

Chapter 9B

Social Impact Assessment, Rehabilitation And Resettlement, Land Acquisition Procedure

9B.1	Introduction	9B-1
9B.2	Socio-Economic Profile of the JPMIA Area	9B-1
9B.3	Baseline Profile of JPM IA Villages.....	9B-5
9B.4	Preliminary assessment of Impacts in the proposed JPM IA	9B-11
9B.5	Affected Vulnerable Population	9B-13
9B.6	Inventory of losses to Households.....	9B-14
9B.7	Losses to the Community	9B-14
9B.8	Public consultation for dissemination of information	9B-14
9B.9	Implementation of Resettlement and Rehabilitation Strategy	9B-16

9B.1 Introduction

This section of the report presents the initial social impact assessment and the social management plan for the Jodhpur –PaliMarwar Industrial Area (JPMIA). The delineated JPMIA covers an area of 154.37 km² spread over 9 villages in Rohat Tehsil of Pali district. The JPMIA primarily covers 9 villages in the western portion of Rohat Tehsil of Pali district adjoining Jodhpur district. However, the actual developable area under JPM IA would be approximately 58.99sqkms excluding land falling under existing abadi areas, Seasonal Watercourse / Drainage Corridor and other peripheral control area.

As the proposed project will affect 9 villages, the agricultural land, houses and common property assets will all get affected. However, there will be limited physical rehabilitation and resettlement taking place as the abadi areas has been integrated in the planning stage. Only the farm lands will be acquired, which will cause economic loss for the project affected population. To counter these issues, which generally emerges during the land acquisition process, as per the new land acquisition act, it is mandatory to conduct a social impact assessment study of the affected people with representation of Gram Sabha members and present it to the expert committee, to address all the impacts due to such acquisitions, so that a fair and transparent land acquisition process can take place. Social impact study will have to take into account all the disturbances and losses and their effect on project affected population.

9B.2 Socio-Economic Profile of the JPM IA Area

The proposed project will comprise of land from 9 villages falling in Rohat Tehsil. The details of the villages have been presented in **Table 9B-1** and **Figure 9B-1**

Table 9B-1: Details of Villages falling in JPMIA

Sl. No.	Name of the village	Area (Ha)	Total Households	Total Population
1	Dungarpur	1,902.0	326	1917
2	Singari	2,049.0	328	1689
3	Dhundhli	761.0	128	678
4	Doodali	1,653.0	247	1,402
5	NimbliPatelan	1,386.0	218	1,318
6	NimbliBrahmnan	1,353.0	210	1076
7	Danasani	693.0	95	572
8	Rohat	5,636.0	1294	6,980
9	Dalpatgarh (part of Rohat in 2001)	na	129	734
Total		154.33	2975	16,366

Source: Census of India, 2011

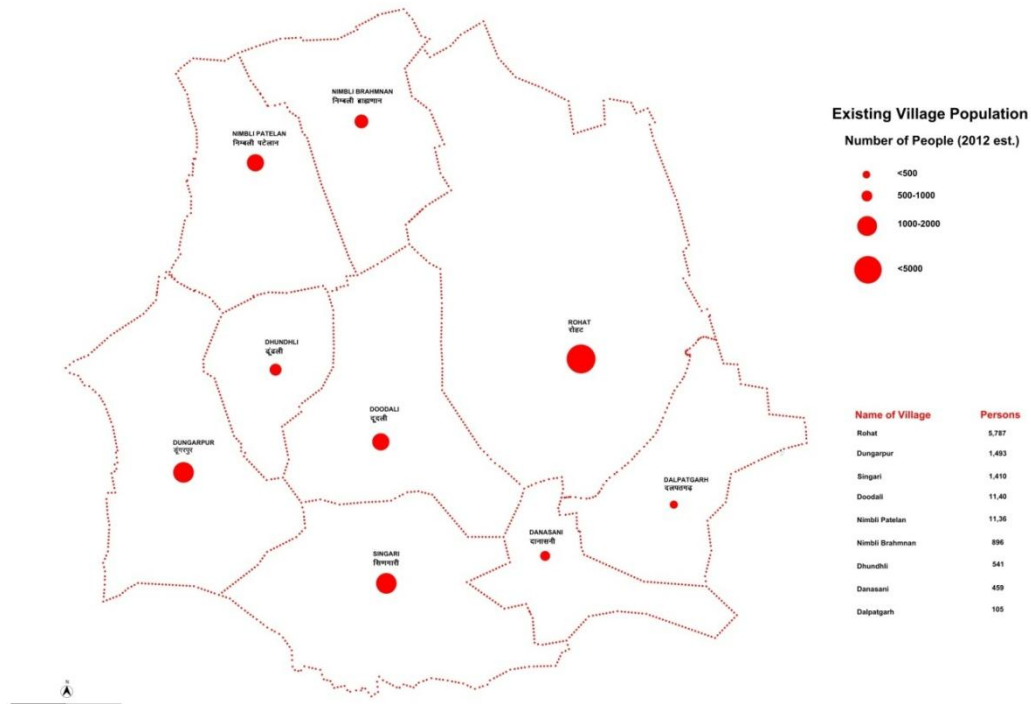


Figure 9B-1: Villages covered under JPMIA

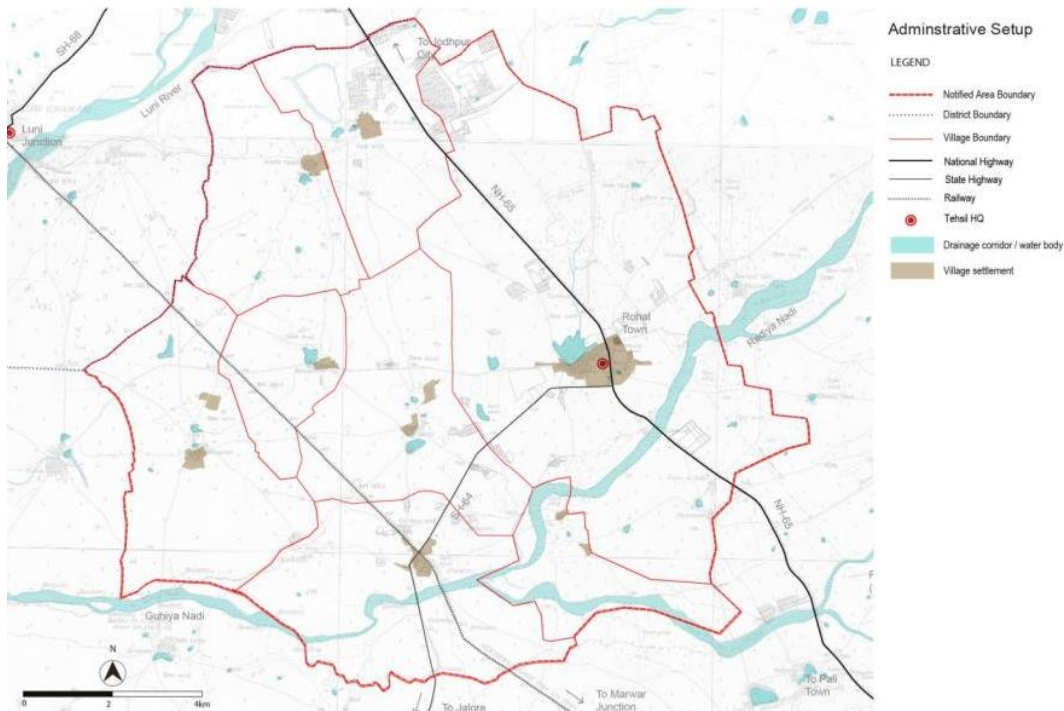


Figure 9B-2: Villages superimposed on Survey of India Topographic sheets

Land Procurement Strategy

It has been proposed that JPMIA would be developed in three phases comprising of ten years each as it is neither feasible nor desirable to develop the entire site simultaneously. Thus, Phase -1 of the development is till the year 2022, followed by Phase – 2 for next ten years, 2023-2032

and finally the Phase – 3 from 2033 to 2042. To accomplish this, a phasing approach will be designed to ensure that the development of the various land uses within the township is well coordinated and this will permit more cost effective use of existing and proposed investments in infrastructure.

The Land Development Phasing is a key to the success of the Industrial Area (IA) as it guides the land procurement, financial outlays there of, development activities of IA and more importantly the setting up of industries. The land required for JPM IA comprises entirely private land to be acquired under The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. The following aspects have been considered while developing the concept master plan for the Proposed JPM IA:

- The “abadi areas” (existing inhabited) within the delineated JPM IA will be integrated with the proposed development plan of the region and such settlements will not be acquired or considered for resettlement or rehabilitation.
- The project shall involve the physical resettlement of only isolated households falling outside of abadi areas but within the delineated JPM IA. In addition, common property resources shall be excluded to the extent possible.
- The extent of land loss after delineation of adequate land around each village will only be established after the process of acquisition is firmed up. The land acquisition process will happen in phases corresponding to the phases of development proposed; hence it will be difficult to establish the number of land losers and titleholders at this stage of the project.
-

Land Acquisition Plan

Land for development of JPMIA shall be acquired under recently formed “**The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013**” by Government of India. This act has been effective from 1st January 2014. Under this act state governments have been given freedom to prepare R&R policy/rules for compensation. As the Government of Rajasthan has not yet defined its own rules, Policies/procedures for land acquisition, therefore at this stage it is not possible to propose any action plan or strategy for land acquisition for development of JPMIA. However, the acquisition of land required for JPMIA will be done in phasing. **Table 9B-2** presents the land use distribution in the delineated JPMIA. **Figure 9B-3** presents the land use break-up in various phases in the proposed JPMIA.

Table 9B-2: JPMIA Land Requirement under various Land Use

Sl. No	Land Use	Total Gross Area (ha)	Total Percentage (%)
	A. Urbanisable Area		
1	Residential	919	15.58%
2	Abadi Area	39	0.65%
3	Abadi Development Area	182	3.09%
4	Mixed Use	67	1.14%
5	Industrial	1926	32.66%
6	Commercial (City Centre and Sub City Centre)	143	2.42%
7	Public / Semi-Public	356	6.04%

Sl. No	Land Use	Total Gross Area (ha)	Total Percentage (%)
8	Transportation (MMLH, General Logistics and Warehousing, Transportation Facility, Railway Corridor)	283	4.79%
9	Public Utilities (CETP and Other Utilities)	36	0.62%
10	Recreational (Ecological Park, Stadium and Park/Open Space/Play Ground)	516	8.74%
11	Green Buffer (G1: Around Existing Water Bodies and G2: Along Proposed Roads)	549	9.31%
12	Circulation (Roads)	844	14.31%
13	Water Bodies	39	0.65%
14	Total (Urbanisable Area)	5899	100%
	B. Area Outside Urbanisable Area Limit		
15	Abadi Area	244	2.56%
16	Abadi Development Area	233	2.45%
17	Green Buffer (G1: Around Existing Water Bodies, G2: Along Proposed Roads)	463	4.86%
18	Railway Corridor	45	0.48%
19	Circulation (Roads)	166	1.74%
20	River and Pond	468	4.91%
21	Peripheral Control	7917	83.01%
22	Total (Area Outside Urbanisable Area Limit)	9538	100.00%
23	Total Notified Area(A+B)	15437	

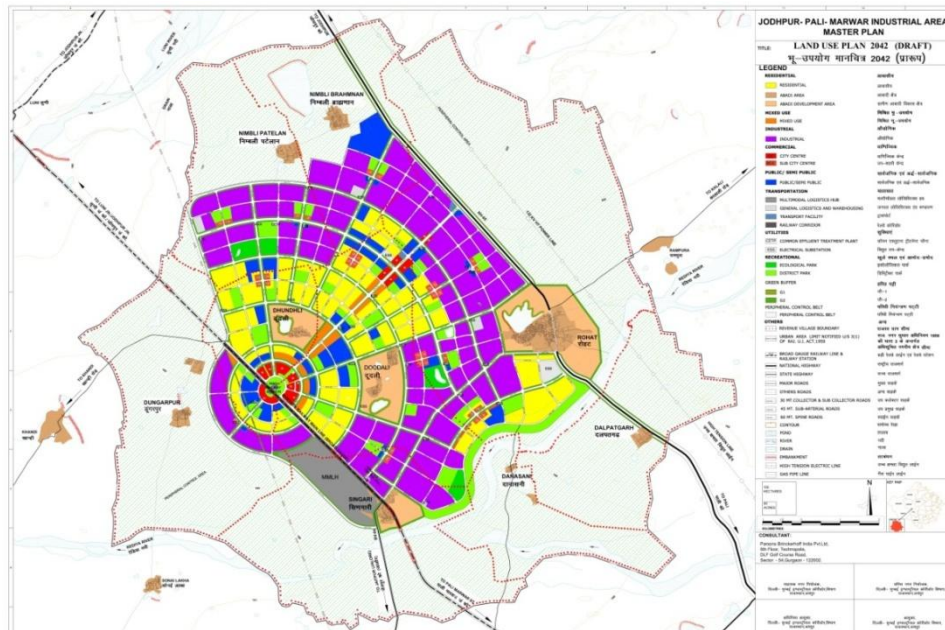


Figure 9B-3: Land Use Plan – JPMIA

9B.3 Baseline Profile of JPM IA Villages

This section describes the information on the socioeconomic parameters in the delineated area. The social baseline is based on the review of secondary data and information obtained through qualitative, quantitative and participatory methods.

Rajasthan is the largest state of India in terms of area and has a per capita income of Rs. 39,967 against the national average of Rs. 53,331. It is a landlocked state in northern India located between 23°00' to 30°20' N latitude and between 69°50' and 77°30' E longitude. The state is bordered by Pakistan in the northwest, Uttar Pradesh, Punjab and Haryana to its northeastern and northern frontiers, Madhya Pradesh and Uttar Pradesh in its east and southeastern fronts and Gujarat is bordering the southwestern boundary.

Pali district with its geographical area of 12387 Sq.km is situated in the western region of Rajasthan. The district derived its name from the town Pali which is also the headquarter of the district administration. The district stretches between 24°45' and 26°75' N latitude and between 72°48' and 74°20' E longitude. Pali district is flanked by Ajmer, Rajsamand, Udaipur, Jalore, Barmer Jodhpur, Nagaur and Sirohi districts. National Highway 14 links Pali Jaipur in north and Ahmedabad in south. The delineated JPMIA is located entirely within Rohat Tehsil of Pali district.

Demographic pattern of JPMIA villages

As per Census 2011, the population of Pali district and that of the delineated project area was 2037573 and 16866 respectively. Pali district is characterized by predominantly rural setting with around 77.5% of the population in the district residing in rural areas. The recorded decadal growth rate (2001-2011) for Pali district is 11.99%, which is one of the lowest in the state (21.44%). The 9 revenue villages forming the delineated JPMIA together have experienced a growth rate of 22.8% during 2001-2011. The average population density in the delineated JPMIA area works out to 106 persons per sq km compared to the Pali district average of 165 persons per sq. km. **Table 9B-3** presents the details of population growth.

Table 9B-3: Population Growth

Sl. No.	Name	Population Growth %(2001-2011)
1	Delineated Area of JPMIA	22.8
2	Pali District	11.99
3	Rajasthan State	21.44

Source: Census of India, 2001 & 2011

House Hold Size

As per Census 2011, 3063 numbers of households were recorded within JPMIA. With population of 16866 the average household size works out to be 5.5.

Social Stratification

Pali district and delineated JPMIA have a significant SC population (19.54% and 21.58% respectively) higher than the state (17.81%). The tribal population is much lower in Pali district (7.1%) compared to the Rajasthan state (13.46%). Delineated JPMIA has still a lower tribal population compared to Pali district (1.31%) the district and no tribal population (ST). The concentration of SC and ST population is presented in **Table 9B-4**.

Table 9B-4: Concentration of SC, ST Population

Sl. No.	Name	SC Population	ST Population
1	Delineated JPMIA	21.58	1.31
2	Pali District	19.54	7.1
3	Rajasthan State	17.81	13.46

Source: Census of India, 2011

As per Rajasthan BPL Census 2002¹, Pali district comprises 0.72 % of total BPL families of Rajasthan which is over 19% (66924 families) of district families living below poverty level. It is important to mention here that 45.73% (30605 families) of BPL families are landless and 19.89% belong to SC, 31.67% belong to ST and 41.62% belong to OBC families. In the year 2002, within the delineated JPMIA out the 832 BPL HHs, 315 HHs (37.86%) were land less. **Table 9B-5** presents the details of BPL households in JPMIA.

Table 9B-5: BPL Households in JPMIA

Sl. No.	Name of Village	Total HHs (2002)	BPL HHs		Landless BPL HHs	
			No	%	No	%
1	DungarPur	310	104	33.55	48	46.15
2	Singari	303	74	24.42	39	52.70
3	Dhundhli	126	19	15.08	7	36.84
4	Doodali	237	39	16.46	10	25.64
5	NimbliPatelan	208	39	18.75	10	25.64
6	NimbliBrahmnan	188	58	30.85	8	13.79
7	Rohat	1756	435	24.77	165	37.93
8	Dalpatgarh	105	26	24.76	10	38.46

¹Rajasthan BPL Census 2002 (Rural Families), bpl2002.raj.nic.in

Sl. No.	Name of Village	Total HHs (2002)	BPL HHs		Landless BPL HHs	
			No	%	No	%
9	Danasani	84	28	24.52	38	47.37

Source: Rajasthan BPL Census 2002 (Rural Families)

Literacy

The literacy rate is a development indicator of a particular area and based on its new developments can be proposed for utilization of existing human resources for new opportunities. The literacy rate of JPMIA is 63.67% as compared to 60.21% for Pali district and 56.79% for the state of Rajasthan. There is a huge difference in the male and female literacy rates with the female literacy rate being a mere 47.87% compared to 78.23% for males. The details of the literacy rate of the JPMIA and Palidistrict is presented in **Table 9B-6**.

Table 9B-6: Literacy Rate

Area	Total (%)	Male (%)	Female (%)
JPMIA	8389 (63.67%)	5365 (78.23%)	3024(47.87%)
Pali District	1085693 (53.28%)	667381 (65.08%)	418312 (41.33%)

Source: Census of India, 2011

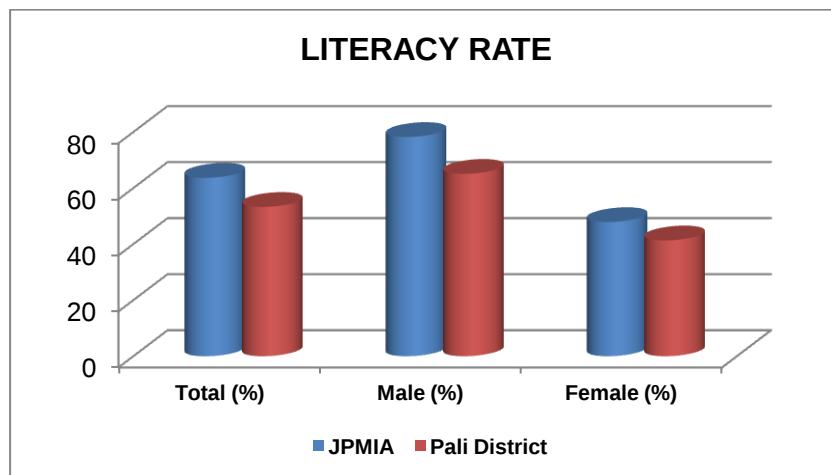


Figure 9B-4: Literacy Rate

Gender

Distribution

Sex ratio (females per 1000 males) of JPMIA is much lower (917) compared to Pali districts (987) and the state average of 926. Among the 9 villages in the delineated JPMIA, the lowest sex ratio is in village NimbliPatelan (870) compared to the highest of 842 in both Danasani and Doodali villages. The details of sex ratio of JPMIA and Pali district are presented in **Table 9B-7**.

Table 9B-7: Overview of Sex Ratio in Villages of JPM IA

Name of the village/district and State	Sex Ratio
DungarPur	904
Singari	908
Dhundhli	937

Name of the village/district and State	Sex Ratio
Doodali	942
NimbliPatelan	870
NimbliBrahmnan	898
Rohat	927
Dalpatgarh	882
Danasani	942
JPMIA Average	917
Pali District	987
Rajasthan State	926

Source: Census of India, 2011

Employment Profile

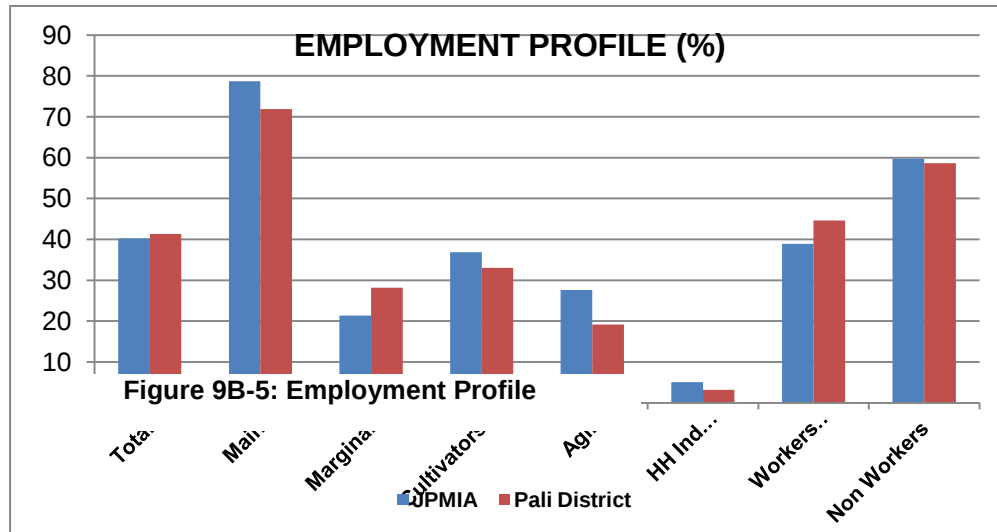
The employment pattern is another development indicator of any area. Out of the total population of 16866 in JPMIA, 40.25% (6789) are workers whereas 59.75% (10077) are nonworkers. Main workers comprise 78.67% of the total working population and marginal workers comprise 21.23% of the same.

In the present scenario, the entire area under delineated JPMIA is rural and most of the population is agriculture dependent. It is found that of the total working population around 36.88% (2309) are cultivators and 27.65% (1731) are agricultural labourers. Further, around 5.05% (316) belong to household industries whereas 38.86% (2,433) are involved in other trades including Livestock, Forestry, Mining & Quarrying, MAF, PRO, Construction, Trade & Commerce, Transport and Storage. The details of the employment profile of Pali district and JPMIA is presented in **Table 9B-8**.

Table 9B-8: Employment Profile

Area	Total Workers	Main Workers	Marginal Workers	Cultivators	Agri. Labourers	HH Ind. Workers	Workers in Other Services	Non Workers
JPMIA	6789	5341	1448	2309	1731	316	2433	10070
Pali District	842327	605288	237039	200091	115844	19095	270258	252369

Source: Census of India, 2011



Existing Social Infrastructure

The social infrastructure of the area indicates the nature of development of the area and facilitates mapping the areas where further development is needed and new development programmes are made to address the gaps in order to enhance the quality of the lives of the local residents. An assessment of the existing social infrastructure is presented below:

Housing Facilities

Details of household facilities in Pali district are presented in **Table 9B-9**. Households living in pucca houses comprised 66.8% of total households in Pali district compared to Rajasthan state average of 64.5%. While in rural areas it has higher (62.1%), in urban areas it has lesser (84.4%) percentage of households living in pucca houses compared to Rajasthan state average of 54.4% and 91.8% respectively. Lesser percentage (79.7%) of households in the district had improved source of drinking water compared to the state average of 88.6%, making more percentage (88.4%) of households in the district to treat water to make it safe for drinking compared to the average (54.4%) in the state. Households having access to toilet facilities (29.4%) are much less compared to state average of 38.7%. The gap in terms of access to toilet facilities between the state and Pali district is higher in urban areas compared to the rural areas. About 84% of the households have access to electricity; rural areas having a higher percentage (81.1%) compared to state average of 74.5%. Firewood/crop residues/cow dung cakes are the main source of fuel in the rural areas while LPG/PNG is the main fuel used in urban areas.

Table 9B-9: Selected Household Characteristics – Pali District

Household Characteristics	Pali District			Rajasthan		
	Total	Rural	Urban	Total	Rural	Urban
HHS living in pucca houses (%)	66.8	62.1	84.4	64.5	55.4	91.8
HHS living in kuchcha houses (%)	15.5	18.4	4.5	20.3	26.4	2.2
HHS having improved source of drinking water (%)	79.7	74.8	98.2	88.6	85.4	98.1
HHS treating water to make it safer for drinking (%)	88.4	88.7	87.3	54.4	50.4	66.6
HHS having access to toilet facility (%)	29.4	18.9	68.8	38.7	23.1	85.0
HHS sharing toilet facility (%)	4.7	2.1	14.2	10.4	5.1	26.1

HHs having access to electricity (%)	84.0	81.1	94.7	80.2	74.5	97.1
HHs using firewood/crop residues/cow dung cake (%)	78.1	90.2	32.9	77.4	93.5	29.6
HHs using LPG/PNG (%)	20.7	9.2	63.8	21.6	6.0	68.0

Source: Annual Health Survey, 2010-11, Fact Sheet for Rajasthan

Health Care Facilities

Pali has a well-developed infrastructure to provide basic health services in the district. Almost all of the remote villages are well connected to the primary health centres and sub-centres. Department of Medical, Health and family planning is running its operation through the dispensaries, Health Centres, Family Welfare Centres and Community Health Centres located all over the district. One of the major hospitals of Pali District is Bangur Hospital, with a capacity of 300 beds. Besides, there are a large number of private hospitals and clinics.

The increase in level of availability of medical facilities in Pali district during 1999-200 to 2007-2008 is presented in Table 9B-10.

Table 9B-10: Availability of Medical Facilities in Pali District

Item	1999-2000	2007-2008
Population served per medical institution	2860	3461
Population served per bed	1165	1285
Rural population services per PHC	18493	21990

Source: Human Development Report, Rajasthan (Updated 2008)

Among the 9 villages in the JPMIA, Rohat has community health centre, primary health centre, subsidised medical practitioner and aUnani dispensary while Singari has a primary sub health centre

Educational Facilities

The education facilities and enrolment at school level in Pali district is presented in Table 9B-11.

Table 9B-11: Enrolment and Student Teacher Ratio

	Pre primary/ primary	Upper primary	Secondary & Senior Secondary	Total
No. of Schools	1201	1451	478	3130
No. of students enrolled	114340	245181	105678	465199
No. of Teachers	2597	6253	3599	12449
Student Teacher Ratio	44.03	39.21	29.36	37.37

Source: Statistical Abstracts 2012 (Data for 2009), Deptt. of Statistics, GoR

There is a very strong relationship between literacy and the existence of primary school: e.g. it is impossible to educate village children in the absence of a good teacher (parents are not much help), a building to sit in, proper road access between village and school, drinking water supply and toilets etc. Three critical impediments on which data is presented here are: only oneroom schools, only oneteacher schools and nonavailability of girls' toilet in schools. Pali district's performance has been average compared to other districts of the state. Table 9B-12 depicts a comparative scenario of educational Infrastructure and retention rate in Pali district and in the state of Rajasthan.

Table 9B-12: Educational Infrastructure and Retention Rate

Area	Retention Rate (I-VIII Classes)	Single Classroom (%)	Single Teacher (%)	Girls Toilets (%)	Drinking Water (%)
Pali District	62	1	21	21	62
Rajasthan State	60	4	28	22	61

Source: Human Development Report, Rajasthan (Updated 2008)

All the 9 villages in JPMIA have primary schools and the senior secondary school is located at Rohat. NimbliBrahmnan village has an adult literacy centre.

Other Facilities

The delineated JPMIA is served by the road and railway network (Rohat railway station located in Singari village). The service centre for administrative purposes and other related facilities like the Revenue Department Office, PanchayatSamiti office, Post Office, Telephone facilities, Bank, Agriculture Credit Society etc are located at Rohat. The village centreRohat is on the NH65 that connects Pali with Jodhpur. All the 9 villages are connected by all-weathermetaled roads under the PMGSY programme.

9B.4 Preliminary assessment of Impacts in the proposed JPM IA

The proposed JPM IA will have a direct and indirect impact on the life of the population residing in the villages falling directly under its ambit as also in its influence area. As the project is being developed in an entirely rural area comprising of 9 villages, the existing population is within the abadi area and it is unlikely that some relocation of the existing population will take place. The direct impacts of the project will be felt more in the areas of the socio economic condition of the communities residing in these villages. A variety of implications will emerge for the population in these villages with the implementation of this project. Therefore, comprehensive strategies for minimizing/eliminating these negative impacts and integration of the dwelling population and settlements need to be considered.

Below is a list of negative impacts that are likely to emerge during the course of the project for which mitigation measures need to be provided in the project.

Impact	Description
Loss of Households	Squatters, encroachers and landless labourers living on the agricultural lands that will be acquired. This population will be rendered homeless and have to move from the land in search of alternate place to live and adapt to the new place.
Loss of Livelihood	- Regular source of income of Landowners whose land will be acquired and the landless labourers will be critically affected. - Being unskilled, it will be difficult for the landless labourers to find a job in near vicinity.
Marginalisation	- Relatively well off families in the affected area will lose their economic power gained over a long period. - Individuals will be unable to use their skills (some may be traditional) in the new set up resulting in a loss of human capital. - In the long run, there will be repercussive effects creating psychological stress.
Difficulty in procuring fresh food products	- Families living in the rural areas are used to procure their daily needs, especially vegetables from the fields that will be acquired. - Family expenditure will increase as they will have to depend on other

Impact	Description
	villages for these products.
Loss to access of common property resources	- Families dependent on animal husbandry and related activities will also lose their livelihood as grazing land for animals will be acquired. - There will be some negative impact on the families dependent on common property assets like village ponds, fire wood from fields/ panchayat land etc.
Inflow of Migrant workers	A conflict might arise among the local workers who would be marginalized due to redundancy of their skill and migrant workers coming from outside and getting employed in JPMIA.
Integration of host population with population in the JPMIA township	Similar to migrant workers, there may conflict in cultural integration among the native population of the acquired villages and the population in the township who might be from other cultural backgrounds.

Although there will be some negative impact as discussed above, there will be certain positive impacts as well due to the project, which will be beneficial for the population in the long run. Below is a list of the anticipated positive project impacts on the affected population:

Impact	Description
Alternate Employment Opportunities	- The proposed project will create alternate employment opportunities for local people in terms of industries, corporate institutions, educational institutions, tertiary service sector and independent small scale enterprises. - The people directly affected by the project due to land acquisition will be provided trainings for skill upgradation that will enable them to be part of the new workforce in the area. - Women will get opportunity for better education and there by opportunity for work in service sector that would emerge in the area.
Increase of Literacy Level	- In the new township, there will be better opportunity for educational institutions like pre-primary, primary, secondary schools and colleges that will give better prospects to the population residing in the area and increase the literacy level. - The adult literacy centres already present will need to revamp their functioning and integrate themselves with the new centres that will be established in the area. It is expected that the overall social awareness in the area that sees a low sex ration will increase with these efforts. - With better education, local people will have better chance for employment opportunities that will be available to them locally.
Skill Development	With the new industries coming in, there will be development of training and coaching centres for developing the skill of the people as well as creating jobs in the small skilled trade sector.
Public Amenities	- With the new developments the local villages are expected to get the following benefits - uninterrupted electricity due to the proximity of the

Impact	Description
	- industries and commercial activities - public toilets - proper garbage disposal system - improved roads and better accessibility - recreational and community centres - water supply - better accessibility to banks and financial institutions
Health Facilities	- With the new developments the local villages are expected to get the following benefits - better health facilities and emergency services due to construction of hospitals, clinics, primary health centre - better outreach services such as immunization, basic curative care services, maternal and child health services and pharmacies to common people. - better access to doctors and medical staff who are usually not available earlier in rural areas.
Women Empowerment	The project will help emancipate women living in the area by providing them opportunities relating to employability, education and health facilities.
Assistance to Farmers	- Improved agricultural know how and cooperation from high tech institutes in relation to increase of local food production and newer techniques of farming. - Ready markets nearby in the townships for selling of the farm produces. - Better/enhanced return from agricultural products to increase income levels of farmers.
Reduction of Poverty and Community Development	- With the availability of better and diversified employment opportunities, the per capita income of the local population is likely to increase. - Overall improvement in the living standard of the community

9B.5 Affected Vulnerable Population

Identification of vulnerable groups in the delineated area is in the process of being done. Vulnerable groups of the population generally relate to the people who are below the poverty line, landless labourers who depend on being employed in the cultivation of fields by the landowners, people belonging to the scheduled tribe and caste category, illiterate men and women, adolescents (both boys and girls) who are school dropouts, senior citizens who avail the old age pension scheme and women who are recipient of the widow pension scheme as they fall between the age group of 45-64 years and belong to the below poverty line as determined by the Government. This group generally forms a part of the sideline of the society and need a lot of empowerment in order to develop their potentials and help them to become active community worker enabling them to be off assistance to themselves and others.

9B.6 Inventory of losses to Households

As acquisition of land will be restricted to land holdings in different variations, limited rehabilitation and resettlement of people is expected to take place. However, the few sporadic houses situated away from the villages will have to be acquired. This is bound to cause immense hardships amongst the project affected population.

The socioeconomic condition of the 9 villages in the delineated area will be partly affected due to the acquisition of cultivable/mono cropped land. This calls for a need to construct a plan for alternate employment opportunities so that the affected population will be able to sustain themselves. A detailed inventory of losses to the households will need to be done so that proper planning of providing compensation can accordingly take place.

9B.7 Losses to the Community

As mentioned that the cultivable land surrounding the villages will be acquired, but besides this, the common community resources like grazing land for the cattle, small open water bodies around the affected villages, trees near the agricultural land which might act as a source for fuel for the villagers, medicinal plants, common wells used for household purposes will also be affected when the acquisition process takes place. An alternate plan needs to be conceptualised so that all these losses can be countered and the community does not get affected significantly.

9B.8 Public consultation for dissemination of information

Government has to initiate the process of notification of master plan for JPM IA and initiate the social impact study in the area as per new act. A detailed study would be required to carry out and present to expert committee for R&R appointed by the state government.

Stakeholder consultations were carried out in the delineated JPM IA to apprise the locals about the proposed project and to understand their expectations and concerns about the project. A perception mapping survey was carried out on the villages to supplement the consultation process and provide the information that the project is in the planning stage and will be developed in 30 years. It is necessary to identify the project affected people once the ground mapping of the master plan is embarked upon.

The existing abadi area in the region has been demarcated on the base map and a buffer of around 200m from the existing abadi areas has been kept as no development area. Therefore, the physical resettlement due to the proposed project will be limited to only isolated houses within the delineated JPM IA. To undertake this activity, stakeholder identification will also need to be done during the SIA study.

Details of the Consultation

The details of the consultations which were carried out during December 2013 and January 2014 have been provided below in **Table 9B-13**.

Table 9B-13: Details of Consultations

Sl. No.	Location – Date – Time	Participants
1	Dungarpur on 18/12/2013 at 10:45 am	Villagers – 14 Nos.
2	Singari 18/12/2013 at 3:00 pm	Villagers – 10 Nos.
3	Dhundhli on 19/12/2013 at 11:00 am	Villagers – 6 Nos.

Sl. No.	Location – Date – Time	Participants
4	Doodali on 19/12/2013 at 4:00 pm	Villagers – 8 Nos.
5	NimbliPatelan on 20/12/2013 at 11:30 am	Villagers – 9 Nos.
6	NimbliBrahmnar on 20/12/2013 at 4.00 pm	Villagers – 10 Nos.
7	Danasani on 21/12/2013 at 10:30am	Villagers – 5 Nos.
8	Rohat on 22/01/2014 at 11:00am	Villagers – 16 Nos.
9	Danasani on 22/01/2014 at 3:00 pm	Villagers – 9 Nos.

Physical Resettlement

The villagers opined that limited physical resettlement should take place and if few families need to be relocated, should be provided with adequate infrastructure facilities so that they can salvage remnants of their lives without facing too much hardship.

Loss of Land

The major concern raised by the villagers was the loss of land. They expressed that as land is the major asset for them adequate compensation should be provided for their land as per the prevalent market rates. There should be transparency maintained with reference to the compensation packages and villagers should be consulted before deciding the package.

Loss of Livelihood

As agriculture is the primary source of income for the villagers, they were of the opinion that with the acquisition of agricultural land due to the proposed project, an annuity amount should be provided in addition to the compensation for the land. They also expressed that the locals should be given preference in employment opportunities that will arise with the setting up of industries.

Common Property Resources

The villagers were of the opinion that with the loss of agricultural land, the common assets of the village like water bodies, Gauchar, important religious sites, cremation grounds, etc. might also get affected. They expressed that care should be taken that these common property resources should be left intact so that the community at large with not be greatly affected.

Pollution from Industries

With the setting of industries it is likely that pollution will also increase significantly which will have adverse impact on the health of the people residing in the area. The villagers felt that precaution should be taken that these industries do not pollute the environment to a large extent.

Job Opportunities

The locals expressed that they should be provided with job opportunities in the project construction and operation phases. As their land will be acquired and they will be in want of some livelihood activities, preference should be given to the villagers other than migrants who will flock the area in search of work.

Skill Enhancement

The villagers were of the opinion that they should be provided with training facilities to enhance their skill base. With opportunities given to them, they will be able to apply and qualify for skill based jobs which will supplement their income.

Infrastructure Development

With the development of project activities, the locals expressed that infrastructural development in their villages such as access roads, water supply, and sanitation facilities should also be upgraded.

9B.9 Implementation of Resettlement and Rehabilitation Strategy

For development of the JPMIA 'acquisition of land' will be a challenge and it has to be done as per the new 'The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013', to mitigate adverse social and economic impacts from land acquisition or restrictions on affected persons.

Traditionally R&R has been in the form of a one-time compensation, which was decided using the last registered sale or a similar sale in the vicinity of the land as a base. After the proposed project is set up, the land price rise owing to the benefits of the development. This creates considerable dissatisfaction amongst the displaced people. To prevent such issues, the entire R&R package stipulates the provision of employment by the project owner in cases where jobs are generated by the project and basic infrastructure, including drinking water, individual electric connections, health centre etc for the resettled. Over and above this, delivery of the compensation and the R&R are proposed to be preconditions to the transfer of the land title. The ability of the implementing authorities to deliver these benefits which involve components as outlined above, in a time bound manner, will be a significant challenge

Project Details

The existing settlements falling in the project area have not been included in the developable area and shall be retained. Also, adequate area around the settlements shall be left untouched to accommodate future expansion of the area. The project will therefore not involve major physical resettlement. Only isolated households falling outside the abadi areas and within the delineated area will have to be relocated. Also, the common property resources such as temples, community centers, water bodies etc shall be excluded from the development to the extent possible.

Legal Framework for Land Acquisition

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

The Act defines two critical aspects of land acquisition, namely Acquisition and Rehabilitation & Resettlement (R&R). The Act restricts the government role to an acquirer of land for projects with defined public and 'permanent' purposes. In case of private companies taking up public purpose projects, it defines the government's role as that of an assisting authority in cases where the majority of landowners' consent exists and only a small percentage of land is remaining to be acquired.

In the act the flexibility is given to state governments to prescribe involvement of the concerned government for land acquisition required for private projects. Therefore, the approach of the states towards land acquisition will be a crucial parameter for industrial development. Further, the Act also lays a lot of emphasis on Rehabilitation and Resettlement and extends the

applicability of Rehabilitation and Resettlement in cases where large tracts of land are acquired even through private negotiations. It emphasises both on monetary payments as well as non-monetary benefits as a part of Rehabilitation and Resettlement and also covers the loss of livelihood rather than only the loss of land. As has been the practice earlier, the Act has linked monetary compensation to the market value of the land and the value of the assets attached to it. It also lays down timelines and procedures in order to ensure time bound land acquisition and the Rehabilitation and Resettlement. For industry players acquiring land, factors like location (rural/urban), the number of land losers/livelihood losers and whether they opt for non-monetary benefits instead of upfront payments will now assume importance in determining the final cost of acquisition.

The Act stipulates that Rehabilitation and Resettlement will apply for any acquisition of land area as specified by the State government (a Rehabilitation and Resettlement committee will be appointed to review Rehabilitation and Resettlement progress in case land acquired is 100 acres or more for public purpose) irrespective of the purpose.

The process for land acquisition involves a Social Impact Assessment survey, preliminary notification stating the intent for acquisition, a declaration of acquisition, and compensation to be given by a certain time. All acquisitions require rehabilitation and resettlement to be provided to the people affected by the acquisition.

Compensation for the owners of the acquired land shall be in multiple to the factor on the prevailing market value in case of rural and urban areas.

In case of acquisition of land for use by private companies or public private partnerships, consent of 80 per cent of the displaced people will be required. The purchase of large pieces of land by private companies will require provision of rehabilitation and resettlement.

The provisions of this Act shall not apply to acquisitions under 16 existing legislations including the Special Economic Zones Act, 2005, the Atomic Energy Act, 1962, the Railways Act, 1989, etc.

Land Acquisition framework and timelines

The procedure for the acquisition and R&R will include a Social Impact Assessment(SIA) which will cover the investigation of public purpose, minimum extent of land required thereof, estimation of displacement and social impact on affected families apart from the overall cost versus benefit analysis for the proposed project. The SIA will be appraised by an Expert Group (EG) which will comprise of two non official social scientists, two representatives of Panchayat, Gram Sabha, Municipality or Municipal Corporation as the case may be, two experts on rehabilitation and a technical expert in the subject relating to the project. Post these, the R&R scheme will be prepared by a designated Administrator (or Committee in case the land area is more than 100 acres) which will further be reviewed by Collector and approved by the Commissioner (Rehabilitation and Resettlement). Public hearings and enquiry to any objections will be done at specified stages.

The maximum timelines specified for these steps are six months for SIA from its commencement and two months for the Expert Group (EG). The process will lapse in case no land acquisition notification happens after twelve months of the EG report. Further, the R&R award should be made within twelve months from public declaration of the R&R scheme. Such a timeline is, however extendable by the appropriate Government by another twelve months in specific justifiable cases. **Table 9B-14** explains the process flow for land acquisition and R&R.

Table 9B-14: Overview of the process of land acquisition and R&Ras per the new Act

Period	Processes	Duration
Before Notification	Social Impact Assessment Study except for Irrigation projects	6 Months
	Appraisal by Expert Group (EG)	2 months from the date of submission of SIA report
	Examination by State Government	12 Months
Notification	Preliminary notification (Summary of SIA , particulars of Administrator for R&R)	Within 60 days from the date of Notification
	Public hearing	
	Objections to be received with 60 days and finalization of R&R package	
After Notification	Draft declaration (summary of R&R package)	12 months from the date of Notification
Awards	Individual Compensation Awards for Land acquisition (this will include landless tenants as well) (As per First Schedule- Compensation of Land Owners)	Within 3 months from the date of award
	Awards for R&R entitlements	Within 6 months from date of Award
	Infrastructure R&R entitlements	Within 18 months from date of Award
Public Disclosure	All documents mandatorily to be made available in the public domain and on the website	

The land possession is possible only after paying the full compensation, the maximum time for which is three months for the compensation and six months for monetary R&R, from date of award. The non-monetary resettlement and rehabilitation has to be done within a period of eighteen months from the date of award. The Act defines the penal rates of 9% per annum of the unpaid sums in case of a delay of less than a year and 15% per annum in case of delays of more than a year to be paid by the Collector.

The Rehabilitation and Resettlement proposals put in perspective the cost to be borne towards socioeconomic development, industrialization and urbanization. Considering the higher monetary compensation coupled with the provision of non-monetary benefits, land acquisition is expected to be much costlier than before, leading to higher funding requirements. For large projects, apart from the cost, the responsibility of acquiring 80% consent will be a time consuming process which may lead project owners back to the drawing board and rationalize the actual requirement of land; even more in cases where any multi cropped irrigated land is involved. Impact Assessment will also aim at notifying the minimum possible land required and related displacement for a project. The provision of fair compensation to the affected families through the new Act may encourage the families to give consent as compared to a previous situation where they may have been apprehensive about the adequacy of the compensation. The compensation for Landowners has been detailed out in the First Schedule of the Act and Elements of the R&R for all affected families in addition to the first schedule are elaborated in the Second Schedule of the Act.

Rehabilitation and Resettlement package stipulated by The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 has been presented in Annexure-VII.

As per the Act, on first resale of undeveloped land acquired, 40% of the appreciation of land will be shared with the landowner.

Implementation mechanism for Rehabilitation and Resettlement

The Act outlines an institutional framework of the Centre, State and Project level to carry out the acquisition and Rehabilitation and Resettlement as shown in Table 9B-16. The time bound implementation of Rehabilitation and Resettlement will require efficient working and good coordination across all the levels, failure of which will defeat the Acts basic purposes of creating a streamlined process thereby saving on time and related sunk costs.

Table 9B-15: Institutional structure for land acquisition and Rehabilitation and Resettlement

Central Level	State Level	Project Level
National Monitoring Committee	State Land Acquisition and Rehabilitation and Resettlement Authority	District Collector
	Committee Constituted by State government	Administrator, Rehabilitation and Resettlement
	State Commissioner Rehabilitation and Resettlement	Rehabilitation and Resettlement Committee

The Central Government has provided a basic framework to the states for land acquisition through this Act and now it is the prerogative of the state government to define the process and formation of rule of rehabilitation and resettlement for acquisition of land. The State governments are free to provide rehabilitation and resettlement norms superior to that specified in the Act and also the State governments have the flexibility to specify distance based slabs for applying the multiplying factor for determining market value. The Act has also indicated an option of leasing instead of acquiring land for public purpose. In terms of compensation, transparency and draw a strategy for rehabilitation and resettlement for development of the JPM IA project, Rajasthan government will have to elaborate compensation policies under the new Act and the same shall be considered for acquisition of land.

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 lays down the much needed policy framework which will act as a facilitator between the landowner and the acquirer. The Act empowers the government to some extent for defined purposes in order to support infrastructure development and industrialization. Further, even in case of private projects where a large quantum of land is acquired, the Act safeguards the interests of the affected families by making an elaborate rehabilitation and resettlement applicable. However, in doing so, it also increases the overall cost and time required for land acquisition, thereby compelling project owners towards more efficient utilization of land.

The implementation of the proposed institutional structure and mechanism for acquisition and rehabilitation and resettlement will expedite the land acquisition process. Over the last decade large scale projects have been stalled in various parts of the country due to land acquisition issues or are moving slowly in anticipation of clarity on land acquisition act. The enactment of the Act is expected to expedite investment decisions and aid economic growth. Ultimately the approach of the state government towards adopting and implementing the new rules and regulation will determine the successful implementation of the JPM IA.



Chapter 9C

Sustainability Indicators

9C.1 Introduction 9C-21

9C.2 Carrying Capacity based Approach in the Context of Urban Planning & Development 9C-21

9C.3 Assessment of Environmental Carrying Capacities of Industrial Areas 9C-22

9B.10 Introduction

The process of industrialization in developing countries such as India continues to show significant growth. Industrial sector's contribution to GDP continues to increase compared to the agricultural sector. The seriousness of the government in developing the industrial zone is proven by the many positive impacts and benefits gained for the development of the surrounding areas. The dedicated freight corridor will increase the transportation of the freight and identification and development of industrial zones and industrial area along these corridors will further strengthen India as manufacturing hub.

Proposed JPM IA will provide advantages for economic growth in the region, increasing the local revenue through local taxes, creating new jobs, increasing incomes of the local people, and encouraging the growth of the informal sectors. In light of population growth, the industrial zones could also reduce the flow of urbanization, especially in areas which are located in the suburban areas. As the jobs will be available nearby, instead of working in the city, the villagers would opt to work in the industrial zones/estates. However, aside of above mentioned positive impacts and benefits, the industrial zones also lead to a variety of negative impacts. They are in the form of waste/pollution (air and water) and environmental damages caused by activities of various kinds of factories in the industrial zones. Such pollution can be in the form of air, water, soil, smoke, odours, vibration, noise pollution, traffic congestion and flood, which could degrade the quality of the environment. In this section assimilative capacity of region around JPMIA has been assessed.

9B.11 Carrying Capacity based Approach in the Context of Urban Planning & Development

The notion of carrying capacity refers fundamentally to the restricted capability or the constraint of the natural environment, both as a reservoir of the resources to support human consumption and as a sink to assimilate to the residuals or wastes. The thrust of carrying capacity based, area development planning is towards management of the demands for various regional and local environmental resources to sustain the desired economic activities and quality of the life across urban areas and the supply of such environmental resources within the regenerative capacities. Thus the real meaning is

- Estimation of various supportive and assimilative capacity dimensions and impacts thereon of alternative development actions across an urban and regional setting through a set of capacity indicators or indices.

- Development of strategies towards carrying capacity demand and supply side, management to deal with such impact, including tradeoffs among alternative development activities and concomitant resource allocation, technology and institutional arrangement towards environmental control and resource management.

9B.12 Assessment of Environmental Carrying Capacities of Industrial Areas

The basic approach towards the preparedness for any major disaster or emergency situation will comprise of the following activities:

9C 3.1 Existing Scenario in the Context of Environmental components and Resources

An urban environment needs to have capacities to assimilate i.e. to manage and recycle various wastes such as air, water, land, noise pollution generated by its industries & population. Baseline on the monitoring of environmental parameters discussed in Chapter 3 under Description of Environment, shows that the air quality of the area in and around the proposed JPM IA is well within the Air Quality Standards as stipulated by statutory bodies. From the monitored value of Noise in and around the project area surroundings, it is observed that noise levels at all locations are well within the applicable limits.

The 12 number of ground water sample and 13 number of surface water from various locations in and around the proposed industrial area were analyzed for all parameters of drinking water standards listed in IS 10500:1991 and CPCB standard respectively. All parameters except TDS and turbidity are within the desirable limits for monitored surface water quality samples while ground water quality of the project area and surroundings is also within the desirable limits of drinking water parameters except iron. The iron content is higher than the desirable limit of 1 mg/l. The ground water is not contaminated with heavy metals, Arsenic and fluorides.

The soil quality data analysis indicates that soils are contaminated with heavy metals. The soils are alkaline in nature and moderately fertile.

There are no environmental resources in the form of Wild Life Sanctuary, Bird Sanctuary or National parks within the 10 km aerial distance of delineated JPMIA.



The measured ambient air quality results show that there is enough cushion available between the ambient air quality standards and current levels available. The ranges are presented below:

SO₂ range: 5- 12 against standard of 80 µg/m³

NO_x range: 15 - 30 against standard of 80 µg/m³

PM₁₀ range: 41 - 63 against range of 100 µg/m³

PM_{2.5} range - 17 - 32 against range of 60 µg/m³

The noise levels in the JPMIA delineated area are around 50 dB(A) during day time and around 45 dB(A) during night time. The prevailing standards for industrial area are 75 dB(A) for day and 65 dB(A) for night. Hence there are enough cushions for this component also.

The JPMIA project plans maximum recycle and enough capacity CETP and STPs have been planned. There will be double piping plumbing system for recycling of treated water for cooling and sanitary use. There will not be any discharge of waste water from JPMIA. This will avoid any stress on surface and ground water sources. Local ponds in villages have been integrated in the master planning and will not be having any impact. Some of these ponds will be selected for deepening and rain water collection will be made more effective. No ground water extraction is planned for the project during construction and operation phases. Hence adverse impact on ground water table is not anticipated.

In order to avoid impacts on soil in the project area and surroundings a proper infrastructure for Solid waste collection, transport and disposal have been planned.

9C 3.2 Land Suitability of Industrial Zone

The first stage of the Land Suitability Assessment (LSA) is derived from a GIS-based analysis of 19 carefully selected and weighted indicators. While the results of indicator wise suitability can be referred to in the Annexure, the category wise results are presented according to each category as follows:

- Land Availability;
- Sensitivity and Incompatibility Concerns;
- Availability of Resources and Utilities;

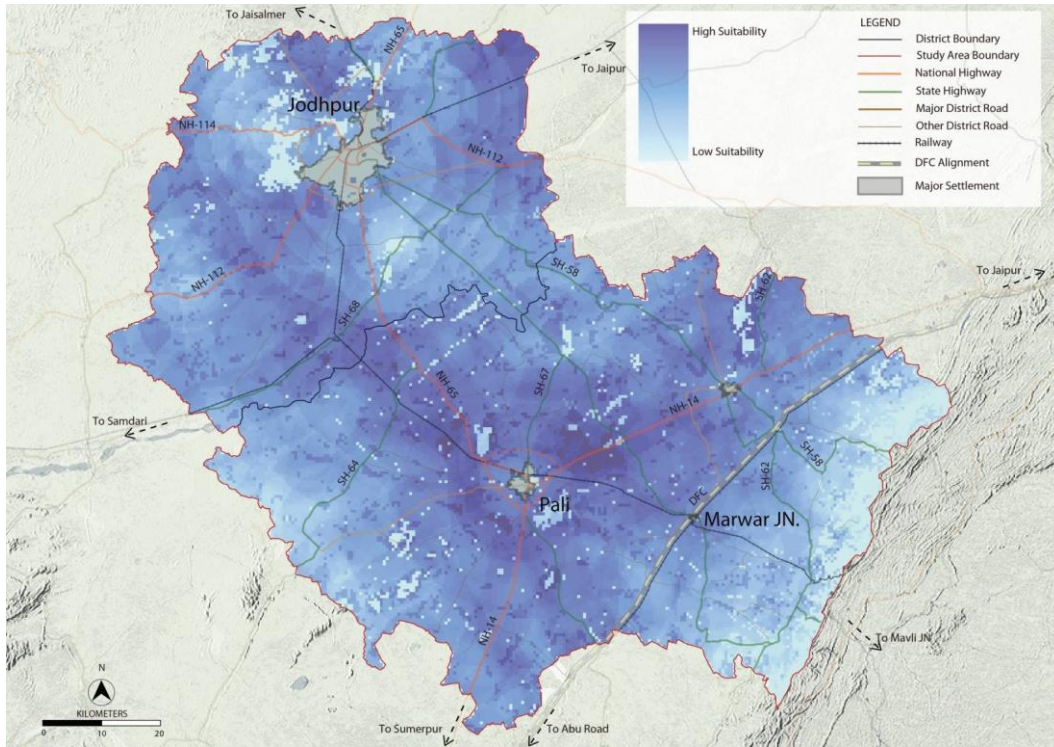
- Connectivity;
- Physical Attributes;
- Trade Area;
- Demographic and Human Resources.

The majority of the study area is covered by fallow and scrub land, which is suitable for industrial development. Small rural settlements are relatively evenly scattered across the study Area, accompanied by three large urban settlements of varying sizes – Jodhpur, Pali, and Sojat. Having fewer rural settlements in the selected site is considered advantageous in order to reduce the possible re-settlement and rehabilitation costs.

Water availability in the study area is ensured by the established infrastructure such as the Rajiv-Ghandi Lift Canal, Ummed-Sagar-Dhawa-Samdari Rural Water Supply Project, and Indroka-Manaklav-Khangata Water Supply Project in Jodhpur. In Pali water is mainly supplied by Jawai-Pali Pipe Line. Power transmission lines and infrastructure in the study area is categorized into several classes: 400kv GSS (Grid SubStation) – 220kv GSS – 132kv GSS – 33kv GSS. There is one 400kv GSS in the area, located at the north east of Jodhpur. The quality of existing air, road, rail infrastructure and overall proximity to the DFC alignment has been assessed accordingly. The airport is located to the southeast of Jodhpur City. The Marwar Junction Station will be the only access point to the DFC within the area. As regards road connectivity, the area has a comprehensive hierarchical network, consisting of National Highways, State Highways, and District Roads. National Highways have the highest capacity for road traffic. The majority of the study area has a relatively flat landform, which is quite suitable for development. The hilly areas are mainly concentrated within the Aravalli Range and to the northwest of Jodhpur city. More pronounced hilly outcrops and ridgelines exist in the southwest of Pali, to the north of Sojat and along stretches of SH61 and NH14. Areas containing major settlements are less favourable, given the high potential for conflicts of interest during the early stages of development.

The highest scoring and most suitable land is identified as a corridor along the NH65 and NH14, between the nodes of Rohat, Pali and Sojat. Areas immediately south of Pali Town also scored higher, as did a somewhat isolated area 25km northwest of Jodhpur City. However, the majority of the lands surrounding Jodhpur City scored poorly due to physical and sociocultural constraints, including major security issues. The proposed area is situated on NH65 and SH64 and includes 9 villages within Rohat Tehsil. The demarcated area (geographical) is 154.37 km², with a population of about 20,615, a density of 82 persons per

km². It includes 12.64 km² government owned lands, 0.03 km² barren/waste lands and



balance 141.7 km² un-irrigated lands.

Figure 9C-1: Combined result of GIS-based land suitability analysis



9C 3.3 Flora & Fauna

The DFO of both districts of Pali and Jodhpur were consulted and they have confirmed that no Sanctuary or National park exist in vicinity of the project area and study area. There is sparse vegetation around the in proposed JPM IA. Most commonly found tree species are the ubiquitous khejri (*Prosopis cineraria*) and various types of acacia. So, the proposed development will not have much impact on the ecology of the surrounding rather development of 8% of green buffer and 9% of Major Parks / Public Open Space in the proposed development will further improve the flora and fauna of the area. The buffer zone of 250 m and 200m have been kept on either side of Luni River and NH-65 respectively.

9C 3.4 Conclusion

It is concluded that project area sustainability indicators are favourable for the development of industrial area between Pali and Jodhpur.