



VISHWAKARMA YOJNA: IX AN APPROACH TOWARDS RURBANISATION MANKANI VILLAGE, CHHOTA UDAIPUR DISTRICT, GUJARAT, INDIA

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Abstract: Today world is growing fast and facilities, living standards are increasing so in development of urban area villages are stay behind hence they have not attention for development any primary requirement so today's biggest issue is migration from village to cities so in Vishwakarma Yojana we will finding rural current issues and problems and give best economical solution of Redesigning, Reimagining, Repair & maintenance, and Sustainable planning for basic need of village like public toilets, government buildings, schools, health facilities, water supply and sanitation, waste disposal, electricity, road networks, irrigation facilities, community hall, Biogas plant, rainwater harvesting system, Solar energy utilization and other non-conversation energy sources utilization etc. With consultation of villagers, local revenue authorities, Sarpanch, TDO and DDO the future need of the village keeping to mind the need of days, future targeted population growth, growth of surrounding town or Taluka places etc. We will develop the Mankani village near Bodeli as ideal village like Dharmaj or Bajwa or any other ideal village.

Index Terms - Ideal Village Surveys, Techno- Economic Survey of Village, Data Collection, Gap Analysis, List out existing Facilities and need of amenities, Making Rurbanization, Redesigning, Reimagination, Repair & Maintaining, Sustainable Planning, Give Economical Design.

I. INTRODUCTION

An initiative and prestigious project of Vishwakarma Yojana is allotted by Gujarat Technological University through Government of Gujarat. In today's biggest problem of rural area in Gujarat State and especially in India there is very poor condition of village like Physical, Social and Socio Infrastructure facilities that cause cities are develop very fast and rural area stay behind to develop and there is no anyone to solve their basic problems that cause migration from rural to urban area increases so in Vishwakarma Yojana by Govt. of Gujarat & GTU allotted a poor and backward village in Gujarat state to civil engineering and electrical engineering students for develop sustainable and economical design planning proposal to give villagers as a best living life.

There are many villages in India and Gujarat to required proper channel of local authorities to Government for developing sustainable planning and willingness of villagers to give contribution and meant to participate for development of village amenities.

As a Civil engineer or Electrical engineer in terms of youth generation of India our role as a student level to determine the problems and finding solutions by SWOT or Gap analysis as per ideal village facilities and condition we have conclude the required amenities and develop best economical and sustainable design proposal to give village and serve to nation as well as to contribute our knowledge and life to society by this Vishwakarma Yojana project.

II. RURBANIZATION

“Developing village with a ‘rural soul’ but with all urban amenities that a city may have”

Aim of the project is to provide urban amenities in rural areas while maintaining the rural soul. This will help in developing villages in sustainable manner, reduce migration from villages and prevent the cities from the urban pressure.

The main thing is urban area develop fast and facilities in village compare to city are very less like educational, health, recreational, physical and social so unfortunately villagers has to migrate from village to city that cause population of urban area increase rapidly and it creates so many problems in city like dense population, pollution, higher demand of basic grocery products due to rate of it increases, living standard value creates difference between rural people and city people, traffic and so many.

Basic requirements of village as per UDPFI guidelines three main amenities are Physical, Social and Socio-cultural infrastructure development by surveying of village population and existing condition of facilities. Then by doing gap analysis we can determine prior requirements.

To reduce and remove the rural-urban divide through infusion of urban patterns and services in rural systems to ensure provision of quality lifestyles and livelihood options while keeping the basic rural soul intact.

III. OBJECTIVES OF THE STUDY

“Creation of infrastructure - connectivity, civic and social infrastructure along with provision of alternative Economy generation is the key pillars that the concept hinges on.”

- Due to lack of facilities in rural area it cause migration to urban area so it is need to provide better facilities and all primary requirement to rural area is main objective of VY project.
- Infrastructure development in rural area and connect all with social and civil facilities.
- Reduce migration from rural to urban area due to sufficient facilities are not available.
- Electricity connections like street lighting that is energy efficient and eco-friendly.

IV. METHODOLOGY

- Ideal village survey at Dharmaj village near Anand.
- Techno-economic survey of Dharmaj village near Anand.
- SWOT analysis of Dharmaj village near Anand.
- Gap analysis for facilities available as per ideal village norms & requirement.
- Allocated village survey at Mankani village near Bodeli.
- Techno-economic survey of Mankani village near Bodeli.
- SWOT analysis of Mankani village.
- Gap analysis of Mankani village.
- Meeting with Villagers, Sarpanch, Talati, TDO, & DDO.
- Consulting with all related to village and analyse problem faced by Mankani village
- Finding best, economical & sustainable solution for problems as per UDPFI Guidelines.
- Best Proposal and Design for solving problem.
- Detail progress report and detail design done in final project report.

<p>Ideal village Survey at Dharmaj Village near Anand</p>	<ul style="list-style-type: none"> •Techno-Economic Survey •Gap analysis •SWOT analysis
<p>Mankani Village allocation by Govt. of Gujarat & GTU</p>	<ul style="list-style-type: none"> •Techno-economic survey •Gap analysis •SWOT analysis
<p>Rurbanization Process</p>	<ul style="list-style-type: none"> •Finding solution for problems •Planing of best economical & sustainable designs •Giving proposal design to Govt. of Gujarat & GTU

Table No. 4.1: Methodology

V. INTRODUCTION OF VILLAGE:

According to Census 2011 information, the location code or village code of Mankani village is 520779. Mankani village is located in Bodeli Tehsil of Vadodara district in Gujarat, India. It is situated 10 km away from sub-district headquarter Bodeli and 70 km away from district headquarter Vadodara. As per 2009 stats, Mankani village is also a gram panchayat.

The total geographical area of village is 2375.41 hectares. Mankani has a total population of 8,386 peoples. There are about 1,717 houses in Mankani village. Bodeli is nearest town to Mankani, which is approximately 8km away.

5.1 STUDY AREA LOCATION:

1. Name of place: Mankani
2. Taluka Name: Bodeli
3. District Name: Chhota Udaipur
3. Latitude: 22.2243 °N
4. Longitude: 73.6728 °E
5. Feature description: Village
6. Population: 8386
7. State & Country: Gujarat, India.

5.2 PHYSICAL & DEMOGRAPHICAL GROWTH:

Sr. No.	Census	Population	Male	Female	Total house holds
i.	2001	2732	1425	1307	-
ii.	2011	8386	4324	4062	1717

Table No. 5.1: Detail Population of Mankani village are listed above as per Census 2001 & 2011

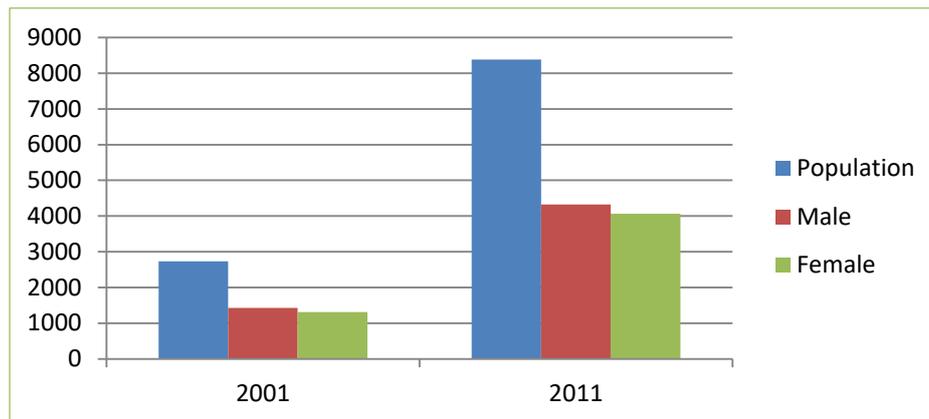


Fig. No. 5.1: Population Chart of Mankani Village

5.3 GEOGRAPHICAL DETAIL:

Sr. No.	Description	Information/Detail
1	Area of Village (Approx.) (In Hector) Coordinates for Location:	2394 Hector
2	Forest Area (In Hect.)	191 Hector
3	Agricultural Land Area (In Hect.)	120 Hector
4	Residential Area (In Hect.)	1991 Hector
5	Other Area (In Hect.)	92 Hector
6	Distance to the nearest railway station with distance	Bodeli - 8 kms
7	Nearest Town with Distance:	Bodeli and Sankheda
6	Distance to the nearest bus station	Bodeli - 8 kms
7	Whether village is connected to all roads for the any facility or town or village?	SH

Table No. 5.2: Geographical details of Mankani Villages

VI. DATA COLLECTION (PHOTOGRAPH/GRAPHS/CHARTS/TABLE):

6. INFRASTRUCTURE DETAILS

6.1 DRINKING WATER / WATER MANAGEMENT FACILITIES:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
Main Source of Drinking water				
1	PIPED WATER Piped into Dwelling / Piped To Yard/Plot / Public Tap / Stand pipe / Tube Well Or Bore Well	Piped into Dwelling / Tube Well Or Bore Well / Public Tap / Stand pipe	Yes	-
2	DUG WELL Protected Well Un Protected Well	Protected Well	Yes	-
3	WATER FROM SPRING Protected Spring / Unprotected Spring / Rainwater / Tanker Truck	Rain water, Tanker Truck	Yes	-
4	SURFACE WATER (RIVER/DAM/LAKE/POND/STREAM/CANAL/ Irrigation Channel Bottled Water Hand Pump	Pond, Hand Pump	-	Hand pump not working
5	Other(Specify) Lake/ Pond	Pond	Yes	-
2	Water tank Facility			
	Overhead Tank	1 Nos – 50,000 liter	Yes	-
	Underground Tank	0	-	Needs

Table No. 6.1: Details Main sources of water in Mankani Village



Fig. No. 6.1: Main sources of water in Mankani Village

6.2 DRAINAGE NETWORK / SANITATION FACILITIES:

6.2.1 DRAINAGE NETWORK:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Drainage Facility			
	Available (Yes/ No)	No	Yes	-
2	Type of Drainage			
	Closed/Open	Open	Yes	-
	If open than Pucca / Kutchha	Kutchha	Yes	-
	Whether drain water is discharged directly into	Road	-	Yes

Table No. 6.2: Details Drainage Facility in Mankani Village



Fig. No. 6.2: Drainage Network in Mankani Village

6.2.2 SANITATION FACILITIES & WASTE MANAGEMENT FACILITIES:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
Sanitation Facility				
1	Public Latrine Blocks (Y/N)	1	-	Not Good Condition
2	Community Toilet (with bath/without bath) facility	Yes	50 % - Good condition and used	-
3	Solid and Liquid Waste disposal system available	No	Some area to door to door facility	-
4	Any facility for waste collection from road	No	-	-

Table No. 6.3: Details Sanitation Facilities in Mankani Village



Fig. No. 6.3: Sanitation Condition & Waste Management Facilities in Mankani Village

6.3 TRANSPORTATION & ROAD NETWORK:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Road Network (All weather road/ Kutchha(Gravel)/Black Topped Pucca/WBM)			
	Village approach road	Bitumen	Yes	-
	Main road	Bitumen	Yes	-
	Internal streets	R.C.C./WBM	Yes (Some area in village)	-
	(NH/SH/MDR/ODR) Distance in kms: 2-5 kms	SH	-	-
2	Transport Facility			
	Railway Station (Y/N) (If No than Nearest Railway Station: Bodeli – 8 Kms)	No Near Bodeli – 8 Kms	-	-
	Bus station (If No than Nearest Bus Station: Waghodia 2-5 Kms)	No Near Bodeli – 8 Kms	-	-
	Local Transportation	Auto, Chhakda, Privet Vehicle & Jeeps	Yes	-

Table No. 6.4: Details Road Network and Transportation facility in Mankani Village

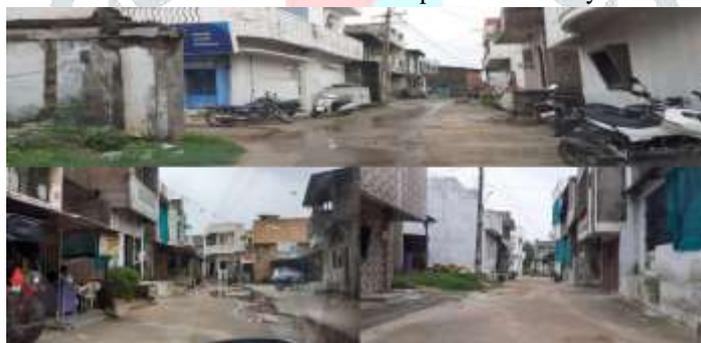


Fig. No. 6.4: Road Network, Bus Station and Public Transportation Stand in Mankani Village

6.4 HOUSING CONDITION:

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Housing condition			
	Kutchha/Pucca	40 % Kutchha 60 % Pucca	Yes	-

Table No. 6.5: Details Housing Condition in Mankani Village



Fig. No. 6.5: Pucca/Kutchha Housing Condition in Mankani Village

6.5 SOCIAL INFRASTRUCTURE FACILITIES / SOCIO-CULTURAL FACILITIES / PUBLIC GARDEN/PLAYGROUND /POND/ OTHER RECREATION FACILITIES

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Public Garden	Yes In School	-	-
2	Village Pond	Yes	Good Condition	-
3	Recreation Center	Yes	In Gram Panchayat	-
4	Cinema/ Video Hall	No	-	-
5	Assembly Polling Station	Yes	In School	-
6	Birth & Death Registration Office	Yes	In Gram Panchayat	-

Table No. 6.6: Details Social Infrastructure Facilities in Mankani Village



Fig. No. 6.6: Social Infrastructure Facilities in Mankani Village

6.6 HEALTH, EDUCATION, COMMUNITY HALL, LIBRARY

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Health Facilities			
	ICDS (Aanganwadi) Sub-Centre PHC BLOCK PHC CHC/RH District/ Govt. Hospital Govt. Dispensary Private Clinic Private Hospital/ Nursing Home AYUSH Health Facility Sonography /ultrasound facility	ICDS (Aanganwadi) District/ Govt. Hospital - One Private Clinic Private Hospital/ Nursing Home – Near 8 kms Bodeli	Yes (50%-50%)	PHC & Sub-Centre – Needs in Village
	If any of the above Facility is not available in village than approx. distance from Village: Other facility Bodeli - 8 kms.			
Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Education Facilities			
	Aanganwadi/ Play group	2	Yes	-
	Primary School	1	Yes	-
	Secondary school	1	Yes	-
	Higher sec. School	0	Yes	-
	ITI college/vocational training centre	No	-	Needs as per population
	Art, Commerce& Science /Polytechnic/ Engineering/ Medical/ Management/ other college facilities	No	-	-

• Require to Vocational Training Center in village.				
Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Community Hall	No	-	-
• Require to new renovation community Hall in village.				
Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Public Library	No	-	-

Table No. 6.7: Details Health, Education, Community Hall, and Library in Mankani Village



Fig. No. 6.7: Health, Education, Community Hall, and Library in Mankani Village

6.7 PUBLIC BUILDINGS/OTHER FACILITIES

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Post-office	Yes	-	Yes
2	Telecommunication Network/ STD booth	Yes	-	-
3	General Market	No	-	-
4	Shops (Public Distribution System)	Yes	Yes	-
5	Panchayat Building	Yes	-	Yes
6	Pharmacy/Medical Shop	No	-	-
7	Bank & ATM Facility	Yes	Yes	-
8	Agriculture Co-operative Society	No	-	-
9	Milk Co-operative Soc.	No	-	-
10	Small Scale Industries	No	-	-
11	Internet Cafes/ Common Service Center/Wi Fi	No	-	-
12	Youth Club	Yes	-	-
13	Mahila Mandal	Yes	-	-
14	Credit Cooperative Society	No	-	-
15	Agricultural Cooperative Society	No	-	-
16	Milk Cooperative Society	No	-	-
17	Fishermen's Cooperative Society	No	-	-
18	Computer Kiosk / e-chaupal	Yes	-	-

19	Mills / Small Scale Industries	No	-	-
20	Other Facility	No	-	-

Table No. 6.8: Details other facilities in Mankani Village



Fig. No. 6.8: Other facilities in Mankani Village

6.8 MAINTENANCE OF EXISTING PUBLIC INFRASTRUCTURES

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Repair & Maintenance of Existing	Yes	-	Aanganwadi, Panchayat Building
2	Health Center	No	-	-
3	Public Infrastructure facilities,	Yes	Yes	-
4	Panchayat Building	Yes	-	Yes
5	School Building	School	Yes	-
6	Public Toilets & any other	No	-	-
7	Additional Information/ Requirement	Improve internal street roads	-	Yes
8	During the last six months how many times	Need Improvement in Village	-	Yes
9	Cleaning	Need Improvement in Village	-	Yes
10	FOGGING- Drive was undertaken in the village?	Need Improvement in Village	-	Yes

Table No. 6.9: Details Existing Condition of Public Building in Mankani Village

6.9 VILLAGE ELECTRICAL CONCEPT

6.9.1 ELECTRICITY ARRANGEMENT

- Electricity arrangement in Mankani village is supply by GEB.
- Overhead line system through electricity is Provided 24 hour in domestic use. But for agricultural use electricity is available only 8 hours.
- Government and school building are also well electrified.
- Electricity for road Streetlight is fulfilling by GEB.
- There is no renewable energy source are available to produce electricity.

6.9.2 ELECTRICAL USAGE

Sr. No.	Descriptions	Information/ Detail	Adequate	Inadequate
1	Electricity Distribution			
	Govt./ Private (Y/N)	24 Hrs.	Yes	-
	Power supply for domestic use	24 Hrs.	Yes	-
	Power supply for agricultural use	8-10 Hrs.	Yes	-
	Power supply for commercial use	24 Hrs.	Yes	-
	Road/street lights	Yes	Yes	-
	Electrification in Government Buildings/ Schools/ Hospitals	24 Hrs.	-	-
	Renewable energy source (Y/N)	No		
	LED Facilities	No	-	-

Table No. 6.10: Details Electricity Distribution in Mankani Village



Fig. No. 6.9: Electricity Distribution in Mankani Village

VII. CONCLUSION

From this Techno-Economic Survey we have concluded that what is basic need of village and what is amenities and prior requirement to make this as an ideal village. We have surveyed of an ideal village at Dharmaj near Anand and allotted village Mankani village near Bodeli, We have to determine that what is basic need & facilities to have in a village and providing this facilities as economical and sustainably for superior purposes in our Mankani village. We can also determine that what is the process needs to be done such all this work and what is role of villagers, Sarpanch, Local authorities, Talati, TDO, DDO for development of village and also basic and main thing is supporting to all will make sustaining design and facilities for village develops as an ideal village and make rurban of village and serve to nation.

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