				Out of 500 trips 200 trips in and out from Ras-Beawar	
			Parking Capacity	Having 300 trucks parking capacity in the factory premises	
				During site visit no truck were parked on or near the road	
			Clinker Units	Having 8 clinker units	
				Production of clinker is 30000-32000 ton/day	

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
				15000-ton clinker is used in domestic purposes	
			Cement production	Total Cement production is 17000-18000 ton a day.	
			Man Power	Approx 10000 employees are working in the factory.	
			Raw material	Mainly raw material comes from Hindustan Zink Limited, Udaipur by road.	
			Railway	Goods train is not used to import and export the raw materials.	
			Desired skills for employees	Type of employees required are Electrician, mechanical, fitters, welders, Masons and security guards	
20	17.09.2018	Ambuja Cement Factory	Trips of the Truck per day	Daily trips of the truck are approx 450 from Ras-Beawar, Chittore, and Goutam Buddh Nagar by road.	Cement Industry is major beneficiary of the project.
				Out of 450 trips, 300 vehicles export and 150 are import from chittore to Udaipur.	
			Parking Capacity	Having capacity of approx 300 trucks in the factory premises	
				During site visit no truck was seen park on or near the road.	
			Clinker Units	Having 4 clinker units	
				9000 ton both cements and clinker dispatched daily	
			Man Power	Approx 1500 employees are working in the factory	
			Raw material	Mainly raw material comes from Hindustan Zink Limited, Udaipur	
			Railway	Railway is not used to import and export in factory	
			Desired skills for employees	Type of employees required are Electrician, mechanical, fitters, welders, Masons and security guards	

Major recommendation and outcome

- The proposed project will provide shortest route to connect North and North-West part of Rajasthan to South-East Rajasthan
- Reduce travel time between Chittorgarh to Ras and Udaipur to Ras.
- Create new opportunity of employment

- Entire transport does via road being goods train is stopped in Beawar for only 2 minutes.

5.9 Consultation with NGOs

No NGO is working directly in the project corridor, some NGOs are working in Beawar and Ajmer. Consultations were carried out with identified NGOs to understand their views with respect to the proposed project. Details of the consultation are given in **Table 5-6**.

Table 5-6: Details of consultation with NGOs

Sr. No.	Date	Locations	Issues discussed	Views and Suggestion	Remarks
1	22.09.2018	GSVS, NGO	Employment	They majorly help the industrial workers in addressing issues with their employers/ factory management.	Local labour will be preferred during construction.
				Suggested to provide employment opportunities to local labour	
2	22.09.2018	Room to Read, NGO	Higher education for girls	Works on girl's education program As the schools dropouts is quiet high in the area, with better road connectivity, the project will help the girls in the project area to avail better education facilities.	proposed project will improve the connectivity and help to reduce dropouts in female.
			Necessity	Better road is necessary to development of the area.	
3	22.09.2018	Aryama Seva Samiti, NGOs	Employment	Aryama seva samiti working under Deen Dayal Upadhyay yojana for skill development	Local labour will be preferred during construction.
				Proposed that the project should generate employment opportunity	

Major recommendation and outcome

- They felt that proposed project is essential for the development of the area.
- Corridor from Sanwas village to Mandal is not well connected with the transport system therefore community has to spend much time to go to Beawar and Mandal so that proposed project will bring changes in their socio-economic profile.
- Some student especially girls drop their education after 10th and 12th due to far distance from their residence. It's not their culture for female to commute far alone from their residence but denied the security issue with respect to female in the project corridor.
- Sometime community has to face difficulty during medical emergency due to road connectivity. It becomes worse when someone has to use public transport in the medical emergency. No govt. bus is available on this route therefore has to use private bus but their frequency is less than usual.
- Civil societies asked to develop the infrastructural facilities in the area with respect to health, education and water.

5.10 Consultation with Project Developer

During the study period, Social team consulted with EE PWD, Pali at his office and on proposed project to understand about the project and other social features around the project site

- They shall give direction to the contractor to engage the local people, panchayat, Municipal Corporation and civil societies in the proposed project.
- They already consulted with the different stakeholders and shall be consulted in every stage of the project.

Photographs of Consultation and Group Discussion with different stakeholders are given in Annexure 5.1

5.11 Key Issues/concerns and suggestion

Though, the project road stretch passes through four different districts of Pali, Ajmer, Rajsamand and Bhilwara, the settlement pattern as well as socio-economic profile across this whole stretch of 116.750 Km has a lot of uniformity. Even the issues that have emerged as a result of this consultative process are also quite common, with minor variations. The key Issues raised during Consultations are as follows:

- Resettlement was the main issue of the affected, local and influential person of the project corridor.
- Participants also suggested in detail in every meeting. General consensus was on replacement value for any immovable property acquired. Participants also suggested that compensation be paid in time with one single installment so that the amount can be used in a fruitful manner.
- Safety of children, local people and animal was another concern. Participants were informed that road safety provisions, extra wide road, footpath and drains should be provided in the settlement areas.
- It was the major concern of the local people to develop the drainage system of the area.
- Some location people asked to proposed bypass.

Thus, on the basis of above consultation/ group discussion with local community/ villagers/ village sarpanch/ village panchayat members/ influential person of the region/ government officials and various stake holders, we may conclude that proposed project

will prove beneficial not only to local region but also up to state and national level for a long term. There is a big support of local community in favor of the project.

CHAPTER - 6.: ANALYSIS OF ALTERNATIVES

This Chapter details the various alternatives considered to decide on the feasibility of the project and in design finalization. The analysis has been done at two levels, firstly, the alternative analysis was done considering the “with and without project scenarios” which considered the potential social impacts, both positive and negative, of the sub-project. Secondly, an analysis has also been made during finalization of bypasses and realignments taking into consideration the requirement in meeting the design standards for smooth flow of traffic and also social impact of the opted designs on assets and requirements of land along the road, bypasses and realignments. Both the analysis is detailed in the below section:

6.1 Inputs at Different Stages for Minimizing Resettlement

Regarding resettlement and rehabilitation input, it may be mentioned here that from the very beginning of the project formation, social and environmental team worked hand to hand with engineering design group. These inputs in concrete terms were made available at the following stages:

- a) **Stage 1:** Potential resettlement and rehabilitation issues were identified at the preliminary reconnaissance visit. Field Surveyors identified the villages and urban areas with inadequate road width and design team was provided this input.
- b) **Stage 2:** Right of way was ascertained from Rajasthan PWD and Revenue Department and where in doubt, actual measurements were made and data on land available for road widening and the land acquisition requirement was collected and provided to the Design team. The socio-economic and census surveys of the potentially project affected persons were initiated from the very beginning. A Social Assessment was done of the 100% potentially affected population within the likely corridor of impact (30 meters). The social assessment registered the household members and individuals within the potential corridor of impact, enumerated the sites and in fact gathered sufficient demographic and social information to determine whether they were to be categorized as vulnerable groups with special entitlements under the project as per Entitlement Matrix. Socio-economic survey provided the base line against which mitigation measures and support has been measured and survey included the needs and resources of different groups and individuals including women headed households and gender analysis.
- c) **Stage 3:** R & R team working in the field, weighed up the alternative alignment options proposed by the Survey and Engineering team and this field information were shared and discussed with engineering design team, so that they make such a plan, which could avoid or minimize adverse impact on large number of households. In response, the engineering team considered various options.
- d) **Stage 4:** Local level consultation regarding the impact of widening of the road through the villages and towns was conducted and alternative suggestions offered by them were considered. Social and environmental inputs were provided at the feasibility stage and recommendations were made according to the findings of the social and environmental surveys.
- e) **Stage 5:** Full coordination and cooperation between the resettlement and Rehabilitation team and Engineering team results in:
 - a) Unnecessary displacement avoided by modifying the alignment
 - b) Fixing the speed in the built-up areas including schools and hospitals as per local needs and problems of the people
 - c) Deciding the rural and urban road cross-sections based on field surveys and likely impact on the people

- d) Evolving Community consensus on shifting the existing shrines and religious structures

6.2 With and Without Project Alternatives

6.2.1 Without Project Scenario

The existing project road section varies from single lane to two lanes with earthen shoulders with varying pavement width. With present and projected high traffic volumes, the capacity of the present highway is insufficient for handling the high volume of traffic and calls in for improvements to a 2 lane and 4 lane carriageways with paved & Granular shoulder. The project highway has many roadside settlements and the traffic flow is seriously impacted by severe conflicts between the local and the through traffic. This is further compounded by the various land use conflicts, in terms of uncontrolled development along the highway. The population growth, increase in traffic volumes and the economic development along the corridor would continue to occur and will worsen the already critical situation. Moreover, if it is decided not to proceed with the project, then the attendant reduced socio-economic development of this remote, relatively poor connected area cannot be justified. Therefore, alternative action of not going ahead with the project is neither a reasonable nor a prudent course of action, as it would amount to failure to initiate any further improvements and impede economic development.

6.2.2 With Project Scenario

The 'with project scenario' is found to have a positive impact in the long run on social, environmental, economic and financial issues. This scenario includes the widening to 2 / 4 lanes of the existing single / two lanes stretch as envisaged in the project objectives. The scenario is economically viable and will improve the existing conditions. It, would thereby, contribute to the development goals envisaged by the Governments of Rajasthan and India, and enhance the growth potential of the area.

To avoid the acquisition of land and properties, the project envisages the development within the minimum RoW as much as possible. However, need for land acquisition has been envisaged for bypass, realignment and curve improvement sections.

In spite of the various development benefits likely to accrue due to the project, as is the case of every road development project, the project would be accompanied by certain impacts on the natural, social and environmental components. Wherever avoidance of negative impact has not been possible, appropriate mitigation and enhancement actions will be worked out to effectively offset the social damages inflicted due to the project. A detailed Resettlement Action Plan (RAP) has been worked out to compensate the affected people for the loss of their assets and also to improve the well-being and livelihood of the people to be impacted. Comparative assessments of the "with and without" project scenarios are presented in the following Table.

Table 6-1: "With and Without" Project Scenarios - A Comparative Assessment

Component	"With" Project Scenario	"Without" Project Scenario
Highway Geometrics	2-lane and 4-lane carriageway with paved/granular shoulder with geometric improvements	Existing single / two lane carriageway with poor geometrics
Design Speed	Design speed 80-100 Kmph	40 – 60 kmph
Congestion in	Free flow of traffic due to widened	Congestion in urban areas and

Component	"With" Project Scenario	"Without" Project Scenario
Settlements	carriageway and improved geometry	rural areas
Pedestrian safety	Bypasses, realignment and subways for safety of pedestrian. Along the settlement stretches with significant pedestrian traffic, provision of pedestrian (zebra) crossings and footpath has been kept in urban sections.	Pedestrian safety an issue of major concern especially along the settlements and congested sections.
Better Transportation Facilities	Reduction in time and fuel consumption for easy and fast movement through the major towns and villages. Better Access to markets	Increased vehicle operating costs due to reduced speeds
Economic Development	There will be increased access to markets. Local people will be employed during construction of the project road. Better transport facilities will lead to access to new employment centers. Project may provide job / livelihood opportunities to people through commercial establishment in area due to good connectivity with other cities and towns.	The economy will remain static.
Loss of Property and livelihood	Some people will lose their property and livelihood due to land acquisition for bypasses and widening of existing road where RoW is not sufficient to accommodate the road design.	The road side may further be encroached.
Access to basic facilities such as Markets, schools, Hospitals etc.	Easy access to basic facilities due to fine road	Difficulty in accessing the basic facilities due to heavy traffic.
Development	Higher potential for development due to improvement in access and consequent increase in connectivity	Development activities will be greatly hampered by the gross inadequacy of infrastructure.

Source: Design Report and Primary survey

By looking at the above table, “with” project scenario, with its some adverse impacts is more acceptable than the “without” project scenario which would mean an aggravation of the existing problems. The potential benefits of the proposed road improvements are substantial and far-reaching both in terms of the geographical spread and time. Hence, it is clear that the implementation of the project will have definite advantage to area in development of its economy and progress for its people.

6.3 Analysis of Alternatives Alignment

After having examined the feasibility of the road-improvement in the existing alignment, it is concluded that some of the project segment (mainly thickly built- up stretches) may have social constrains during construction because these critical stretches are experiencing congestion, encroachment of RoW and poor geometry. The major difficulties in following the existing alignment option completely, is the magnitude of land acquisition & social disruption and unsafe traffic condition. Therefore, realignment and bypasses have been suggested in the built-up stretches. Alternatives for these bypasses and realignments have been considered keeping in view social and technical parameters and based on the analysis of alternatives, the best alternative has been finalized.

For the remaining stretch, the selection of the alignment along various sections has been worked out based on continuous interaction between the highway, social and environmental teams. Mostly concentric widening of the existing alignment has been considered to fully utilise the available RoW. The project road shall be rigid and flexible pavement throughout the stretch.

6.3.1 Criteria for Fixing bypasses and realignment

Obligatory sensitive reasons through which bypasses and realignment options should not pass, are detailed in sections below.

Habitations: Proposed alignment has been fixed in such a way that it traverses at a minimum distance of 200-300m from built up areas and avoiding important buildings and structures. However, Bypasses and realignment options have been adopted to minimise the impact on settlement due to project.

Moreover, the alternative options have been worked out keeping the following in mind:

- The project should be constructible and easy to maintain; the project should reduce the vehicle operation cost with respect to the existing option already available
- The alignment should be finalized giving due consideration to siting/location of major structures including Major / Minor Bridges and ROBs
- Alignment should follow the unused / barren land to the extent possible to reduce the cost of land acquisition and carbon foot print.

6.3.2 Alternative Analysis of Bypasses and realignments

Bypasses have been proposed to avoid various built-up areas along the project highway, where geometric improvements are not possible as per design standards. Before declaring it as National Highway, the road comprised of SH-39 and MDR-84, which had poor geometrics. Bypasses and realignments are inevitable at many places to improve the geometrics and mitigating the risks of social impacts. The details of alternative analysis furnished and given as an **annexure 6.1**.

CHAPTER - 7.: EVALUATION OF SOCIAL IMPACT ASSESSMENT

7.1 Introduction

The proposed road improvements will be carried out within the available RoW of 30m throughout the project road and will involve land acquisition. The detail of the impact is alienated in respective below sections.

7.2 Cut-Off Date

Cut-off date i.e. start date of Census survey for non-titleholders is 22nd September 2018.

7.3 Land Acquisition Estimates for the Project

Proposed project required 360.61 hectare land out of which 116.16 (32.21%) hectare land is available and 244.45 hectare of land will be acquired which includes 160.25 (44.43%) hectare of private, 67.938 (18.84%) of government and remaining 16.2995 (4.52%) hectare of forest land will be acquired. A detail of the land acquisition is presented in Table 7-1.

Table 7-1: Details of available land

Stretch	Length (in KM)	Available Land (Existing ROW) (in ha)	Land to be Acquired			Total Land Required (in ha)
			Private	Govt.	Forest	
			Land Required	Land Required	Land Required	
Ras- Beawar- Asind- Mandal	116.75	116.163	160.2077	67.938	16.2995	360.608
Percentage	-	32.21	44.43	18.84	4.52	100

7.4 Type of Land to be acquired

Approx. 160.208 hectare private land is required for the proposed project which includes 91.891 hectare of agricultural land followed by 43.776 hectare of barren land and 11.86 hectare of forest land. Details of the affected private land are given in Table 7-2.

Table 7-2: Categorization of the private land

Type of Private land	Area (in Ha)	Percentage
Agricultural	91.89	57.36
Barren	43.78	27.32
Forest	11.86	7.4
Residential and Commercial Plots	9.85	6.15
Others	2.83	1.77
TOTAL	160.21	100

Source: 3D

7.5 Impact on Structures

The properties likely to be affected by the proposed project are surveyed by using structured questionnaire. These properties include residential, commercial, residential-cum-commercial and boundary wall. It has been attempted to get the details of various structures that are located within the proposed ROW of the project road. The survey data reveals that there are 653 affected structures which include 400 private structure and 253 of CPRs. CPRs includes 92 of religious, 79 of community and 82 of government structures within 30 meter right of

way on the existing road. The details of the affected structure are given as an **annexure 7.1 & 7.2** and in following sections.

7.6 Type of Affected Structure

The result of social survey reveals that out of 653 structures, 61.26% of the structure are residential followed by 14.09% of religious structure, 12.56% of government structure and 12.10% of community structure. The details of the type of affected structure are given in **Table 7-3**.

Table 7-3: Type of Affected Structure

Type of structure	Number	Percentage
Private	400	61.26
Government	82	12.56
Community	79	12.10
Religious	92	14.09
Total	653	100.00

Source: Census Survey, 2018

7.7 Construction type of Structure

As per the census survey, maximum numbers of the constructed structures, which are likely to be impacted within the RoW are permanent with 83.46% and only 10.11% of structure are semi-permanent. Number of temporary structures are very less, only 6.43% of the total affected structures. The details of the structures as per their construction type are summarized in the **Table 7-4**.

Table 7-4: Construction type of the affected structure

Construction type of Structure	No.	Percentage
Permanent	545	83.46
Semi-Permanent	66	10.11
Temporary	42	6.43
Total	653	100

Source: Census Survey, 2018

7.8 Impact on Private structures

Out of total 653 affected structures, 400 are private structures. The census survey reveals that private structure includes, 43.75% of the structure are residential followed by 32.75% of commercial structure and, 13% of residential-cum-commercial. The detail of affected structures is given in **Table 7-5**.

Table 7-5: Categorization of private structure

Usage of Structure	Numbers	Percentage
Residential	175	43.75
Commercial	131	32.75
Residential-cum-commercial	52	13
Boundary Wall	37	9.25
Cattle Shed	5	1.25
Total	400	100

Source: Census Survey, 2018

7.9 Impact of Common Property Resources

Census survey reveals that 253 CPRs will be affected by the proposed project. Out of 253 CPRs 36.36% are religious structure followed by 33.73% of government structure and the remaining 30.20% are community structure. It was noted during census survey that many households have a small shrine in front of their house or in their fields for worshipping as per their traditional beliefs. These shrines are called as “Dev Sthana” in local language. About 69 such shrines (Dev Sthan) will be impacted due to road widening. Relocation of these shrines were discussed with the affected households during survey. People agreed to relocate these shrines if compensation is paid for their reconstruction.

In case of schools, mostly the boundary wall of the schools will be impacted and there would not be much impact on the main building. The details of the affected CPRs are given in Table 7-6.

Table 7-6: Details of CPRs

Category	Properties	No.	Percentage
Religious	Temple	23	9.09
	Dev Sthan	69	27.27
Total Religious		92	36.36
Community	Chabutara	19	7.51
	Warehouse	1	0.40
	Drinking Water Tap	11	4.35
	Samudayik Bhawan	1	0.40
	Water tank (Cattle)	14	5.53
	Well	22	8.70
	Water Tank	11	4.35
Total Community		79	31.23
Government	Government School	13	5.14
	Private School	1	0.40
	Community School	1	0.40
	Ambedkar Hostel	1	0.40
	Anganwadi	1	0.40
	Police Chouki	1	0.40
	Gram Panchayat	3	1.19
	Other Government Structure	7	2.77
	Tehsil Office	1	0.40
	Sahkari Samiti	5	1.98
	Cotton Factory	1	0.40
	Power House	1	0.40
	Bus Stop	15	5.93

	Public Toilet	1	0.40
	Pond	6	2.37
	Hand Pump	22	8.70
	Government Water Tank	2	0.79
Total Government		82	32.41
Grand Total		253	100.00

Source: Census Survey, 2018

7.10 Ownership status of private structure

As per the information collected during census survey that total 88.5% structure are title holder and only 11.5% structure are non-title holder. It is recorded that all non-title holder are considered as a squatter. Detail of the ownership is alienated in Table 7-7.

Table 7-7: Categorization of ownership status

Ownership type	Number	Percentage
Titleholder	354	88.5
Non-title holder (Squatter)	46	11.5
Total	400	100

Source: Census Survey, 2018

7.11 Socio-Economic profile of the PAPs along the Project Road

The purpose of social impact assessment was to create a broad database of the affected properties as well as the project-affected persons (PAPs) in order to understand the social profile of the project-affected households. It helps to appraise the positive as well as negative impact on the affected families due to the proposed project. The socio-economic details of the affected households were collected during the survey, as explained in below sections.

7.12 Total Number of Project Affected Persons (PAPs along the project road)

Census and Socio-Economic survey has been carried out for all the affected households. Total 400 households are affected due to the proposed project. There are altogether 2508 persons (family members of affected households). As given in below table, out of the 2508 PAPs, 53.91% are male and 46.09% are female. The socio-economic profile of the affected households is analyzed and presented in the following sections.

Table 7-8: Number of PAPs along the Project Road

Sl. No.	Category	No of affected PAPs	Percentage
1	Male	1352	53.91
2	Female	1156	46.09
Total		2508	100

Source: Census Survey, 2018

7.13 Religious Category of PAHs along the Project Road

Majority of the PAHs belongs to Hindu population (81.75%) and 9.50% population Muslim category respectively. No information could be collected for about 8.75% of the affected households as reflected in Table 7.9.

Table 7-9: Religious Categories of PAHs along the Project Road

Sl. No.	Religious Group	No of affected PAHs	Percentage
1	Hindu	327	81.75
2	Muslim	38	9.5
3	No information	35	8.75
Total		400	100

Source: Census Survey, 2018

7.14 Social Stratification of PAHs

Out of the 400 PAFs, 247 belong to Other Backward Castes (OBC), 59 are General category, 54 are SC and no one was available during the survey to provide information for remaining 35 households. Only 5 ST households impacted due to the project. It was noted during the survey and the field visit that these ST households are not located at one location and have merged with mainstream population. The social category of the affected households is given in Table 7-10.

Table 7-10: Social Stratification of PAHs along the Project Road

Sl. No.	Social Category	No of PAHs	Percentage
1	General	59	14.75
2	OBC	247	61.75
3	SC	54	13.5
4	ST	5	1.25
5	No Information (Not available)	35	8.75
Total		400	100

Source: Census Survey, 2018

7.15 Vulnerable Groups

Vulnerable families constitute that portion of the population which is denied the opportunity to fully explore and utilize its abilities and thus enjoy a quality of life. These people are left behind in today's advancing economy and need special attention and care thus BPL, women headed household (WHH), schedule caste (SC), schedule tribes (ST) physical handicapped (Divyang) are considered in vulnerable groups.

There are 117 vulnerable families will be affected which includes 45.30% of SC category followed by 25.64% are Women Headed households, 22.22% of BPL and only 4.27% of ST and 2.56% of divyang. The Entitlement matrix for this project has specific provisions for vulnerable group and additional assistance will be provided to the households belonging to vulnerable category. The details of the vulnerable category are given in Table 7-11.

Table 7-11: Categorization of vulnerable category

Category	No.	Percentage
BPL	26	22.22

WHH	30	25.64
SC	53	45.30
ST	5	4.27
Divyang	3	2.56
Total	117	100.00

Source: Census Survey, 2018

7.16 Literacy Status of PAHs

The social development of a region is signified by many indices. One of which is literacy status of the population. The literacy rate (read, write and understand) in the affected households is around 66.75%. Among the literate households one-fourth (24.75%) has achieved primary level of education and secondary and senior secondary education is comprises 17.5%.

As per the information collected during the census survey, it is found that the educational level of the area reveals that overall scenario of education level is not encouraged among the surveyed HHs as significant percentage of population i.e. 2.00% and 1.50% have completed graduate and post graduate respectively. The details of the education of PAHs are given Table 7-12.

Table 7-12: Categorization of educational level of PAHs

Education Level	No.	Percentage
Illiterate	133	33.25
Literate	16	4
Primary	99	24.75
Upper Primary	33	8.25
Secondary	44	11
Senior Secondary	26	6.5
Graduate	8	2
Post Graduate	6	1.5
No Information	35	8.75
Total	400	100
Literacy Rate	66.75	

Source: Census Survey, 2018

7.17 Occupation pattern of the family along the Project Road

The occupation pattern shows that primary sector agriculture comprises a 53.00% of the total workers. This is followed by 24.25% of workers engaged in business and labour and service i.e., 5.75% and 4.75% of the total workers respectively and only 3.50% of the total

workers are self employed. Details of the occupation of the project affected families are given in (Table 7-13).

Table 7-13: Occupation Pattern

Sl. No.	Occupation	No.	Percentage
1	Service	19	4.75
2	Business	97	24.25
3	Agriculture	212	53.00
4	Labour	23	5.75
5	Self Employed	14	3.50
6	No Information	35	8.75
Total		400	100

Source: Census Survey, 2018

7.18 Income Level of the PAHs

The level of household income among the HHs within the RoW (Table7-14) illustrate that an overwhelming majority, 38%, have an income level between Rs.60001 and Rs. 120000 a year followed by 26.75% of HHs earning more than 120000 a year and 26.50% of HHs earning up to 60000 a year. The proposed improvement will considerably reduce the travel time between the locality and Ras, Beawar, Asind and Mandal. This will facilitate growth of more economic activities, access to better economic prospect outside the area and hence increase the income opportunities. Average annual household income of the affected population is given in Table 7-14.

Table 7-14: Annual Income of Affected household

Sl. No.	Category	No of affected household	%
1	Upto 60000 per annum	106	26.50
2	More than 60000 <120000 per annum	152	38.00
3	More than INR 120000 per annum	107	26.75
4	No Information	35	8.75
Total		400	100

Source: Census Survey, 2018

7.19 Conclusion

The census survey analysis of the project affected persons reveals their dependency on the project corridor. This dependency is either in the form of place for residence or for livelihood generation. Affected people shall be consulted at every stage of the project planning and implementation. Their worries and suggestions shall be taken into account and the negative impacts shall be mitigated.

CHAPTER - 8.: GENDER ANALYSIS

8.1 Introduction

Though the project study does not identify any particular direct adverse impacts to women under the project, however the project during implementation and the operation phases would identify any issues for being adopted to enhance the quality life of the women living along the project corridor.

8.2 Women's Participation in the Project

The gender composition of PAPs shows that the female and male ratio is having a huge difference. The gender ratio is 851 female per 1000 male person.

The Gender Development Index (GDI) value for India is very low and the socio-economic profile of the project area shows much lower socio-economic standing for women. They are largely involved in domestic, agricultural work and have very low economic participation rate (i.e. productive or gainful employment). In the project area, mostly women are housewives and they might face hardship, stress and continue to suffer during the transition period of the project. Often, the duration of this process is lengthened due to delays in payment of compensation, rehabilitation assistance and implementation of the R&R., reconstructing and placement of the livelihood systems. The longer the transition period, more are the sufferings to the women.

8.3 Women Headed Household

Female-headed households are considered a vulnerable group as per these SIA. The resettlement plan ensures that socio-economic conditions, needs and priorities of women in the affected area are identified and the process of land acquisition and resettlement does not disadvantage women. Focus groups discussions have been conducted with women along the project areas to address their specific women's issues. During disbursement of compensation and provision of assistance, priority will be given to female-headed households.

However, thirty (30) households are women headed along the proposed project area. The details of women headed households are given as an **Annexure 8-1**.

CHAPTER - 9.: RESETTLEMENT BUDGET

9.1 Introduction

Compensation for Land and RR

Land will be acquired in accordance with provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 and while determining the compensation for land, the competent authority will be guided by the provisions of Sec 26, Sec 27, Sec 28, Sec 29 and Sec 30 of RFCTLARR Act, 2013. The compensation includes, the multiplying factor of 1.25-2.00 times on the land value being the higher of the guideline value or average of higher 50% of sale deed rates for the preceding 3 years or any rates consented for PPP or private projects. In addition, 100% solatium will be added. Following are the criteria in assessing and determining the market value of the land: Higher of

- i) market value as per Indian Stamp Act, 1899 for the registration of sale deed or agreements to sell, in the area where land is situated; or
- ii) average sale price for similar type of land, situated in the nearest village or nearest vicinity area ascertained from the highest 50% of sale deeds of the preceding 3 years; or
- iii) Consented amount paid for PPPs or private companies.

The market value in Rural areas shall be multiplied by a factor as notified by GoR . Plus 100% solatium and 12% additional on basic market value from date of 3A notification to award. Title holders, whose land is severed, will have the option of surrendering the severed portion of the remaining unviable land

Agricultural land owners whose livelihood is primarily dependent on the agricultural land, who loses 1/3rd of annual family income due to the acquisition of the said agricultural land will be entitled for Rs.6,00,000/- as onetime payment in lieu of annuity policy.

The total RR estimated budget are Rs **234.38 Crores**

Table 9-1: Estimated Budget for Resettlement & Rehabilitation

A	Compensation for Land Acquisition				
	Particulars	Unit of Entitlement	Cost (in Rs)		
1	Basic Land Rate (average DLC) (In INR)	INR/Hectare	1280400		
2	Total Private Land (in Hectare.)	in Hectare	160.2075		
3	Basic Land Cost (In INR)	INR	205129683		
4	Land cost after applying multiplication Factor	1.5	307694525		
5	Solatium @100%	100%	307694525		
6	Additional Interest on land rate	12% per Annum	24615562		
	Total Land Cost		640004611		

	Total Land Cost (IV+V+VI)	INR	640004611			
B	Compensation for Private Structure					
	Particulars	Unit of Entitlement	Rate/Unit (in Rs)	No. of units	Cost (in Rs)	Remarks
6	Permanent Structure Lumpsum @800000	Residential/Commercial/Resi-cum-Commercial	800000	284	227200000	No.s Based on Census survey data
7	Semi-Permanent Structure Lumpsum @600000	Residential/Commercial/Resi-cum-Commercial	600000	45	27000000	
8	Temporary Structure @150000	Residential/Commercial/Resi-cum-Commercial	150000	29	4350000	
9	Permanent Structure Lumpsum @150000	Boundary wall/Cattle Shed	150000	33	4950000	
10	Semi-Permanent Structure Lumpsum @100000	Boundary wall/Cattle Shed	100000	9	900000	
11	Sub Total	-	-	-	264400000	
12	Solatium @100%	-	-	-	264400000	
	Total				528800000	
C	Resettlement and Rehabilitation for Loss of Land					
	Particulars	Unit of Entitlement	Rate/Unit (in Rs)	No. of units	Cost (in Rs)	Remarks
13	One time grant of Rs. 600,000 or annuity	Affected Family	6,00,000	1402	841200000	1402 are plots and have been considered for annuity
D	Resettlement and Rehabilitation of Loss of private structure for Title Holder					
	Particulars	Unit of Entitlement	Rate/Unit (in Rs)	No. of units	Cost (in Rs)	Remarks
14	Cattle Shed	Each Cattle	28000	5	140000	

		Shed				
15	Artisan or Self Employed	Each Artisan or Self Employed	28000	14	392000	
16	One time subsistence allowance	Each affected Family	40000	354	14160000	
17	One time Financial allowance	Each affected Family	60000	354	21240000	
18	Loss of Livelihood	Commercial Structure	28000	85	2380000	
	Total				38312000	
E	Resettlement and Rehabilitation of Loss of Residential/Commercial Structure to Non- Title Holder					
	Particulars	Unit of Entitlement	Rate/Unit (in Rs)	No. of units	Cost (in Rs)	Remarks
19	One time subsistence allowance	Each affected Family	40000	46	1840000	
20	One time Shifting/Transportation assistance	Each affected Family	60000	46	2760000	
21	Loss of Livelihood	Commercial Structure	28000	46	1288000	
	Total				588800	
F	Additional Support to vulnerable Groups					
	Particulars	Unit of Entitlement	Rate/Unit (in Rs)	No. of units	Cost (in Rs)	Remarks
22	One time subsistence allowance	BPL/WHH/SC/ST/Divyang	60000	117	7020000	
G	Religious/Community/Government Assets (Lumpsum)					
	Particulars	Unit of Entitlement	Rate/Unit (in Rs)	No. of units	Cost (in Rs)	Remarks
23	Temple Lumpsum @300000	-	400000	23	9200000	
24	Shrine (Devsthan) Lumpsum @100000	-	100000	69	6900000	
25	Chabutara Lumpsum @100000	-	100000	19	1900000	
26	Well/Handpump/Govt. Water tank @300000	-	300000	46	13800000	
27	Small water tank/Water tank (Cattle)/Water Tap @150000	-	150000	36	5400000	
28	Bus Stop/Other Structure/Public Toilet @200000	-	200000	23	4600000	

29	School/Panchayat house/Tehsil/Sahkari samiti/Anganwadi/Community center/Power house/factory/ware house@700000	-	700000	31	21700000	
30	Pond Lumpsum @1000000	-	100000	6	6000000	
	Total				69500000	
	Grand Total (In Rs.)(A+B+C+D+E+F+G)				2130724611	
H	10% contingencies				213072461	
	Grand Total (In Cr.)(A+B+C+D+E+F+G+H)				2343797072	

9.2 CONCLUSIONS

The initial social assessment report is a step towards preparation of the Social Impact Assessment and RAP. The initial assessment process as described in previous sections has primarily tried to focus on the relevant legislations, potential impacts due to the proposed project and to propose mitigation measures at different phases of the project. Based on the findings during the social assessment study some measures have to be considered from the project, which will reduce the detrimental effects of project appreciably.

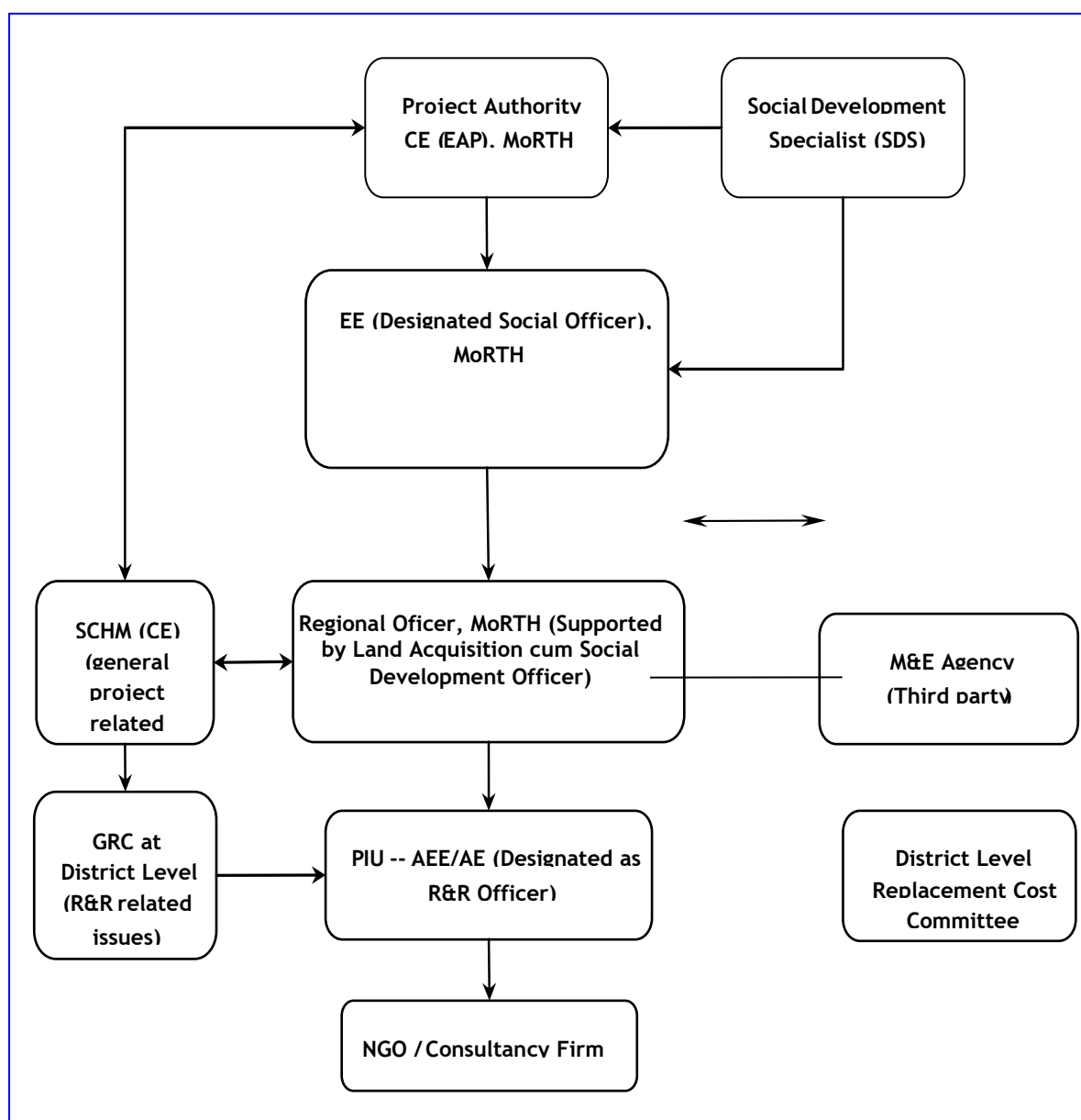
- Alternative alignments such as eccentric or concentric widening, realignment / bypass etc, shall be attempted in order to find a suitable alignment that would have minimum adverse impact on social aspects.
- The alignment for widening would be designed considering minimum land acquisition.
- The alignment widening would try to avoid schools, places of worships, public utilities and other common resources.
- An amicable solution with regard to shifting of religious structures (if required) shall be explored in consultation with community leaders, religious leaders and other prominent persons in the local area.
- It will be ensured that the likely affected common properties used by local people are suitably rehabilitated before the start of civil construction work and budgetary provision for the same shall be made in the project estimates.

With the above approach to design, construction and operation the project will be socially feasible.

CHAPTER - 10.: INSTITUTIONAL ARRANGEMENT FOR RAP IMPLEMENTATION

Institutional arrangements for the implementation of RAP have been made fixed by making it a part of the RPF. The Institutional Arrangements will be set up at three levels viz., MoRT&H (Central Govt.), State Level and Sub-Project Level on partnership model wherein concerned agencies at different levels supplement and complement each other efforts. The key elements of institutional arrangements are co-operation/ support, collaboration and sharing of responsibilities with clearly defined roles, involvement of key stakeholders and vertical and horizontal linkages amongst different agencies. The institutional arrangement is discussed below and depicted in Figure 10.1

Figure 10-1: Institutional Arrangement for RAP Implementation



10.1 Central Level

At Central Level, the Chief Engineer (EAP), MoRTH, Govt. of India will be overall responsible for the implementation of RAP. Chief Engineer (EAP) will have all delegated administrative and financial decisions with regard to implementation of the project as well as land acquisition and RAP implementation. It will include further augmenting the capacity of MoRTH with regard to resettlement and rehabilitation and management of other social issues. CE (EAP) will be assisted by a team comprising EE designated as Social Officer and a suitable number of technical and secretarial staff. MORTH also will engage a Social Development Specialist (SDS) either as individual consultant or through Project Management Consultant (PMC), to work with EAP and assist Social Officer. The EAP will be responsible for ensuring training, guidance, and recommendations for handling policy and implementation issues at the state and sub-project levels in compliance with RPF. The Social Development Specialist either individually or with PMC will provide policy and strategic assistance to EAP on social issues including land acquisition and rehabilitation and resettlement. The designated Social Officer will be specifically responsible for implementation of RAP. The Social Officer will ensure that all social safeguards issues are complied with as per the RPF. The roles and responsibilities of the SDS would broadly include the following:

Institutional arrangement at Central Level will include augmenting the capacity of MoRTH with regard to resettlement and rehabilitation. A team comprising Executive Engineer designated as Social Development Specialist (SDS) and a suitable number of Technical and Secretarial Staff will assist CE (EAP). The designated SDS will be directly involved in the implementation of RAP. The SDS will ensure that all resettlement and rehabilitation issues are complied with as per the RPF. The roles and responsibilities of the SDS would broadly include the following:

- Ensure preparation and disclosure of SIA, RAP and Land Acquisition Plan for sub projects as per RPF.
- Ensure adequate staffing at state and sub project level to ensure timely implementation of RAP.
- Guide and supervise in matters related to resettlement and rehabilitation to state and sub-project level offices.
- Compile data related to resettlement and rehabilitation activities received from field offices and update Chief Engineer (CE) and suggest suitable measures to be taken.
- Interact with implementation agencies at state and sub-project level on a regular basis.
- Undertake field visits as and when required.
- Facilitate necessary help needed at site with regard to LA and R&R issues.
- Co-ordinate with state government department in matters related to implementation of R&R.
- Ensure budgetary provision for resettlement and rehabilitation of PAPs and relocation, rehabilitation and reconstruction of common property resources (CPRs).
- Ensure timely release of budget for implementation of RAP.
- Monitor implementation of RAP carried out by the agency through RRO at subproject level.
- Perform other roles and responsibilities related to implementation of RAP as assigned by the CE (EAP) from time to time.
- Ensure free, prior and informed consultation with vulnerable groups along the project and also ensure that sufficient supporting documentation is maintained.
- Ensure third party audit of RAP implementation.

10.2 State Level

At State Level, a Land Acquisition cum Social Development Officer will be appointed in the Project Coordination Unit (PCU) headed by Nodal officer. Additional sociologist as individual consultant will also be engaged to assist LA cum SDO in states as required, particularly in states with larger share of sub projects in Rajasthan. The roles and responsibilities of the LA cum SDO would broadly include the following:

- Facilitate preparation and implementation of land acquisition and RAP in compliance with RPF,
- Ensure consultation and stakeholder participation in finalization of RAP,
- Guide and supervise RAP implementation at sub-project level,
- Interact with RAP implementation support agencies and undertake field visits for first-hand information,
- Guide and supervise the RAP implementing agency to roll out HIV prevention activities,
- Compile data on LA progress and RAP implementation activities received from field offices and update EAP, MoRTH and suggest suitable measures to be taken,
- Co-ordinate with various government departments in matters related to implementation of RAP,
- Check implementation of RAP carried out by the agency from time to time by undertaking site visits and consultations with PAPs,
- Perform other roles and responsibilities related to implementation of RAP as assigned by the EAP, MoRTH from time to time,
- Facilitate and cooperate in Third party Audit of RAP implementation.
- Ensure a well-functioning GRM including “confidential” handling of complaints relating to Gender Based Violence.

10.3 Sub-Project Level

A Project Implementation Unit (PIU) comprising officials of State PWD will be constituted at sub- project level and headed by the Superintending Engineer/ Executive Engineer who will be designated as Project Director. The PIU will be responsible for the project execution including RAP implementation. There will be a designated or appointed Resettlement & Rehabilitation Officer (RRO) at respective PIUs who will be responsible only for the implementation of RAP at site. Additional sociologist as individual consultant will also be engaged to assist RRO as required. RRO will assist Project Director at PIU in all matters related to resettlement and rehabilitation. The roles and responsibilities of the Resettlement and Rehabilitation Officer are as under:

- Ensure RAP implementation with assistance from implementation agency as per the time line agreed upon.
- Interact with RAP implementation agency on a regular basis.
- Undertake field visits with implementation agency from time to time.
- Co-ordinate with district administration and other departments in matters related to implementation of R&R.
- Facilitate necessary help needed at site with regard to LA and R&R, HIV issues to implementation agency.
- Ensure distribution of Resettlement and Rehabilitation Policy and entitlement matrix for the project to PAPs.
- Ensure preparation and distribution of photo identity cards.

- Ensure and attend meetings organised by implementation agency on thematic areas related to resettlement and rehabilitation policy and entitlements and awareness generation including aspects relating to GBV.
- Ensure inclusion of PAPs who could not be enumerated during census but have documentary evidence to be included in the list of PAPs.
- Ensure preparation of identity cards, and approval from the PCU and distribution of the same to PAPs.
- Ensure timely preparation of micro-plan from RAP implementation agency and approval from PCU.
- Ensure disbursement of resettlement and rehabilitation assistance in a transparent manner.
- Participate in meetings related to resettlement and rehabilitation issues.
- Facilitate in opening of joint account of PAPs.
- Ensure release of compensation and assistance before taking over the possession of land for start of construction work.
- Ensure relocation, rehabilitation and reconstruction of CPRs before dismantling through proper mechanism.
- Ensure development of resettlement sites, where required.
- Attend and participate in Grievance Redress Committee meetings for redressal of grievances of PAPs and other committees involving R&R matters,
- Liaison with government and other agencies for inclusion of PAPs in employment and income generation programme/scheme.
- Ensure that tribal families get equal opportunity to participate during implementation and become overall beneficiaries in the project.
- Prepare monthly progress report related to physical and financial progress of implementation of RAP and submit to PCU.
- Provide all necessary information and data related to R&R on monthly basis to designated Social Officer at Central Level through Project Director.
- Carry out any other work related to resettlement and rehabilitation that may be entrusted from time to time by the PCU for compliance of R&R.

Besides, other institutional arrangements required for the implementation of RAP include engagement of RAP IA for the implementation of RAP, formation of District level committee to fix the replacement cost of affected properties, Grievance redressal mechanism, Suggestion and Complaint handling mechanism, engagement of monitoring and evaluation agency, etc. Roles and responsibilities of each agency are discussed below.

10.4 RAP Implementation Support Agency

The Project Authority [CE(EAP), MoRTH: To implement RAP for each of the sub-project, will engage the services of **NGOs/Consultancy firms** having experience in resettlement and rehabilitation issues. Broad roles and responsibilities of implementation agency would be as:

- The RAP implementation agency will be the main link between the Project Authority and PAPs,
- Shall be responsible for verification of PAPs as prepared by the DPR consultants,
- Undertake public information campaign along with RRO at the commencement of the RAP,
- Develop rapport with PAPs,

- Distribute pamphlets of R&R Policy including Entitlement Matrix to PAPs, Panchayat Raj Institutions, and concerned Govt. Offices in the project area, etc.
- Include PAPs who could not be enumerated during census cum socio-economic survey and certification from R&R Officer,
- Distribute identity cards for PAPs,
- Prepare and submit micro-plan to RRO for approval from PCU,
- Organize consultations at regular interval with PAPs with regard to resettlement and rehabilitation,
- Organize training program for skill up gradation of the PAPs,
- Assist PAPs in all matters related to compensation and R&R,
- Assist and facilitate aggrieved PAPs (for compensation and assistance) by bringing their cases to GRC,
- Facilitate in opening of joint account of PAPs,
- Generate awareness about the alternative economic livelihood and enable PAPs to make informed choice,
- Consultations with PAPs regarding the choice of resettlement (i.e. self or assisted), development of resettlement site, participation of women, etc.
- Identify training needs of PAPs for income generation and institutions for imparting training,
- Undertake outreach activities for HIV prevention for awareness and behaviour change as per RAP,
- Hold consultations with local people and Panchayat Raj Institutions with regard to relocation, rehabilitation, reconstruction of affected CPRs as well as provision of new facilities under the project,
- Participate in various meetings relating to RAP preparation and implementation,
- Submit monthly progress report, and
- Undertake any other activities that may be required for the implementation of RAP, etc.

10.5 Replacement Cost Committee at District Level

A committee at district level will be constituted to fix the replacement cost of land in case of lands acquired through Direct Purchase method or Land lease, structures and other properties (trees, crops and other assets, tube well, hand pump, etc). The committee may be chaired by the District Collector/ Dy. Commissioner or his designated representative (not below the rank of SDM), Project Director-cum-Executive Engineer of the concerned PIU, District Agriculture Officer, Range Officer (Forest Department, if required), an independent certified valuer, Executive Engineer of the concerned District, elected representative (MLA) of the concerned area and Team Leader of RAP implementation agency.

The highest value of land obtained by the three methods mentioned in Section 26 and Schedule 1 of RFCTLARR will be presented by the Project Authority and approved by the committee as the replacement cost. Similarly, latest schedule of rates of the concerned districts shall be used for obtaining replacement cost of structures. For items not available in the schedule of rates, for those items market rates shall be collected from three different sources and then replacement cost shall be fixed by the committee. For replacement costs of crops, trees and other such items similar methods will be followed.

For titleholders the difference of replacement amount and the compensation paid by the Competent Authority (CA) as per the NH Act shall be paid by the Project Authority to the

entitled persons as assistance. The differential amount will be included in the micro plan to be prepared by the RAP IA.

The committee will be constituted through an executive order and or other suitable instrument within one month (30 days) from the date of mobilization of RAP implementation agency at site.

10.6 Mechanism for Implementation of RAP, Training and Capacity Building – at Project and Sub-project Level

Training and development of project staff is an integral part for implementing GNHCP. A training needs identification shall be carried out at Central, Regional and Site level, based on which focused training modules will be developed in the first six months of project implementation;

- Strengthening in house capacity to implement the provisions of RPF/RAP,
- Creating Awareness, providing the tools for implementation of RAP, and accompanying set of management procedures to all departments,
- Developing competence within key officials to provide training in their respective level.

Based on skill requirement/improvement at all levels for proper implementation of RPF, a training programme focusing project implementing partners at Centre, State and field PIUs has been developed which will be implemented by the Project Authority (MoRTH) in the next two years. These training programs, which will be zeroed down after a quick training needs assessment, are to be conducted with the help of local and national training institutions and experts in various aspects of social management. MoRTH will also identify courses offered by the premier institutions in India and abroad on social management and inter-phase these with identified programme. There is a provision for separate budget for this activity. The budget reported under “institutional” head includes the cost estimates of training programs discussed above.

CHAPTER - 11.: GRIEVANCE REDRESSAL MECHANISM

The Resettlement Policy Framework (RPF) mandates formation of Grievance Redressal Mechanism in order to resolve disputes in an effective manner and at the door steps of the PAPs. Compensation and assistance as per eligibility is provided in the entitlement matrix of the approved RPF. Grievance of PAPs will be brought to the grievance redress committee for redressal. The decision of the GRC will be binding, unless vacated by court of law.

11.1 Grievance Redressal Committee (GRC)

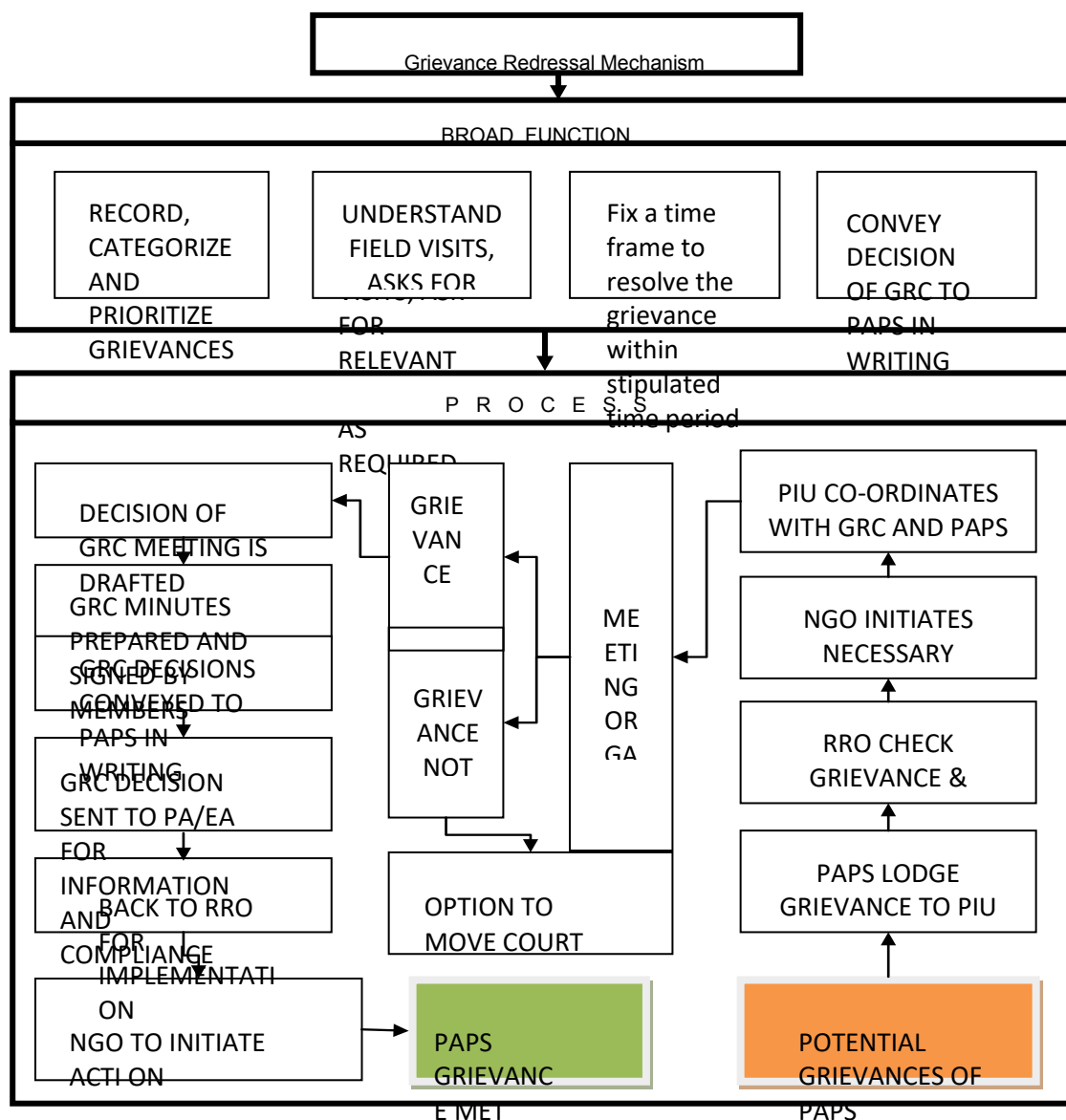
The GRC will be constituted by the Project Authority with the aim to settle as many disputes as possible on LA and R&R through consultations and negotiations. There will be one GRC for each PIU. The GRC will comprise six members headed by a retired Revenue Officer/Social Welfare Officer not below Group I officer rank. Other members of the GRC will include the concerned Project Director-cum-Executive, a retired PWD Officer (not below the rank of Executive Engineer), RRO, representative of PAPs and Sarpanch (Elected Head of Village) of the concerned village.

Grievances of PAPs in writing will be brought to GRC for redressal by the RAP implementation agency. The RAP implementation agency will provide all necessary help to PAPs in presenting his/her case before the GRC. The GRC will respond to the grievance within 15 days. The GRC will normally meet once in a month but may meet more frequently, if the situation so demands. A time period of 45 days will be available for redressing the grievance of PAPs. The decision of the GRC will not be binding to PAPs. ***The decision of the Grievance Committees will not be binding on the DPs and they will have the option of taking recourse to court of law, if he/she so desires at his or her own expense.*** Broad functions of GRC are as under:

- Record the grievances of PAPs, categorize and prioritize them and provide solution to their grievances related to resettlement and rehabilitation assistance.
- The GRC may undertake site visit, ask for relevant information from Project Authority and other government and non-government agencies, etc, in order to resolve the grievances of PAPs. □ Fix a time frame within the stipulated time period of 45 days for resolving the grievance.
- Inform PAPs through implementation agency about the status of their case and their decision to PAPs and Project Authority for compliance.
- ***In case of grievances/complaints relating to GBV, ensure confidentiality and appropriate referral to mapped service providers***

The GRC will be constituted within 3 months by an executive order from competent authority (centre/ state) from the date of mobilization of RAP implementation agency. The RRO will persuade the matter with assistance from implementation agency in identifying the suitable persons from the nearby area for the constitution of GRC. Secretarial assistance will be provided by the PIU as and when required.

Figure 11-1: Grievance Redressal Mechanism



PAPs will be fully made aware about the GRM for effective, inexpensive and amicable settlement of claims for compensation and assistance by holding meetings with PAPs, public meetings and distributing leaflets containing salient features and procedures of GRM. The RAP IA will assist the PAPs in getting their record of rights updated in case of disputes related to land. The RRO with support from RAP IA will make all possible efforts for amicable settlement. The RAP IA will document all cases brought to GRC and maintain the records of the proceedings of the grievance redressal committee meetings.

11.2 Suggestion and Complaint Handling Mechanism (SCHM)

The MoRTH recognizes the importance of this and hence intends to establish a SCHM for the GNHCP. The communication channels to report project related complaints/concerns will be disclosed at all levels of institutions—MoRTH, State and Sub-project levels.

Though the Right to Information Act, 2005 an Act of the Parliament of India provides for setting out the practical regime of right to information for citizens. The Act applies to all States and Union Territories of India except the State of Jammu and Kashmir. Under the provisions of the Act, any citizen may request information from a "public authority" (a body of Government or "instrumentality of State") which is required to reply expeditiously or within thirty days. The Act also requires every public authority to computerize their records for wide dissemination and to proactively publish certain categories of information so that the citizens need minimum recourse to request for information formally. In other words, under the act, citizens have right to seek information from concerned agencies by following the set procedures. However, it is quite likely that many people may not use the provisions of this Act, only in limited cases covering serious concerns. Being an inter-state project involving several states and large scale of civil works along with R&R and Environment issues, the project is likely to receive many suggestions, complaints, inquiries, etc through the project implementation period. Therefore, MoRTH has agreed to establish SCHM as a good practice to address public concerns pertaining to various issues. SCHM will report all project related LA and R&R of the PAPs for redressal through the concerned PIU or GRC as appropriate. Several communication channels viz., toll free phone number, dedicated email, mechanism for on line submission of suggestions/complaints/inquiries, provision of suggestion/complaint box (at site and project office), post and other suitable means shall be set up for suggestion and complaint handling.

11.3 Training and Capacity Building – at Project and Sub-project Level

Training and development of project staff is an integral part of project implementation. A training needs identification shall be carried out at Corporate, Regional and Site level, based on which focused training modules will be developed in the first six months of project implementation;

- Strengthening in house capacity to implement the provisions of RAP,
- Creating awareness, providing the tools for implementation of RAP, strategy and accompanying set of management procedures to all departments,
- Developing competence of key officials to provide training at respective level.

Based on skill requirement/improvement at all levels for proper implementation of RAP, a training programme focusing project implementing partners at Centre, State and field PIU has been developed (Annexure-12) which will be implemented by the PMU, MoRTH in the next two years. These training programs, which will be zeroed down after a quick training needs assessment, are to be conducted with the help of local and national training institutions and experts in various aspects of social management. MoRTH will also identify courses offered by the premier institutions in India and abroad on social management and inter-phase with identified programme. Provision for separate budget has been made for this activity. The budget reported under "institutional" head includes the cost estimates of training programs discussed above.

11.4 Monitoring and Evaluation (M&E) at Project and Sub-project Level

38. The Resettlement Action Plan will contain indicators and benchmarks for achievement of the objectives under the resettlement programme. These indicators and benchmarks will be of three kinds: i) Proposed indicators, indicating project inputs, expenditures, staff deployment, etc. ii) Output indicators, indicating results in terms of numbers of affected persons compensated and resettled, training held, credit disbursed, etc, iii) Impact indicators, related to the longer-term effect of the project on people's lives.

The benchmarks and indicators will be limited in number and combine quantitative and qualitative types of data. Some of these indicators may include, percentage of PAPs actually paid compensation before any loss of assets; percentage of PAPs whose incomes after resettlement are better than, or at least same as before resettlement; percentage of assets valued at replacement cost compensation; percentage grievances resolved; and/or percentage of cases to court. The first two types of indicators, related to process and immediate outputs and results, will be monitored to inform project management about progress and results, and to adjust the work programme where necessary if delays or problems arise. The results of this monitoring will be summarized in reports which will be submitted to the World Bank on a regular basis. Provision will be made for participatory monitoring involving the project affected persons and beneficiaries of the resettlement programme in assessing results and impacts. The Project Authority will engage services of an external agency (third party), which will undertake independent concurrent evaluations at least twice a year during the project implementation period. At the end of the project, an impact evaluation will be carried out as part of the project completion report. Such independent evaluation will focus on assessing whether the overall objectives of the project have been met and will use the defined impact indicators as a basis for evaluation. Specifically, the evaluation will assess: (i) The level of success (including the constraints and barriers) in land acquisition programme, resettlement plan, and income recovery of the PAPs after they have been displaced from the project affected area, and, (ii) the types of complaints/ grievances and the success of the handling of grievance and public complaints towards the construction of project's infra-structures, means of redress for assets and lands and the amount of compensation, resettlement, and other forms of complaints.

Summarizing, M&E would be carried out for regular assessment of both process followed and progress of the RAP implementation. The internal monitoring will be carried out by the State PCU by the LA cum SDO with assistance from NGO/Consultancy firm and a quarterly report will be submitted to MoRTH. Each quarterly report would also be uploaded on the MoRTH website. The external agency (third party) however, would conduct assessment annually for each sub-project by undertaking field visits and all other necessary activities including consultations. The annual reports would cover detailed information on process and progress of RAP implementation. The report would highlight issues, if any that need attention of the Project Authority and suggest corrective measures that may be followed for better implementation of RAP.

CHAPTER - 12.: IMPLEMENTATION SCHEDULE

12.1 Coordination with civil works and certification

Implementation of RAP will include land acquisition, and resettlement and rehabilitation (R&R) activities. The implementation process will cover (i) identification of cut-off date and notification; (ii) verification of properties of PAPs and estimation of their type and level of losses and distribution of identity cards; (iii) preparation of PAPs for relocation through consultation, however, the process of consultation will continue throughout the RAP implementation and (iv) relocation and resettlement of the PAPs.

Implementation schedule should be revised, post-finalization of entitlements, compensation packages and the budget. This should depend on the magnitude of work to be undertaken as part of RAP implementation. PAPs should be given sufficient notice period to vacate their property before civil works begins. No civil works should begin until all PAPs receive the approved compensation package. Civil works should therefore be linked with the completion of land acquisition. In this case, all land transfers from Government have to be completed. Depending on the ownership, PIU should coordinate the DC's office and the Revenue Department. A draft Implementation Schedule is given in Table 12.1, subject to change after revalidation of RAP.

It is assumed that implementation will take minimum 36 months to hand over land for civil works. Training for income restoration, if proposed, however shall continue for another month, estimating a total period for RAP implementation

Table 12-1: Implementation Schedule of Resettlement Plan

Activities	2019												2020												2021												2022
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Project Preparation Stage																																					
Screening project impact																																					
Public Consultation on alignment																																					
Updating the affected family information																																					
Initiation of the implementation of the RP activities																																					
RP Implementation Stage																																					
Obtain RP approval from MORTH																																					
Disclosure of RP																																					
Hiring NGO for RP Implementation																																					
Formation of GRC (Grievance Mechanism)																																					
Implementation of GRC																																					

Activities	2019												2020												2021												2022	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	
Public Consultation																																						
Co-ordination with district authority for LA																																						
Submission of LA proposals to DC																																						
Declaration of cut-off date (LA notification)																																						
Payment of compensation																																						
Taking procession of acquired land																																						
Handling over the acquired land to contractor																																						
Notify the date of construction start to DPs																																						
Income Restoration Program																																						
Awareness Training																																						
Rehabilitation of DPs																																						
Monitoring and Reporting Period																																						

Activities	2019												2020												2021												2022
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Internal monitoring and reporting																																					
Hiring Construction Supervision Consultant																																					
External monitoring and reporting																																					

CHAPTER - 13.: MONITORING & EVALUATION (M & E)

Monitoring and evaluation are important activities of infrastructure development project particularly, those involving involuntary resettlement. It helps making suitable changes, if required during the course of implementation of RAP and also to resolve problems faced by the PAPs. Monitoring is periodical checking of planned activities and provides midway inputs, facilitates changes, if necessary and provides feedback to project authority for better management of the project activities. Evaluation on the other hand assesses the resettlement effectiveness, impact and sustainability of R&R activities. In other words, evaluation is an activity aimed at assessing whether the activities have actually achieved their intended goals and purposes. Thus monitoring and evaluation of resettlement action plan implementation are critical in order to measure the project performance and fulfillment of project objectives.

The monitoring and evaluation of RAP implementation will ensure monitoring of key indicators on inputs, outputs, project processes and evaluation of impact indicators. The overall purpose of the monitoring is to keep track of the implementation processes and progress, achievement of performance targets fixed in the annual work plans, learning lessons and taking corrective actions to deal with emerging constraints and issues. Monitoring and evaluation will constitute the following:

- Implementation progress (physical and financial aspects), monitoring of inputs, and outputs;
- Process documentation (case studies and lessons learnt);
- Impact evaluation based on sample survey and consultations; and
- Thematic studies.

13.1 Institutional Arrangement for M & E

The Resettlement Policy Framework (RPF) stipulates hiring services of an external agency (third party) for monitoring and evaluation of RAP implementation. This means the project authority through an external agency will carry out monitoring and evaluation from the subsequent month of the mobilization of RAP IA at project site. Internal monitoring will be carried out by the Social Officer of Project Coordination Unit (PCU) with assistance from R&R officer and RAP IA whereas external monitoring and evaluation will be carried by the third party engaged for the purpose. This will help monitor project activities closely. Regular monitoring by undertaking site visits and consultations with PAPs will help identify potential difficulties and problems faced in the implementation and accordingly help take timely corrective measures including deviations, if needed.

Components of monitoring will include performance monitoring i.e., physical progress of the work and impact monitoring and external evaluation. Indicative indicators to be monitored related to performance are provided in the following sections. In case during the project implementation, if some other indicators are found relevant they will also be considered for monitoring.

13.2 Monitoring and Evaluation (M&E) at Project and Sub-project Level

The Resettlement Action Plan contains indicators and benchmarks for achievement of the objectives under the resettlement programme. These indicators and benchmarks will be of three kinds:

- 1) Proposed indicators, indicating project inputs, expenditures, staff deployment, etc.
- 2) Output indicators, indicating results in terms of numbers of affected People compensated and resettled, training held, credit disbursed, etc,

3) Impact indicators, related to the longer-term effect of the project on People's lives.

The benchmarks and indicators will be limited in number, and combine quantitative and qualitative types of data. Some of these indicators may include, percentage of PAPs actually paid compensation before any loss of assets; percentage of PAPs whose incomes after resettlement are better than, or at least same as before resettlement; percentage of assets valued at replacement cost compensation; percentage grievances resolved; and/or percentage of cases to court. The first two types of indicators, related to process and immediate outputs and results, will be monitored to inform project management about progress and results, and to adjust the work programme where necessary if delays or problems arise. The results of this monitoring will be summarized in reports which will be submitted to the World Bank on a regular basis. Provision will be made for participatory monitoring involving the project affected people and beneficiaries of the resettlement programme in assessing results and impacts. The Project Authority will engage services of an external agency (third party), which will undertake independent concurrent evaluations at least twice a year during the project implementation period. At the end of the project an impact evaluation will be carried out as part of the project completion report. Such independent evaluation will focus on assessing whether the overall objectives of the project are being met and will use the defined impact indicators as a basis for evaluation. Specifically, the evaluation will assess: (i) The level of success (including the constraints and barriers) in land acquisition programme, resettlement plan, and income recovery of the PAPs after they have been displaced from the project affected area, and, (ii) the types of complaints/ grievances and the success of the handling of grievance and public complaints towards the construction of project's infra-structures, means of redress for assets and lands and the amount of compensation, resettlement, and other forms of complaints.

Summarizing, M&E would be carried out for regular assessment of both the process followed and progress of the RAP implementation. The internal monitoring will be carried out by the State PCU by the Land Acquisition cum Social Development Officer with assistance from RAP Implementation Support Agency and a quarterly report will be submitted to MoRTH. Each quarterly report would also be uploaded on the MoRTH website. The external agency (third party) however, would conduct assessment six monthly for each sub-project by undertaking field visits and all other necessary activities including consultations. The six monthly reports would cover detailed information on process and progress of RAP implementation. The report would highlight issues, if any that need attention of the Project Authority and suggest corrective measures that may be followed for better implementation of RAP.

13.3 Process & Performance Monitoring

Process monitoring would enable the project authority to assess whether the due process are being followed or not, whereas performance monitoring would mainly relate to achievement in measurable terms against the set targets. Monitoring report will also provide necessary guidance and inputs for any changes, if required during the course of the implementation. A list of indicators is given in Table 13.1.

Table 13-1: Performance Monitoring for RAP Implementation

Sr. No.	Indicators	Target	Status	Achievement (in %)	Remarks
1	Land acquisition (Private)				
	Notification published u/s 3D				
	Award declared u/s for				
	Land area (ha)				

Sr. No.	Indicators	Target	Status	Achievement (in %)	Remarks
	Land owners (No.)				
	Compensation disbursed by Competent Authority to land owners (No.)				
	Govt. land transfer (ha)				
2	Verification of identified PAPs completed (No.)				
3	New PAPs added, if any (who could not be enumerated at the time of survey)				
4	Consultations held with regard to RAP (dissemination of information, awareness generation, entitlements, HIV/ AIDS, SCHM, etc) – No.				
5	Leaflets, containing salient features of RAP, hand bills, fliers and other awareness materials distributed (No.)				
6	Measurement of structures likely to be affected completed (No.)				
7	Date of formation of DLC				
8	Meetings held by DLC for fixing the replacement cost (No.)				
9	Valuation of affected properties completed (No.)				
10	Micro plan submitted for THs for approval (No.)				
11	Identity cum entitlement card issued to PAPs (No.)				
12	Consultations held with local community regarding relocation or rehabilitation of CPRs (No.)				
13	Estimate submitted for relocation/ rehabilitation of CPRs for approval				
14	Agency to carryout relocation/ rehabilitation of CPRs as agreed by the project authority				
15	R&R assistances disbursed to PAPs (THs – No.				
16	PAPs re-established their shops/ business (No.)				
17	PAPs covered under income generation schemes (No.)				
18	PAPs provided training for alternate livelihood (No.)				
19	CPRs relocated/ rehabilitated (No.)				
20	Grievance/ complaints brought to GRC for redressal (No.)				
21	GRC meeting held and cases resolved (No.)				
22	Various channels of SCHM used by category (No.)				

Sr. No.	Indicators	Target	Status	Achievement (in %)	Remarks
23	Consultation meetings held by LA cum SDO of Project Coordination Unit (PCU) (No.)				

13.4 Evaluation

The external agency engaged by the Project Authority shall carry out the evaluation at two stages viz., mid-term and after the completion of RAP implementation. The evaluation will be carried out under a set term of reference. The evaluation study would involve both quantitative and qualitative surveys and compare results before and after the implementation of the project. It will focus on assessing whether the overall objectives of the project are being met and will use the defined impact indicators as a basis for evaluation. The evaluation study would undertake the following but not limited to:

- Review monthly progress report submitted by RAP Implementation Agency (RAP IA);
- Undertake consultations with PAPs in order to assess their point of view with regard to overall process;
- Intensity and effectiveness of information dissemination with regard to RAP implementation covering eligibility of different categories of PAPs, frequency of interactions by RAP IA personnel with PAPs, deployment of RAP IA staff, quality of rapport maintained by RAP IA personnel with PAPs, capability of RAP IA personnel, behavior of RAP IA staff, availability of RAP IA staff, level of satisfaction as regards the work of RAP IA, etc;
- Collect information about distribution of awareness generation materials, entitlements, distribution of identity cum entitlement card, adequacy of dissemination of information, consultations meetings with regard to policy and eligibility for entitlement, alternatives and relocation related issues, measurement and valuation of affected properties, understanding and use of grievance procedure, disbursement of assistance, and other R&R related issues, compliance of resettlement policy, etc;
- Conduct sample survey (25% of PAPs) for making comparative analysis substantiated by qualitative surveys and case studies, etc.

It may be noted that one of the key objectives of the project is improvement or at least restoration of economic status of the PAPs to the pre project level. An illustrative list of indicators is given in Table 13.2, which would be measured against the baseline data collected for the preparation of RAP. The M&E agency would finally select the indicators for the evaluation of the project depending upon the progress of R&R activities.

Table 13-2: Impact Indicators

Sr. No.	Indicator	Unit	Before Project Implementation	During/after RAP Implementation
1	Monthly income of family/household			
2	Consumer durables/material Assets owned			
3	Ownership of Transport and farm implements owned			

Sr. No.	Indicator	Unit	Before Project Implementation	During/after RAP Implementation
4	Occupation of head of Household and other members			
5	Type of dwelling units			
6	Number of Earning members/households			
7	Family under debt			
8	Size of loan			
9	Households purchased loans			
10	Households with various sizes of land			
11	Ownership/tenancy of dwelling units (owner, encroacher, squatter)			
12	Access to water and sanitation facilities			
13	Access to modern sources of lighting and cooking			
14	Animal and poultry birds owned			
15	Migration for employment			

13.5 Reporting

Monthly Progress Reports on the progress of RAP implementation including mobilization of staff members, opening of site offices, etc of the project would be prepared by RAP IA and submitted to the R&R Officer at sub-project level.

Quarterly Monitoring Reports shall be compiled by the LA cum SDO of Project Coordination Unit (PCU) and submitted to MoRTH for review and onward submission to World Bank

Six monthly reports shall be prepared by the M&E agency by undertaking site visits and review of progress report, consultations, etc.

Evaluation Report shall be prepared by the M&E agency at the end of the project implementation as part of the project completion report.