

A Study on Designing a Sustainable Development and Planning Strategies to Backward Villages in South India

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Abstract - The rapid growth of the Indian economy is the envy of every other nation in the world today. The rate of growth is second only to china. The advent of high tech jobs has exploded the economic conditions in mega cities like Chennai, Bangalore, Mumbai, Delhi, and other industrial towns and cities to great heights. Wireless communication, information technology and the industrial revolution has spread across the country but this blossoming economic growth has not spread to the agrarian populations which reside in the rural parts of the country. The social and economic equity between the two sections of the population is widening every day. Even though it would be pretty hard to bridge the gap, at least attempts should be made to improve the living conditions in the rural areas. An innovative approach to rural housing is suggested in this project, which emphasizes on low cost housing with low impact design (LID). A low impact water distribution system along with a purification system is envisioned for this project. A remote village in the interior parts of Tamil Nadu state, Kancheepuram District, Sogandi panjayat villages have been chosen as a model village.

Key words: Sustainable development; rural development; Developing countries;

I. INTRODUCTION

1.1 Background

The rapid growth of the Indian economy is the envy of every other nation in the world today. The rate of growth is second only to china. The advent of high tech jobs has exploded the economic conditions in mega cities like Chennai, Bangalore, Mumbai, Delhi, and other industrial towns and cities to great heights. Wireless communication, information technology and the industrial revolution has spread across the country but this blossoming economic growth has not spread to the agrarian populations which reside in the rural parts of the country. The social and economic equity between the two sections of the population is widening every day. Even though it would be pretty hard to bridge the gap, at least attempts should be made to improve the living conditions in the rural areas. Clear and reasonable living conditions should be made available, with a supply of safe drinking water and

decent sanitation facilities, all of which should be provided without exceeding the budget of the Indian Government.

An innovative approach to rural housing is suggested in this project, which emphasizes on low cost housing with low impact design (LID). A low impact water distribution system along with a purification system is envisioned for this project. The design of the homes will incorporate the principles of sustainable design and comply with the regulations and guidelines proposed by Leadership in Energy and Environmental design (LEED). A remote village in the interior parts of Tamil Nadu state, Kancheepuram District, Sogandi has been chosen as a model village.

1.2 Statement of the problem

India is the largest democracy in the world, with about 16% of the world's population. India's population growth remains around 2%. India is one-third the size of America with a total land area of only 2,973,190 km². The country remains predominantly rural, with just 26% of its people living in cities. According to recent census, the rural housing shortage was 13.72 million consisting of 3.41 million households without homes and 10.31 million living in unserviceable homes. It has also been estimated that another 10.75 million homes would be needed to cover the population growth during 1991-2002, at the rate of an annual growth of 0.89 million homeless.

The census further indicates that about 40.82% of the total of 112 million rural households remains in one-room tenements, 30.65% in two-room houses and 13.51% in three-room units or more. In terms of roof type, the percentage of houses having grass, straw and thatch is about 33%, mud and unburnt bricks 6.05% and tents 4.22%. Apart from this, in terms of quality of walling, 47.27% of the total households have grass and straw walls and about 4% have tent and cloth walls. All of which are extremely hazardous to the people living in such dwellings and to the overall quality of life. Thus, requiring the need of improve the living conditions for the inhabitants in rural parts of the country.

1.3 Overall Merit:

The proposed work will develop the overall living standards in rural parts of India. While improving the standard of living for the people in these regions, there will be an improvement in the environmental quality in the region. While investing in these areas there will be a reduction in capital costs and an increase for rural business. Protecting the country side will also enhance the rural tourism industry and thus more monetary benefit. When the quality of life in the rural areas is better the influx to the cities will decrease and thus reducing the stress on the cities infrastructure.

On completion of this project, which encompasses the principles of sustainable design (LID and LEED certification) and low cost housing proves to enhance the quality of life, a “rural low cost housing” revolution is the order for India, just as India successfully went through the Agricultural revolution” in the seventies, “Industrial revolution” in the eighties and the “Information technology Revolution” which is presently prevalent.

1.4 Objectives of This Study:

This thesis outline the practicality of Sustainable Low Impact Development (LID) homes in rural India. The overall research objectives are

- 1) To conduct the reconnaissance survey in the study area
- 2) To develop and implement a methodology for constructing low cost homes using the materials which are easily accessible in rural areas without affecting the integrity of the environment.
- 3) Providing basic conventional and innovative methods for the essential amenities to people living in these areas.

II. METHODOLOGY

2.1 Study Area

As rural India is extremely poor it is necessary to provide houses with few basic necessities which are essential for a decent, productive life: a stable house; safe drinking water and sanitation. Sogandi panjayat as an under privileged village Panjayat Union in Tirukalukundam Taluk of Kancheepuram District was chosen as the study area. The panjayat is situated about 10- Km to the East of District in Tamilnadu , India. Figure 3.1 shows the location of Sogandi panjayat villages.

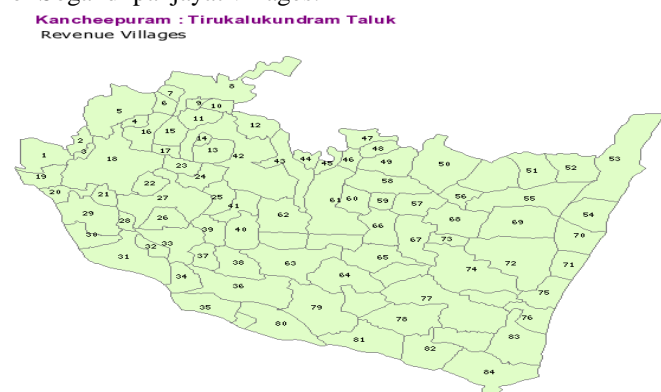


Figure 1: shows the location of Sogandi panjayat villages

2.3 Reconnaissance survey

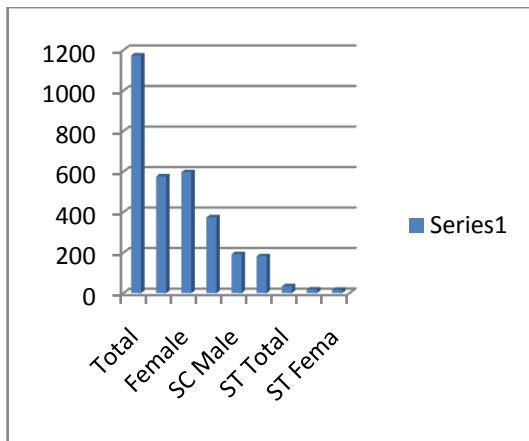
A short-term reconnaissance survey was conducted for a period of one year from October 2013 to October 2014. The following data were collected.

1. Population
2. Population (0-6)
3. Scheduled Caste
4. Scheduled Tribes
5. Literates
6. Illiterates
7. Workers
8. Non –Workers
9. Main Agricultural Labours
10. Households

The table 1 show the gender-wise break-up of population, population of scheduled caste/ scheduled tribes , literates , illiterates etc.,.

Table No -1 : Gender-wise break up of population, population of scheduledcaste, etc.,(Sogandi-RURAL)

Parameter	Total	Male	Female	Percentage	Sex Ratio
Population	1173	576	597	100	1036
Population (0-6)	144	70	74	13.99	1057
Scheduled Castes	374	192	182	36.35	948
Scheduled Tribes	34	18	16	3.3	889
Literates	712	404	308	69.19	762
Illiterates	461	172	289	30.81	1680
Workers	502	355	147	42.8	414
Main Workers	397	342	55	33.84	161
Main Cultivators	114	106	8	28.72	75
Main Agricultural labourers	163	138	25	41.06	847
Main Workers in household industries	2	2	0	0.5	0
Main Other Workers	118	96	22	29.72	175
Marginal Workers	105	13	92	8.95	5692
Marginal Cultivators	1	1	0	0.95	0
Marginal Agricultural labourers	103	11	92	98.1	8364
Marginal Workers in Household industries	0	0	0	0	1
Marginal Other Workers	1	0		0.95	0
Non Workers	671	221	450	57.2	2036
Households			267		



Graph 1

The findings of the Reconnaissance Survey reveal that the majority of the rural houses are 'kutcha' with walls made of unburnt bricks, mud, bio-mass. Only a small portion could be categorized as pucca. As per another estimate, about 75% of houses in the study area belonged to 'the category of semi or non-permanent construction. Besides, 85% of the rural houses do not have sanitation, and adequate supply of drinking water and electricity.

About 64% of the Scheduled caste people in the study area, none of them having a home and the majority of the scheduled caste people living below the poverty line is to be found in the study area. This alone speaks of the poor affordability of the rural population. As a result of their inability to generate the needed resources, the rural poor are compelled to live in conditions of squalor. Simultaneously, the number of kutcha construction has increased testifying the fact that the rich get richer and the poor still poorer in the country.

Hence, the study has chosen the villages of the down trodden.

III. CONCLUSION

Marginal farmers and landless peoples will be benefited by new economic policies and improve the purchasing capacity by way of maximum working days in the year with affordable drinking water supply, sewage and drainage with low cost concrete roofs.

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