

# Integrated and Sustainable Planning and Development of a Village with a focus on Transportation and Communication, Infrastructure and Energy

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**Abstract-** Economies of villages are found to be one of the greatest contributions in economic issues in India. However it is observed that economy of village varies with natural conditions. Various modern civil engineering techniques are used by developed villages to solve this problem. For guiding such villages and considering technical issues the Civil Engineering techniques if applied can provide more feasible solutions. However this kind of helps become unavailable due to economic issues. Main objective of the project is to study Deogaon Village of Ahmednagar District with respect to its geological and topographical features and to give ideal solution for the problems relating to Transportation and communication, Infrastructure and Energy. In order to achieve this objective the village is surveyed and the problems are given feasible solutions which are economic. Deogaon has a population around 4000 and located at latitude  $19.55^{\circ}$  N and  $74.92^{\circ}$  E in longitude.

## 1. INTRODUCTION

Literally and from the social, economic and political perspectives the statement is valid even today. 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. Further there are cascading effects of poverty, unemployment, poor and inadequate infrastructure in rural areas on urban centres causing slums and consequential social and economic tensions manifesting in economic deprivation and urban poverty. Hence Rural Development which is concerned with economic growth and social justice, improvement in the living standard of the rural people by providing adequate and quality social services and minimum basic needs becomes essential. The present strategy of rural development mainly focuses on poverty alleviation, better livelihood opportunities, provision of basic amenities and infrastructure facilities through innovative programmes of wage and self-employment. The above goals will be achieved by various programme support being implemented creating partnership with communities, non-governmental organizations, community based organizations, institutions, PRIs and industrial establishments, while the Department of Rural Development will provide logistic support both on

technical and administrative side for programme implementation. Other aspects that will ultimately lead to transformation of rural life are also being emphasized simultaneously.

Rural areas are facing major challenges today which arise mainly from globalization, demographic change and the rural migration of young, well-trained people. Policies for rural areas aim to contribute to recognizing and making use of strengths and opportunities.

In state like Maharashtra Hivre Bazaar, Shirpur and Ralegansiddhi are among the places where remarkable Panchayat functioning has taken root, and among the few locations where the resultant developmental transformation is dramatic and multi-sectorial. Hivre Bazaar, Shirpur and Ralegansiddhi have showed their active participation to achieve desired development with respect to social, commercial, educational, agriculture, environmental. Integrated Village Development based on the processes adopted by the Panchayats and citizens in villages which have shown remarkable self-governance and local development. Various resources, particularly money, can be sourced from government programs of various kinds, departmental schemes, NGO support and directly approaching development and corporate donors, such as

Employment Guarantee scheme (EGS), Indira Aawas Yojana (IAY), National Rural Employment Programme(NREP), Rural Landless Employment Guarantee Programme (RLEGP), Integrated Rural Development Programme (IRDP), Pradhanmantri Gram SadakYojana,(PMGSY), Swarnajayanti Gram SwayamrojagarYojana (SGSY).

## **2. NECESSITY OF VILLAGE PLANNING AND PLANNING :**

- Systematic planning helps to identify the most efficient and effective way to address problems or undertake new projects, or find the most effective and suitable solutions. It is also the most effective way to achieve any desired goals for improvement of village life.
- By adopting a systematic approach, results are quickly achieved and in the most cost- efficient and effective manner. Therefore the results become visible and felt by all concerned and appreciation is gained by the initiators.
- Third, to achieve desired changes and goals, the involvement of various people is required. With full plan in hand, all those concerned with its achievement can see their roles and contribute to impart, so that the project is smoothly implemented. That is, coordination becomes easier with prior plan.
- To realize any goal or project, resources are necessary. A plan enables a full calculation of the resources required, such as money, people, land and machinery etc., which can then be used to mobilize and put together the necessary funds from different sources such as government schemes, Panchayat resources, NGO support, donor organizations, local banks, businesses and the community.

## **3. OBJECTIVES OF VILLAGE PLANNING AND DEVELOPMENT:**

The following are objectives of participatory planning, and all are essential for successful development of the village. These are –

- Having detailed and updated information on all aspects of a village – the village database
- Improve the links between informal community based plans and the formal, statutory plans of (Local) Authorities.
- Systematically preparing plans for various kinds of developmental activities, executing them and managing the systems and projects developed – planning.

- To identify infrastructural needs of the target area and prioritize them.
- To explore opportunity of networking / partnerships with Govt. /Local bodies' plans and intervention for spearheading overall development of the target area.
- To analyse the gaps between needs & available resources in terms of government/local bodies, Central /state's erstwhile/existing interventions to avoid wastage of resources because of duplicity.
- To see possibilities to reduce funding gaps using fund from PradhanMantriAdarsh Gram Yojana (PMAGY) through convergence with existing scheme.
- Aims at intelligent and economic spending of the public funds for achieving welfare of inhabitants in respect of amenity, convenience and health.

## **4. METHODOLOGY**

After going through the literature stated earlier, the following methodology was devised in order to achieve the specific goals of project i.e. transportation, Energy and Infrastructure.

### **Internal Road network and design of road design**

- Nature of the ground shall be studied and the locally available material shall be used in the construction of roads.
- Internal village road of concrete have to be designed as per IRC recommendation and proper road network.
- Tests on Soil and Calculation various parameter of road such as width and thickness

### **Infrastructure**

- Study of the existing houses and the available infrastructure in the village.
- Design of economic and efficient houses and sanitation blocks.

### **Energy**

- Existing availability of cooking fuel and energy sources are studied.
- Proposal of renewable and clean energy for cooking, electricity and irrigation purpose.
- Electricity requirement for agricultural as well as domestic uses are studied.

Gram sabha was organised to get suggestions from the villagers and got feedback from the students also. We also did village survey based on

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topography. The problems which suffers the villagers are also discussed by one on one interaction and suggestions related to those problems are taken down.



Photo No.1: Feedback was taken from the students



Photo No. 2: Interaction with the people at Gramsabha

**5. BASIC INFORMATION ABOUT VILLAGE**

- Name of the Village : Deogaon

- Latitude : 19.55 N
- Longitude : 74.92 E
- Population : 4000
- Rainfall : 70mm (seasonal)
- Natural Stream : 30km from the Village
- Nearest Railway station : 55km from village (Ahmednagar)
- Bus Station : 5km from village (Bhenda)



Fig. 1 Map of Ahmednagar

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**6. SURVEY FORM FOR VILLAGE**

Table No. 1: About Village

Name of the village	Deogaon
Tehsil	Newasa
District	Ahmednagar

Table No. 2: Village Details

Distance from District	60 km
Distance from Tehsil	22 km
Distance from Rural Hospital	20 km
Distance from All-weather Road	-
Total number of households in the village	110 (Gaathan Area)

**INFRASTRUCTURE**

Table No. 3 : Housing

1. No. of Families in the Village	110
2. Out of (1), no. of families	-
1) Living in Pakka houses	18%
2) Living in Kachcha houses	82%
3) (i) + (ii)	100%
4) Homeless	-

Table No. 4: No. of Houses with roofing materials

Tin	58%
RCC	18%

Thatched	24%
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Noof houses with Sanitary Latrines	39/110
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**Road Survey**

Table No. 5: Is the village connected to the above by apakka road – Yes

Sr. no.	Category	Distance of the Village from the nearest (km)
1	National Highway	-
2	State Highway	20
3	Major District Road	5

Table No. 6 : Details of Transportation

**Internal roads :**

- No. of hamlets in the village : 3

Mode	Availability(Y/N)	Frequency
Rail	N	-
Govt Bus/Private Bus	Y	6 times a day
Taxi/Tempo	Y	-
Other (specify)	Y	2-3 / hrs

- Are all hamlets connected to each other by pakka roads : NO

**Energy**

Total number of households in the village - 110

Table No. 7 :Village electrification

1. Not electrified	30%
2. Less than 6 hours	-
3. More than 6 hours	70%

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Source of Electrification : Government

Table No. 8 :Any other source of energy

Solar	NO
Wind	NO
Biogas	NO

**7. FINDINGS OF THE SURVEY**

From the one on one interactions with the villagers,we came to know about following problems

- Electricity connection was not available throughout the village.About 30% of the houses are not electrified.
- Chullas are used in most of the houses and responsible for pollution and cause health related problems.
- Housing scenario is also so poor that only 18% of the total houses are of RCC.
- Road network was surprisingly in good conditions and to us no need of special attention is required.

**8. CONCLUSION**

- We are working on the problems and shortcomings of the village.

- We are in a phase to rectify all the problems discussed of civil engineering and gives a feasible and may be economical solution.
- This would eliminate the hardship faced by the villagers and this project will be success of our project.

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