

Modernization of Villages Through Vishwakarma Yojana: A Case of Pipodara Village, Surat

¹Rupapara Savan ²Khambhadiya Ronak ³Sheladiya Dharti ⁴Parmar Ashwini

^{1,2,3,4}Student

^{1,2,3,4}Department of Civil Engineering

^{1,2,3,4}SSASIT/ GTU, Surat, Gujarat, India

Abstract

Vishwakarma Yojana provides the benefit of real world experience and simultaneously applies technical knowledge in the development of rural infrastructure of Gujarat Technological University. Pipodara is one of the village of Surat district. So, it is necessary to develop the village for growth of Surat district, state and country also. In pipodara village infrastructure facilities like drinking water, drainage, pakka road, 90% pakka house, transportation and communication are sufficient. In pipodara village general facilities like children play ground, public latrine block, PHC are not available and they are not using the any sustainable energy. So, we will give proposal regarding sustainable energy sources and solutions related to infrastructural problems. Efforts have been made in this project work to identify and plan some of above facilities for making as well as gradation as per needs of future population. Selection of infrastructural facilities has been made based on the most urgent needs of people as well as environment protection and modernization.

Keyword- Rural Development, Provision of Urban Amenities in Rural Area, Sustainable Development, Problems of Rural People, Rurbanization

I. INTRODUCTION

In the absence of adequate employment opportunities, the rural people are unable to generate enough wages to sustain their livelihood. As a result, 40% families, who earn less than Rs.11, 000 per annum are classified as poor even though government estimates is only 22%. Apart from lower income, rural people also suffer from shortage of clean drinking water, poor health care and illiteracy which adversely affect the quality of life. Presently, about 25% of the villages do not have assured source of drinking water for about 4-5 months during the year and about 70-75% of the water does not meet the standard prescribed by WHO. Poor quality drinking water is adversely affecting the health is an important cause of infant mortality. Sustainable rural development may be defined as the management and conservation of the rural resources base in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations.

“India lives in its villages” –Mahatma Gandhi.

Around 70% of the State's population is living in rural areas. People in rural areas should have the same quality of life as is enjoyed by people living in sub urban and urban areas.

By this Vishwakarma yojna project government, want technical solution of the problem of villages at the engineering point of view. In this project the common problem of village are solved by the engineering students.

Through various government departments are involved in various infrastructural development works, a holistic view and modern solutions (aesthetic, vaastushastra) etc. can be provided by new engineers under vishwakarma yojna. The students with this view do study of villages.

II. METHODOLOGY

GTU under which the project of vishwakarma yojana allocated to students. Project contents are study of objective which was then followed by the literature review and visit of village to get current scenario of village. Then data receive from responsible person of village dwellers as well as committee member. After that techno economic survey under which the visit of ideal village was done. Under the scheme pipodara village were allocated to students by university. In first visit collected some basic information and data took photographs. After that the techno economic survey was done, in that social, socio-economical and physical information & data were noted, with the help of sarpanch, talati, village dwellers, principal, and doctors. The data were then analyse and detail study of requirement, suggestion and recommendation were carried out depending on infrastructure planning, social planning, physical planning and renewable resources technique. And after calculating gap analysis found that some infrastructure facilities were not available like toilet blocks, public gardens and PHC.

A. Study Objectives

The main objective of our of project work are:

- To collect the basic data of village.
- To understand the current scenario of infrastructure through techno-economic survey.
- To analyse the current rural development scenario through GAP analysis.
- To give the suggestions and recommendations for sustainable development.

III. STUDY AREA

Pipodara is a village in Mangrol taluka in surat district Gujarat state, india. It is located 27 KM towards north from district head quarter surat 28 KM from Mangrol. According to latest census report of 2011 pipodara village have 7765 population with 4555 Male & 3210 Female. Total land area of approx. 834 hectare, with agriculture covers 723 hectare and residential cover 6 hectare Most of the population of the village is engaged in industrial jobs and farming. Village has two lakes which can be developed as recreational spaces. It has good connectivity due to its vicinity with NH-8. Village has 24 hours DGVCL electrical board.



Fig. 1: Location of Study area
(Source: GOOGLE Map)

IV. DATA COLLECTION

Data collection is carried out following two stages:

- 1) Primary data collection
- 2) Secondary data collection

A. Primary Data Collection

Primary data collection includes visit of village, overview of village and document collection, information of village population, village map and other details from village authority. Organized the meeting with talati, sarpanch, deputy sarpanch and collect the rural issues from them. While visiting the village snapshot or photographs were taken such as water distribution system, disposal of solid waste, road network, bus stand, education facilities, health facilities, community hall, panchayat building and other essential services.



Fig. 2: Solid waste near the lake area



Fig. 3 :Existing Condition of veterinary home



Fig. 4: Road condition

B. Secondary Data Collection

Secondary data collection includes the techno economic survey. In techno economic survey 10 questionnaires which is filled by sarpanch, talati, panchayat member, school principal, village dweller and local guardian. By the techno economic survey and visit of village Pipodara the following problems are identified. Drinking water supply system and water treatment plant, Drainage facility, Health facility, Sanitation, Sewage system, Storm water drainage there is no arrangement of storm water drainage and storage of storm water. Socio cultural facilities are also not available in village like; Playground, Public, Community hall, Garden, Lake development. Adoption of non-conventional and renewable energy Solar Street light, Bio gas plant, Rain water harvesting, solid waste management

V. GAP ANALYSIS

Gap analysis is the process of find out the gap between existing facilities and required facilities of village. It is done to find out the deficiency of village people.

According to Urban development plan formulation and implantation (UDPFI) guide lines:

| Facilities | Planning Commission/UDPFI Norms | Village Name: | Pipodara(Surat) | |
|--|---------------------------------|---------------|-----------------------|------|
| | | Population: | | 7765 |
| | | Existing | Required as per Norms | |
| Social Infrastructure Facilities | | | | |
| Education | | | | |
| Anganwadi | Each or Per 2500 population | 3 | 3 | 0 |
| Primary School | Each Per 2500 population | 1 | 3 | -2 |
| Secondary School | Per 7,500 population | 0 | 1 | -1 |
| Higher Secondary School | Per 15,000 Population | 0 | 0 | 0 |
| College | Per 125,000 Population | 0 | 0 | 0 |
| Tech. Training Institute | Per 100000 Population | 0 | 0 | 0 |
| Agriculture Research Centre | Per 100000 Population | 0 | 0 | 0 |
| Health Facility | | | | 0 |
| Govt/Panchyat Dispensary or Sub PHC or Health Centre | Each Village | 0 | 1 | -1 |
| PHC & CHC | Per 20,000 population | 0 | 1 | -1 |
| Child Welfare and Maternity Home | Per 10,000 population | 0 | 0 | 0 |
| Hospital | Per 100000 Population | 0 | 0 | 0 |

| | | | | |
|--|--|-----------------|-------------------|-------------------|
| Public Latrines | 1 for 50 families (if toilet is not there in home, especially for slum pockets & kutcha house) | 0 | 2 | -2 |
| Physical Infrastructure Facilities | | | | |
| Transportation | | <i>Adequate</i> | <i>Inadequate</i> | |
| Pucca Village Approach Road | Each village | | √ | Inadequate |
| Bus/Auto Stand provision | All Villages connected by PT (ST Bus or Auto) | | √ | Inadequate |
| Drinking Water (Minimum 70 lpcd) | | <i>Adequate</i> | <i>Inadequate</i> | |
| Over Head Tank | 1/3 of Total Demand | 2 | 3 | -1 |
| U/G Sump | 2/3 of Total Demand | 2 | 1 | 1 |
| Drainage Network | | <i>Adequate</i> | <i>Inadequate</i> | |
| Open | | | √ | Inadequate |
| Cover | | | √ | Inadequate |
| Waste Management System | | <i>Adequate</i> | <i>Inadequate</i> | <i>Inadequate</i> |
| Electricity Network | | <i>Adequate</i> | <i>Inadequate</i> | <i>Inadequate</i> |
| Socio- Cultural Infrastructure Facilities | | | | |
| Community Hall | Per 10000 Population | 1 | 1 | 0 |
| community hall cum Public Library | Per 15000 Population | 1 | 1 | 0 |
| Cremation Ground | Per 20,000 population | 1 | 1 | 0 |
| Post Office | Per 10,000 population | 1 | 1 | 0 |
| Gram Panchayat Building | Each individual/group panchayat | 1 | 1 | 0 |
| APMC | Per 100000 Population | 1 | 1 | 0 |
| Fire Station | Per 100000 Population | 0 | 1 | -1 |
| Public Garden | Per village | 0 | 1 | -1 |
| Police post | Per 40,000Population | 0 | 1 | -1 |

Table 1: Gap analysis

According to UDPFI norms, there must be one PHC, two public toilet block, 3 overhead tank and one public garden for 7765 population in a village but there is no PHC, public garden and public toilet block in village pipodara.

VI. RECOMMENDATIONS

- Secondary school: According to UDPFI norms per 7500 population one secondary school are required and in pipodara village 7765 population(from census 2011) so we recommend provide one secondary school
- PHC or Health Centre: According to UDPFI norms per village one PHC or Health centre are required so the provision of one PHC in village
- Overhead tank: According to UDPFI norms in pipodara village two overhead tanks of 30000 lit capacities is exist. So one extra overhead tank of 10000 lit capacity is to be recommend
- Public Toilet Block: We recommend to provide two public toilet block in village

We have prepared gap analysis based on planning commission and UDPFI Norms. From the gap analysis following physical, social, and renewable source of energy amenities have been proposed as the primary requirements of the village and to be developed as soon as possible.

VII. SUGGESTIONS

- Panchayat Building: Improvement in administration system
- Police Station: Provision of police station in village
- Village Road: Maintenance of road
- Street lights: We suggest to provide solar street lights
- Village Lake: Rectification of Lake Required
- Recreational Facilities: Provision of Garden or Children Play Area
- Sanitation System: Improvement in disposal of sewage water

REFERENCES

- [1] Sumana Chatterjee (Aug. 2014),” The ‘Rurban’ Society in India: new facets of Urbanism and its Challenges”, IOSR Journal Of Humanities And Social Science (IOSR-JHSS), Volume 19, Issue 8,PP 14-18 e-ISSN: 2279-0837, p-ISSN: 2279-0845
- [2] Agarwal Sunny Kumar P., Upadhyaya Deep S.(April 2014),” Infrastructure Development of Village”, Volume-3, Issue-11, International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075
- [3] Urban Development Plans formulation and implementation Guideline 2014
- [4] Schedule of rate 2014 (Public work department Gujarat.
- [5] <http://censusindia.gov.in> - Census department website.