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Monitoring and Evaluating the Contribution of the Rural Development in India and Master Plan for Development of MULHER Village

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ABSTRACT

The rural development generally refers to the process of improving guarantee of life and economic welfare of people living in relatively isolated and sparsely polluted in India, out of total population of 131 crores, 83.3 crores live in rural area. Thus, nearly 70 percent of the India's population lives in rural, these populations can be characterized by mass Poverty, high level of unemployment, low level of literacy and income, high of unemployment and poor nutrition and health status. In order to tackle these specific problems a number of rural development programs are being implemented to create opportunities for improvement of the quality of life of these rural people. In this paper, various rural development schemes, policies and programs proposed by government are discussed in detail. An ideal master plan of MULHER village is also developed further to show the shadow of ideal village. Most poor people live in rural areas of developing countries and are dependent on agriculture for their livelihood. The pressure such as population growth, modernization, ethnic conflicts and environmental degradation are factors that are forcing local inhabitants to change their way of life. Under such circumstances we try to give a solution of various problems of rural peoples.

KEYWORDS: *Rural Development, Smart Village, Master Plan, Housing Schemes, Solid Waste Management, Water Supply, Biogas Plant, Vermi Composting, etc*

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INTRODUCTION

Rural Development is a process, which aims at improving the wellbeing and self- realization of people living outside the urbanized areas through collective process, According to Agarwal (1989), natal development is a strategy designed to prove the economic and social life of rural poor. Lifestyle in rural areas is different than that in urban area, mainly because limited services available. Government services like law enforcement, school, fire departments, and libraries may l distant, limited in scope, or unavailable. Utilities like water, sewer, street lighting, and garbage collection may not be preventing. Public transport is sometimes alien or very limited, people use their own vehicle walk or ride an animal. A society, or community can be classified rural based on the criteria of lower population density, less social differentiation, less social and spatial mobility, slow rate of social change the Agriculture would be the major occupation of rural area.

A. Importance of Rural Development

Rural development is a dynamic process, which is mainly concerned with the agricultural growth, putting up of economic and social infrastructure, fair wages as also housing and house sites for the landless, village planning public health education and functional literacy, communication etc. Rural development is a national necessity and has considerable importance in India because of the following reasons. About the fourth of India's population live in rural area, thus rural development is needed to develop nation as whole. Nearly half of

the country's national income is derived from agriculture, which is occupation of rural India. Around 70% of Indian population gets employment through agriculture. Bulks of raw material for industries come from agriculture and rural sector. Increase in industrial population can be justified only in rural population motivation increasing the purchasing power to buy industrial goods. Growing disparity between the urban elite and the rural poor can lead to political instability.

B. Need of Rural Development

The rural economy is an example of an agrarian economy. Although farming and agriculture are one of the most important primary activities, the problem lies in the fact that they share in the GDP of the agriculture sector is on a constant decline. At the same time, about two-thirds of India's population depends on agriculture. As a result, the productivity is not up to the mark, with conditions only getting worse.

Moreover, public investment declined since 1991 coupled with a lack of adequate infrastructure, credit, transport, employment, etc. Henceforth the agricultural output has grown at only 3.2% during 2007-2011. All these factors have been denting the process of development. Therefore there is a need to focus on rural development and not just urban development.

1. To develop rural area as whole in terms of culture, society, economy, technology and health.
2. To develop living standard of rural mass.
3. To develop rural youths, children and women.
4. To develop and empower human resource of are in terms of their psychology, skill Knowledge, attitude and other abilities.
5. To develop infrastructure facility of rural area.
6. To provide minimum facility to rural mass in terms of drinking water, education, transport and communication.
7. To develop rural institutions like panchayat, cooperative post, banking and credit.
8. To provide financial assist to develop the artisans in the rural areas, farmers and skilled labor, small and big rural entrepreneurs to improve their economy.

C. Scope for Improvement

The primary area to improve should be providing employment in rural areas and improving the productivity of the agricultural sector. Often villages in our countries are not in sync with the urban areas because of bad connectivity. Eventually, this leads to segregation and a social divide between urban and rural areas. In essence, the infrastructure of rural areas should drastically improve. Even after so many years of Independence, stigmas like the caste system still have a grip on rural people. Quality education can help in achieving the goal of eradication of such social evils. The dwindling literacy rates in rural India, especially for females, are a major matter of concern. There is a need for land and technical reforms. Modern technologies like organic farming should be incorporated to improve outputs and profits. Lastly, people should be given access to easy credit and loans by improving the banking system in rural areas.

It can be easily concluded, that for the development of an economy in both rural and urban areas need to be focused upon. Rural areas need drastic changes in areas like infrastructure, credit availability, literacy, poverty eradication, etc. The schemes that are already in place with the aim of rural development need a new outlook and proper updating. Accordingly, the government needs to act for the upliftment of rural India.

CASE STUDY OF IDEAL VILLAGES IN INDIA

A. Hiware Bazaar, Maharashtra

This is a village located in the rain shadow region of the Sahyadri mountain range in Maharashtra's Ahmednagar district. Till the 1980s, farming in the village was largely ruined, and farmers were forced to migrate seasonally to surrounding areas for work.

From the 1990s onwards, things began to change. The village Panchayat adopted a holistic focus on a variety of activities, with community groups responsible for various aspects of the village economy and social development. Women thrift groups, Milk Dairy Society and Youth Clubs are examples of such community-based organizations The village Panchayat also focused on family: planning and reforestation, for which awareness programs and drives have frequently been organized in the village The village Grau Subha also Launched a watershed development programs and an annual water audit is being conducted in the village since 2004 for more efficient and equitable management of water resources. It has also contributed to greater agricultural productivity. Today, the village is considered a model for community-led, multi-sectorial growth of rural parts of the country.

Fig. 1 Hiware Bazaar, Mahaarashtra

B. Punsari Village, Gujrat

Located in Gujarat's Sabarkantha district, Punsari village has emerged as a model village with modem urban amenities such as 24X7 power supply, Wi-Fi connectivity, CCTV cameras to ensure security, and pucca roads connecting the village with other villages and towns.

Other important features of the village include:

- A reverse osmosis plant which supplies 20 liters of water to each household at Rs. 4/-
- Use of solar power for agricultural purposes
- Accidental Insurance cover to one member of every household
- Air-conditioned primary schools with no dropouts
- Bus facility for all households
- Focus on behavioral change through campaigns and awareness drives For this purpose, Loudspeakers have been installed in different parts of the village Punsari was awarded with the best Gram Panchayat Award from the Centre and the State in 2012.

Fig. 2 Punsari Village, Gujrat

C. Ankapoor Village, Telangana

Ankapoor is located in the Nizamabad district in the state of Telangana. Ankapoor has been global recognized as a "Model Agricultural Village" for its achievements in introducing modern technologies in agriculture while ensuring the participation of all section of the village community, particularly won Organizations like the Indian Council for Agricultural Research (ICAR), International Rice Research Institute (IRRI), Manila and International Crops Research Institute for the Semi-arid Tropics (ICRISAT have formally commended the developments in agriculture in the village.

Some of the important features of the agricultural model of the Ankapoor include:

- Peasant Association of the village coordinates various agricultural interventions.
- The decision making process is inclusive and based on consensus-building Women live dominant role in the utilization and supervision of labor.
- Focus on new sources of income, such as commercial cultivation of so, scientific crop rota techniques.
- Sustainable agriculture with greater use of farmyard manure and lesser use of chemical fertilizers.

Fig. 3 Ankapoor Village, Telangana

D. Kumbalangi Village, Kerala

Kumbalangi is essentially a fishing label which has been developed unique rural destination in Kerala's Ernakulam district. The Kumbalangi Integrated Tourism Village Project launched in 2004, with a focus on ecotourism, while offering tourists a glimpse of the rich and ran of the Indian countryside. The important action in Kumbalangi include organic form produce used to Prepare meals for tourists, toddy tapping and crab Farming To keep the village clean and serve its energy needs, households are also provided subsidies for setting up mini began plants in their households. The Kumbalangi approach could be adopted by other costal village to boost tourism and provide livelihood to local communities.

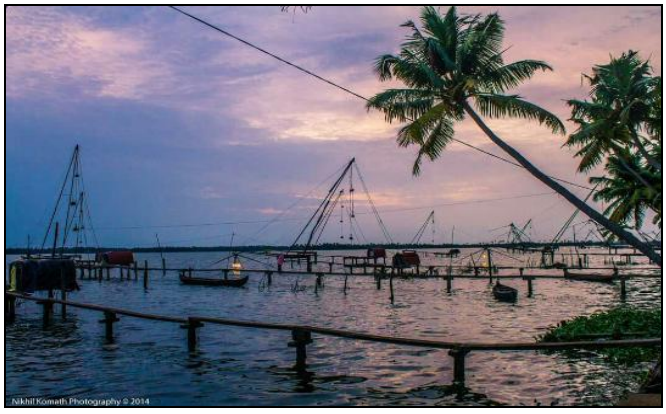


Fig. 4 Kumbalangi Integrated Tourism Village, Kerala

RESEARCH METHODOLOGY

It describes the methodology adopted to achieve the aims and objectives of the study, details of the methods used, and the different procedures applied to investigate various methods for Rural development of India and Master plan for Mulher village.

A. Aim of the Study

To study how the rural development can be rural development techniques can be implemented to villages in order to have sustainable development.

1. **Improved livelihood:** The main target of rural development projects is to improve the livelihood of the rural peoples living and operating in villages.
2. **Sanitary Waste Management:** For peoples living in villages the main cause of bad odour and smell is open drainage and inefficient treatment units. The rural development projects also consider to improve the sanitary sewage disposal management.

B. Objectives of the Study

The objectives of the study are as follows:

1. To develop rural area as whole in terms of culture, society, economy, technology and health.
2. To develop living standard of rural mass.
3. To develop rural youths, children and women
4. To develop and empower human resource of rural area in terms of their psychology, skill Knowledge, attitude and other abilities.
5. To develop infrastructure facility of rural area.
6. To develop rural institutions like panchayat, cooperatives, post, banking and credit.

C. Scope of the Study

Rural development is a dynamic process, which is mainly concerned with the rural areas which include agricultural growth, putting up of economic and social infrastructure, fair wages as also housing and house sites for the landless, village planning public health education and functional literacy communication etc.

- The planning of "MULHER VILLAGE" will provide certain guidelines for the better house planning. In the future, the theory of this project can be applicable for development of any village.
- The project has been motivated by the desire plan a well and comfortable house system, solid waste management system that can be helpful as well as provide ease to people living in respective village.
- This provides us opportunity to pass a pain of village which is suitable in the area affected by disaster. This system will prove beneficial if certain guidelines in planning are taken in consideration so that the proposed plan can be implemented in future.

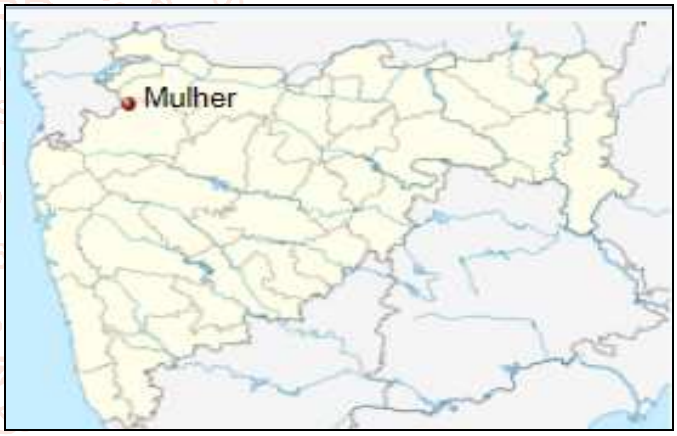
PERFORMANCE ANALYSIS

It describes performance analysis study on Rural development of Mulher village. This analysis also shows current scenario, challenges, limitations and implementation for Rural development of Mulher village.

A. Mulher Village

The North-South stretch of Sahyadri originates in the Baglan region of Nashik. The North of Sahyadri, in the Baglan region, has got dual ranges, Selbari – Dolbari. Forts like Tambolya, Nhavigad, Pinnacles of Mangi and Tungi lie on Selbari range while Mulher, Moragad, Salher, Hargad, Salota lie in Dolbari range. These forts lie on the border of Dang region, a dense forest, in the West of Gujarat and Baglan region in Maharashtra.

The other name of Baglan is 'Bagulged'. There is a mixed impact of Gujarat and Maharashtra on the living-style of residents, as the region is on the border of these States. The land of this region is very fertile, making people to adopt farming as their occupation. Plenty of water makes this region fully flourished and rich.



MULHER is in Nashik district. It is famous for vegetables, onion, sugarcane, etc. It also has a historical fort which was captured by SHIVAJI MAHARAJ. It is also blessed with many tourist center. The village is administered by Gram Panchayat Mulher. Mulher village is situated 30 kms from satana taluka and 110 kms from Nashik District

As Mulher village is situated on the Maharashtra and Gujarat border it is connected with state highway which is 10km from village. This village is a center for all the small villages nearby for business, trade, education etc. This village has only one primary school. Mulher Fort is located in Mulher village. From the township to the base of the Fort is approximately 5 kilometres.

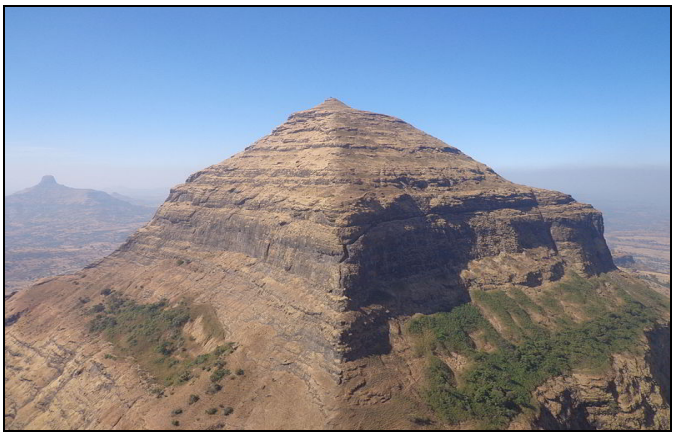


Fig. 5 Salher Fort

Table -1: Rainfall Data of Mulher Village

Sr. No.	Rainfall	Rainfall (mm)
1	Maximum rainfall in last 20 years	1850.8
2	Minimum rainfall in last 20 years	305.94
3	Average rainfall in last 20 years	875.6

Table -2: Population Forecast

Sr. No.	Population Forecast in	Population
1	2010	8100
2	2025	18450
3	2040	25000

The above population forecast is worked out based on the census figures of 1961 to 2011.

B. Constructing Economical Roads under PMGSY

A bitumen road is damaged fast in high rainfall areas due to poor drainage conditions, while a gravel road becomes dusty, causing safety and helath problem due to a cloud of dust raised by motorized traffic, which is increasing by leaps and bounds. Problem of dust and wet weather damage to roads can be easily overcome by constructing a thin flexible concrete road using innovative technology at a cost lower than that of a bituminous pavement for equal traffic. The surfacing layer of concrete can be as thin as 50mm for a low volume of traffic to about 100mm for about 50 commercial vehicles per day. The paper describes construction of a road in a village MULHER, close to Satana (Baglan) using the new technology.

The existing road had a formation width of 3.50m and the road crust consisted of murrum or laterite boulder of 100 mm average thickness. The CBR of the subgrade was found to be 5 and the region has an average annual rainfall of 1500 mm. the daily traffic consisted of about 30 iron-rimmed bullock carts, 3 to 5 trucks carrying building material, 20 three wheelers, 30 motorcycles and 100 bicycles per day. The village has a primary school and fairs are held twice a year with plenty of commercial activities.

C. Planning of Closed Drainage System for MULHER Village

In close drainage system waste water goes through of the drain hard Toe wall should be constructed. Underground covered cemented pipe line in place of open drainage system. After the success of these underground drainage systems and keeping in view the availability of PVC and Hume pipe in the local market, a slight change have been made for the safety point of view, the cemented pipe is replaced by PVC and Hume pipe. After the construction of silt catcher at household level it is connected with 3" PVC pipe and finally connected with 6" Hume pipe with the main line. In the house silt catcher should be constructed near the plate farm made for washing purposes and pipe slope should be kept approx. 1:200. Instead of bends it is better to provide chambers in turning points of pipe line. At the end this is very imported to keep construction quality in good and people's participation is necessary during planning, construction and maintenance of structure constructed.

For proper O and M the depth of underground drainage should be at least 60 cm so that PVC pipe in the safe from any surface pressure. Silt catcher should be clean at least once in the week. Time to time water should be flow in drains. The importance aspect for the O and M is active people participation and awareness in the society/community.

Fig. 6 Proposed Close Drainage System

D. Smart Farming in MULHER Village

Smart Farming is focussed on the use of data acquired through various sources (historical, geographical and instrumental) in the management of farm activities.

Fig. 7 Smart Farming System

Technologically advanced doesn't essentially mean that it is a smart system. Smart systems differentiate themselves through their ability to record the data and make sense out of it. Smart farming employs hardware (IoT) and software (SaaS) to capture the data and give actionable insights to manage all the operations on the farm, both pre and post harvest. The data is organized, accessible all the time and full of data on every aspect of finance and field operations that can be monitored from anywhere in the world.

E. Smart Dairy for Milk Production

Dairy farmers are in the era of precision farming which is considered to be more important for information provision and for capturing competitive market, hence the need for a variety of data sources that contain the dynamic and static cow data about feeding, calving, nutrition, insemination, and the process of milk production. Internet of things started influencing the milk production. This step should necessarily be taken to meet the demand for dairy for huge population of the world. These are almost the last decades when the milk demands are fulfilled without the help of the latest technology; after that it will not be possible to encounter the demands for dairy and dairy products without technology. It is always considered as a challenging task to decide the correct time for milking the cow.

Lack of technology can cause the milk to be perishable and fragile. In this matter, IoT can support farmers with wearable sensor devices to keep them aware of the status of every cow. The sensor-based system can effectively and correctly detect the illness of the cow, before it effects the milk production. The farm owner can place the sensor onto the cow's neck, tail, or leg for acquiring real time data to examine numerous factors like cow's behavior, activity, health, feed consumption, milk production, and fertility management. These wearable sensors can spot cow's illness and diseases such as mastitis or any other disease that can reduce milk production.

Fig. 8 Smart Dairy for Milk Production

F. Weather and Irrigation Forecast System

Today, implementing an IoT solution for smart agriculture provides the ability to monitor fields, automate irrigation systems, and predict weather changes for better resource management. In this way, agribusiness can reduce environmental impact, reduce costs and maximize yield performance. With LoRaWAN technology, long-range low-energy wireless sensors can be used to send data from the field to the cloud, allowing farmers to leverage the data and improve their activities. In the agricultural sector, one of the key benefits of LoRaWAN is its ability to provide long-distance coverage in remote locations where internet coverage is limited.

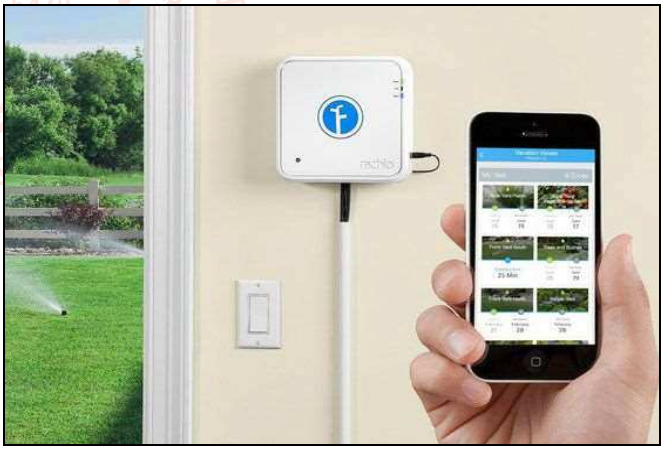


Fig. 9 Weather and Irrigation Forecast System

G. Health Care System

Smart healthcare is a health service **system** that uses technology such as wearable devices, IoT, and mobile internet to dynamically access information, connect people, materials and institutions related to healthcare, and then actively manages and responds to medical ecosystem needs in an intelligent manner.

Fig. 10 Health Care System

H. Education System

On the other hand, a **smart education system** is characterized by the flexibility that allows the students to learn at their own pace, stopping to review the topics repeatedly, or clearing the doubts with the teachers. Additionally, a **smart education** allows the students to learn at a place of their choice or create a suitable learning environment.

Fig. 11 Education System

I. Solar Panels

India being a tropical country with no lack of sunshine, there is a great scope of harnessing solar power. Considering this fact, the government of India is taking aggressive steps to accelerate the country's solar energy supply. In fact, huge investments in solar energy facilities have been made in recent years to help meet the needs of our ever growing population. Since the last two years, three villages of India have become fully solar powered.

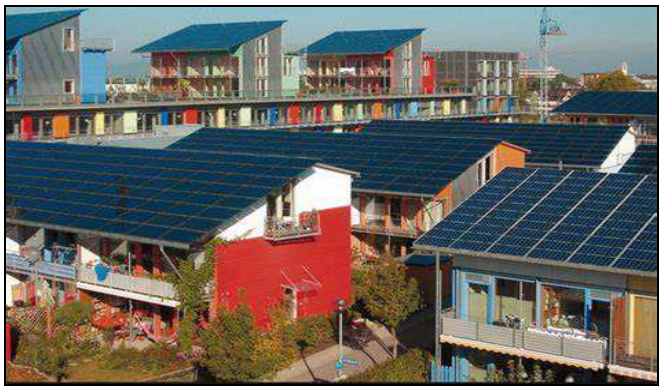


Fig. 12 Solar Panel System

J. Homes for all

Fig. 13 Homes for all

CONCLUSION

On completing this project, we have conclude that villagers of MULHER will be provided with better facility i.e. proper housing system and proper amenities, which will enhance their living standard and most important that they get shelter for living. Development refers to improving the quality of lifestyle and also developing economic welfare of people living in particular area. If proper planning and precautionary steps taken, the villagers of any rural area can be developed. We conclude that, the housing system and plan given by us for the village may become comfortable and helpful to the people if the prepared plan is executed. Although we develop new plans, we recognise some limitations of our study and resultant future research avenues.

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