

# Smart Village – A Case Study of Pimpalgaon Malvi Village

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**Abstract-** India, a developing country and we all Indians are trying to make it a develop country. But not a single factor will make it so. Smart cities are one of those factors. While everybody is busy dealing with smart cities, we forgot that we have villages too. So, we also need to make our villages smart. Maharashtra government is trying to make its villages better. They are launching various schemes for the same. Now, it is the responsibility of Gram Panchayts to get them applied effectively and within a short period of time. As a result, village growth will take place indirectly resulting in growth of state as well as country. In this particular project we are about to deal with the Pimpalgaon Malvi village. Though some basic amenities like electricity, clean drinking water, road network, e – learning is available but the village is still lack of sewage water disposal, solid waste management, rain water harvesting, biogas plants, energy conservation, bus stop, street lights etc. So by applying these factors we can make the village smart.

**Keywords-** biogas, energy conservation, sewage, smart village, solid waste

## I. INTRODUCTION

Growth of any country is mainly dependent upon people living in it. About 68.84% people live in different 640867 villages. This is very major number. So, for the growth/development of the country these villages and this population plays a vital role. Many of the villages are still very behind from the rest of the world. It is because of unavailability of some basic as well as some advanced amenities/facilities. These amenities include clean drinking water, electricity, drainage network, sewage disposal, solid waste management, education, rain water harvesting, energy conservation, transportation system, recreational facilities, modern technology and agricultural facilities along with good infrastructure. Unavailability of above mentioned factors won't make a village a smart village. Resulting to this no progress of the country will be there.

So, it is necessary to develop such amenities over there. On the other hand, people living in villages migrate to the nearby cities because of the insufficient amenities. They

also deserve a good lifestyle and a healthy environment as like people living in cities. This project is going to focus on such ideas which will take the village towards growth.

## II. NEED AND SCOPE OF STUDY

The need of study is to meet the basic requirements of the people living in the village so that they can live in the good and healthy environment. For this purpose the data of the village has been collected on the basis of water facilities, drainage, transportation, education, primary health care, public toilets, energy conservation and other amenities. These amenities can be fulfilled with the help of government schemes.

Scope of this project is to convert an ordinary village into a smart village by providing or improving facilities so that the standard of living can be improved. This will be done under the campaign of smart village and various government schemes. This leads to development of village and thus the nation.



Fig. 1 Components of Smart Village

### A. Requirements of smart village

- Transportation facilities
- Safe drinking water
- Solid and liquid waste management
- Renewable energy sources
- Rain water harvesting
- Energy conservation

- Smart security
- Bank facilities
- Educational facilities
- Women empowerment
- E-Governance
- Use of modern technology
- Agricultural facilities

### III. DATA COLLECTION OF PIMPALGAON MALVI VILLAGE

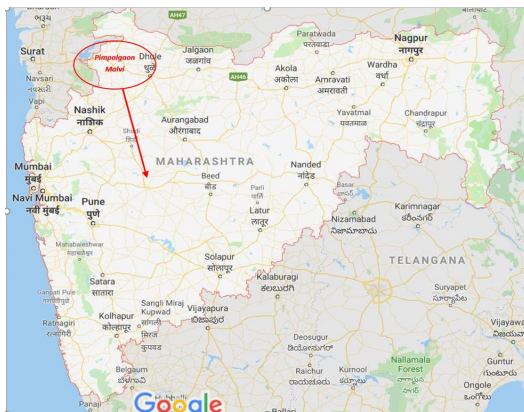


Fig. 2 Location of Pimpalgaon Malvi in Maharashtra

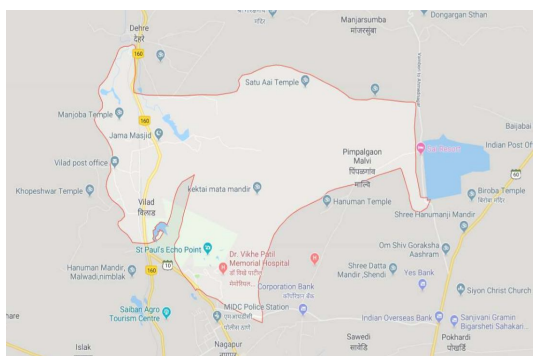


Fig. 3 Map of Pimpalgaon Malvi

Pimpalgaon Malvi village is located in Ahmednagar district of Maharashtra state. It has an area of 2730 Hectares. It is about 12km towards north from district headquarters Ahmednagar. Pimpalgaon Malvi Pin Code is 414601 and postal head office is Jeur.

Dongargaon (4 KM), Manjarsumba (4 KM), Wadgaon Gupta (5 KM), Shendi (7 KM) are the nearby villages to Pimpalgaon Malvi.

It has a population of about 6100 and number of houses are 1132 among which female population is 48%. Village literacy rate is 69.4% and the female literacy rate is 30.6%.

- ❖ Sarpanch – Mr. S. G. Zine  
Village Development Officer – Mr. D. R. Shelke
- ❖ Government Schemes Applied
  - Pradhanmantri Aawas Yojana (14 number of Gharkul applied in the year 2016-2017)
  - Ramai Aawas Yojana(12 and 9 number of Gharkul applied in 2016-2017 year and 2017-2018year)
  - Shabari Aawas Yojana(7 number of Gharkul applied in the year 2016-2017)
  - Pardhi Aawas Yojana
  - Jalswaraj Yojana(2018-2019)
  - Pradhanmantri Gramsadak Yojana
- ❖ Awards Received
  - Tantamukt Gaon (2015-2016)
  - Hagarandarimukt Gaon (2016-2017)

#### A. Amenities Available

- Drinking water facility

Clean drinking water is available in the village. It has two ESR having capacity 80000 litres and 50000 litres. Village gets the water by Burhan Nagar Water Scheme.



Fig. 3 Elevated Storage Reservoir

- Primary health centre

There is availability of primary health centre in the village.





Fig. 4 Primary health centre

- Primary and secondary education

There is primary school which has E-learning facility available in it. Also, the village has secondary and higher secondary school



Fig. 5 E-Learning

- Cooperative banks & Patsanstha



Fig. 6 Bank

- Worth ship places

The village has various temples like Ram temple, Hanuman temple, Savata Mali temple and a church naming Fatima Church along with a Mosque



Fig. 7 Hanuman Temple

- Agricultural facilities

Advanced equipment and machineries are being used by farmers in this village. Some farmers have also installed sprinkler irrigation and drip irrigation.

### B. Amenities Unavailable

- Poor drainage condition

Though there is a network of drainage but it is not working. As we can see in the picture water logging problem can be seen.



Fig. 8 water logged area

- Solid waste disposal

No solid waste management can be seen. People throw the domestic as well as other waste in open land which creates odour problem and bad environment



Fig. 8 Waste thrown in open ground

- Sewage disposal

No treatment is given to the sewage water. It is just allow to let go without any treatment which again leads to cause of bad environment. .



Fig. 9 Outlet of sewer

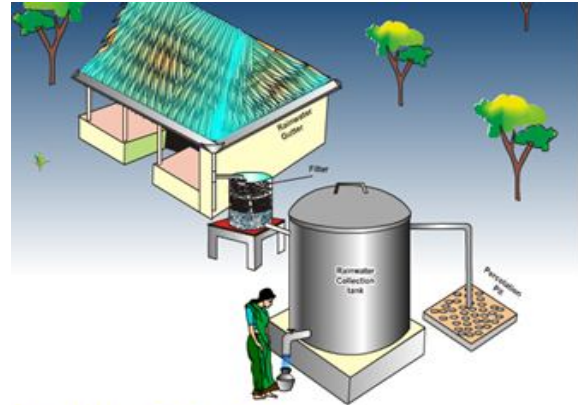
- Damaged handpumps



Fig. 10 Damaged Handpump

- Rain water harvesting

No Rain Water Harvesting in the village had been seen. There is need to provide RWH to harvest the water.



Rainwater Collection in Thatched Roofs

Fig. 10 Rain Water Harvesting

- Energy conservation

It is concluded with the conservation of energy by providing biogas plants, solar street light.



Fig.11 solar street light

- E-Governance
- Transportation facilities
- Mini Bus facility



Fig. 12 Mini Bus

- Smart security(CCTV camera)





Fig. 13 CCTV

- Internet (Wi-Fi) facility



Fig. 14 Wi-Fi

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