



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact factor: 4.295

(Volume 5, Issue 3)

Available online at: www.ijariit.com

Development of village as a smart village –A case study on Ponkurichi village

R. Karthick Vignesh

vigneshravi3796@gmail.com

Sri Ramakrishna Institute of Technology, Coimbatore,
Tamil Nadu

R. Shanmuga Priyan

shanmugapriyan.ce@srit.org

Sri Ramakrishna Institute of Technology, Coimbatore,
Tamil Nadu

ABSTRACT

“The Future of India lies in its villages” Mahatma Gandhiji. A smart village knows about its citizen, available resources, applicable services, and schemes. It knows what it needs and when it needs. The concept of the smart village makes the villages self-sufficient in respect of their needs. This study was carried out with the main focus to develop the Ponkurichi village into a smart village. The household survey was carried out throughout the Ponkurichi village to understand the needs of the residents and to provide the basic amenities like educational facilities, health care center, rainwater harvesting, transportation facilities, agriculture, water facilities, waste disposal, recreation area, etc. result of the survey and other secondary data collection, the immediate needs and other infrastructural requirements required for the Ponkurichi village are identified. The future land use pattern of the Ponkurichi village is proposed with the recommendations of basic infrastructural facilities to the Ponkurichi village to develop it into a smart village.

Keywords— Smart village, Sagy, Development

1. INTRODUCTION

In India there are 600000 villages out of them 1, 25,000 villages are backwards so there is a need for designing and building the village as a smart village. With modernization and urbanization, people migrate from one place to another place for different facilities such as education, employment, and affinity of people towards the locality or City. The village is the main criteria for the development of the nation. So, develop the village in such a way that which is self-dependent in providing the services, employment and well connected to the rest of the world i.e., smart village. The smart village corrects social oversight by providing accommodations for sustainable family relationships without disturbing the lifestyle of different generations. The vision of smart village is that modern energy access can act as a catalyst for development in education, health, productive enterprise, clean water, sanitation, environmental sustainability and participatory democracy which helps to support further improvement in access to energy. Initially, the concept of development of villages is of Mahatma Gandhi that is, Swaraj and Suraj village. But nowadays it is newly termed as a smart village. We know that India is a developing nation, with the help of smart village we can India as an SS nation. Now-a-day, our government also gives a strong focus on a smart village. Government implements so many schemes on smart villages. In this study, the main objectives are:

- To identify the lack of basic facilities in the study area.
- To formulate the planning strategies for the development of the smart village.
- To develop the village as a smart village by adopting designed guidelines and strategies.

2. LITERATURE REVIEW

Dr Milind Kulkarni (2015) ^[1] In India, the major populations are still living in villages. A lot of work needs to be done in making the villages clean. There is a different aspect of the clean village such as water supply, sanitation, indoor air quality, solid waste management and renewable energy etc., all these aspects have different alternatives associated merits and demerits with a lot of work is required to be done. The paper discusses all this aspect with reference to Maharashtra and India. This discussion plans to give important inputs and alternatives to policymakers so that they can redirect and reformulate the policy. Engineering students can design and implement projects of clean and smart villages which will help in their skill development. At the end of this paper, they given the recommendations for the effective making of the clean and smart village.

Saansad Adarsh Gram Yojana (2014) ^[2] On 11th October, the birth anniversary of Loknayak Jaya Prakash Narayan Ji, following the footsteps of Gandhi, we intend to translate the concept of gram swaraj into reality through Saansad Adarsh Gram Yojana. The

Vignesh R. Karthick, PriyanR. Shanmuga; *International Journal of Advance Research, Ideas and Innovations in Technology*
 SAGY will keep the soul of rural India alive while providing physical amenities to enable freedom of choice to shape their own destiny. The scheme is unique and transformative as it has a holistic approach towards rural development. It envisages integrated development of the village across multiple areas such as agriculture, health, education, sanitation, environment, live hoods etc. it seeks to not only provide physical infrastructure and access to basic amenities but also improve the standard of living, enrich social capital and building community spirit. These are the ingredients that will make sure long term positive change and sustainability of these changes.

Dr Pritesh y Shukla (2016) ^[3] In this paper they focus on improved resource- use efficiency, empowered local self-governance, access to assure basic amenities and responsible of individual behavior to build a vibrant and happy society in the village. They discussed the government scheme *Saansad Adarsh Grama Yojana* which is to develop the village as smart with appropriate technology and internet connectivity. And they recommended the awareness programs to improve the agriculture, employment, nutrition security in the village. Finally concluded as the overall development of the country can be possible with the development of villages only.

Roshini Pandey (2017) ^[4] Mahatma Gandhi national rural employment guarantee act (MGNREGA) is an employment guarantee scheme enacted by legislation on August 25, 2005. it is a social security employment act which guarantees employment to the poor rural people in India. The main aims to remove the extreme poverty and at making villages of country self – sustaining through productive assets creation. The agenda is to provide 100 days of employment to all adults in every village to do unskilled manual work. The role and impacts of MGNREGA act in employment generation, economic and infrastructure development of rural India. As they concluded, this act monitors the implementation of the scheme in a large number of states and it reduced the overall poverty is visible.

3. METHODOLOGY

The following methodology is adopted for the complete study.

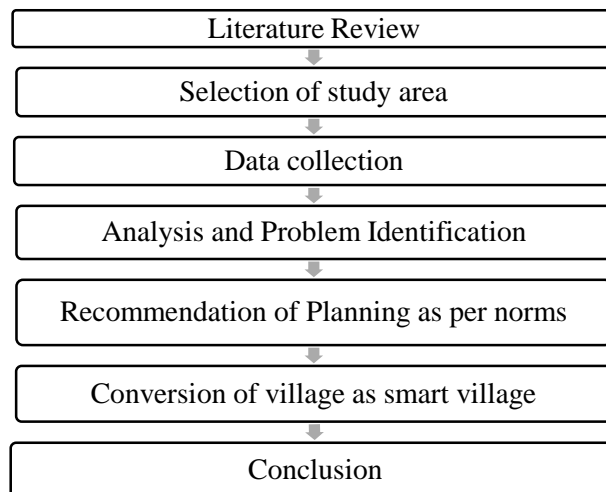


Fig. 1: Methodology adopted in this study

4. CASE STUDY AREA – PONKURICHI VILLAGE

Ponkurichi is a Village in Rasipuram Taluk in Namakkal District of Tamilnadu State, India. Ponkurichi village is located 25 KM towards North from District headquarters Namakkal which has 186.60 hec. Urban areas around Ponkurichi village are Rasipuram, Thiruchengode, Namakkal, and Salem. The nearest town from Ponkurichi village is Rasipuram and it is 10 km away from ponkurichi village. The village is known for its communal harmony.

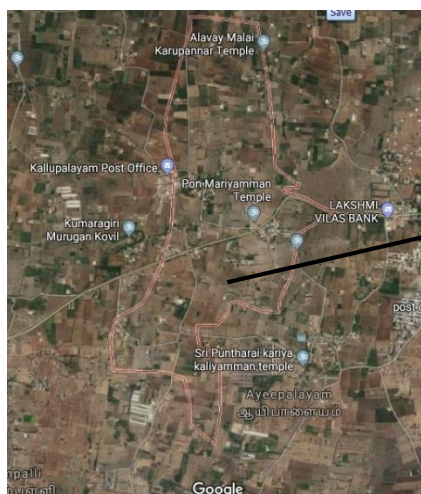


Fig. 2: Satellite map of Ponkurichi village

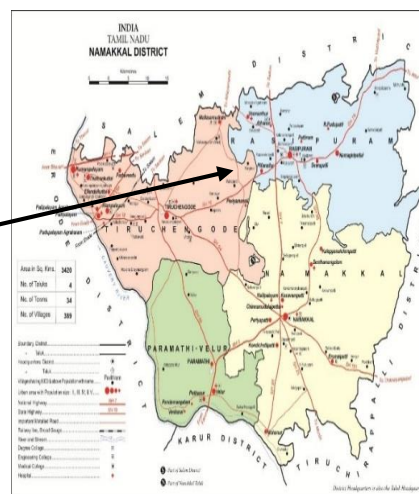


Fig. 3: Namakkal district map

The latitude 11.4329303 and longitude 78.1206546 are the geos-coordinates of the Ponkurichi. The overall population of ponkurichi village is 708 and 204 houses as per 2011 census. In this village, they have one Anganwadi center and middle school and get power supply from Rasipuram power station for domestic and agricultural purpose. The main income of the village people is agriculture, animal conservation, business in dairy products, MGNREGA jobs. The main crop productions from their farming are maize, groundnut, vegetables like onion, tomato.

5. DATA COLLECTION

5.1 Primary data

Primary data is done with the collection of basic information about village facilities, such as- physical, social, sustainable development, recreational and renewable energy sources, etc. which are available in village area included photographs. And data is collected by the door to door survey, by interviewing village dwellers.



Fig. 4: Photographs of Ponkurichi village

5.2 Secondary data

Secondary data included village details such as population detail, geographical detail, demographical detail, occupational detail, agricultural detail, government scheme etc. these all information is collected from various government offices.

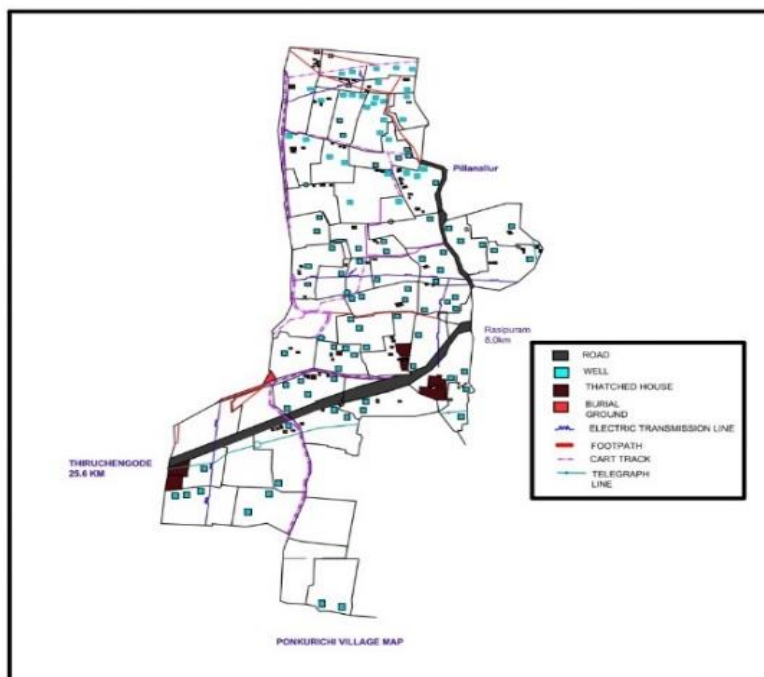


Fig. 5: Ponkurichi village base map

6. DATA ANALYSIS

A questionnaire survey was carried out in the primary data collection from 55 households of the ponkurichi village. The data analysis is done by using Ms-Excel tool. From the analysed survey data, we identify major issues in the village from people's view are shown in the figure.

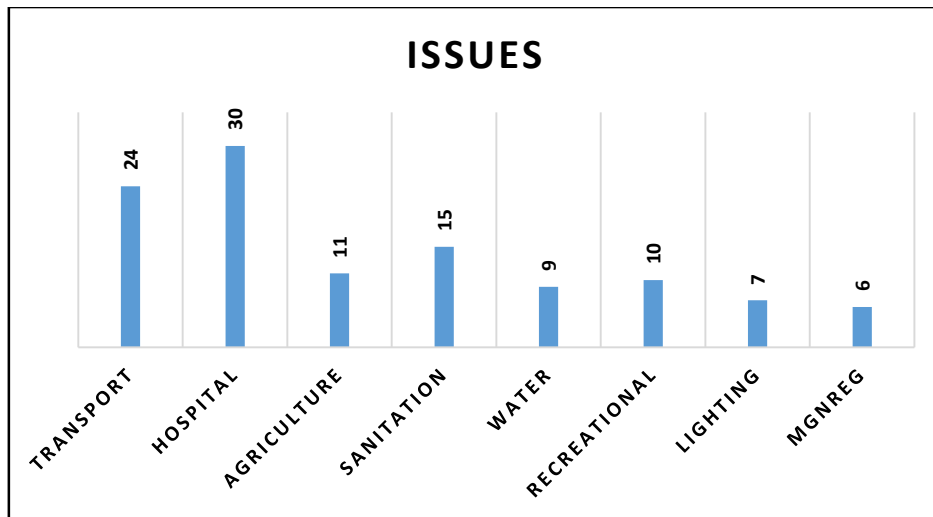


Fig. 6: Major issues in the village

- There is no health center in the village.
- There are no proper transportation facilities in this village.
- There is not proper to use of the toilet.
- There is insufficient support for their agriculture
- And also problems in Education, Recreational Centre, use of natural resources.

7. RECOMMENDATION AND STRATEGIC PLANNING

After the study about the ponkurichi village, some recommendation for the development of the ponkurichi village is as shown below.

- All housing system provides with a rooftop solar system.
- Providing a health clinic with the pharmacy to the village in an area of 200 sq. ft.
- Provide toilets to all individual household.
- Extend the class up to the secondary level in school.
- Improve transportation facilities in the village.
- Providing recreational area such as Playground.
- Introduce the drip irrigation to agriculture land for efficient farming.
- Maintenance of the spinning mill industry.
- Renovation of the bus stop, dwelling units and roads by plantation.
- Providing a solar street light system for better lighting.
- Provide a community hall with a capacity of 800 persons.
- Maintenance the waste disposal by providing separate bins to households.
- Provide a Rainwater Harvesting system to the government buildings.
- Install of notification panel in gram panchayat office to display the issuance of government notifications.

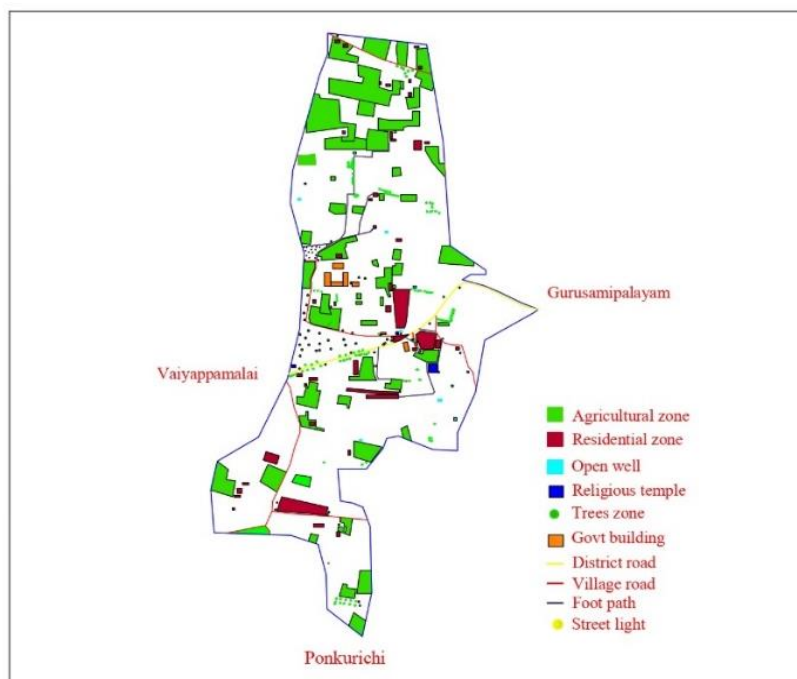


Fig. 7: Existing plan of Ponkurichi village

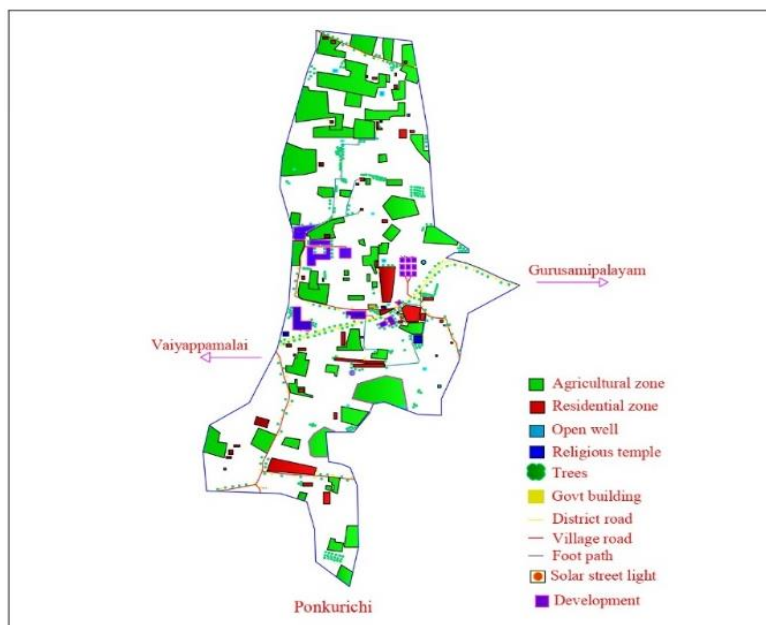


Fig. 8: Future development plan of Ponkurichi village

8. CONCLUSION

The case study area, Ponkurichi village was selected with the main objectives of converting the village into the smart village. Based on the literature review carried out, several factors responsible for the development of the village into the smart village are identified. Also from the household survey, existing lack of basic infrastructural facilities in the ponkurichi village are analysed and necessary recommendations were proposed with the future land use plan. As per the regulations and guidelines framed by the several central government organisations/schemes like Saansad Adarsh Gram Yojana, Swatch Bharat mission, Clinical Establishment Act, Schemes of Ministry of Agriculture etc., the recommendations were proposed on the major basic infrastructural elements like a hospital, transportation, sanitation, agriculture of the village.

9. REFERENCES

- [1] Dr Milind Kulkarni. "Clean and Smart Village: Aspects and Alternatives". International Journals Of Research In Engineering Science And Technology, Volume 3, May 2015.
- [2] Saansad Adarsh Gram Yojana (SAGY) scheme, 11 October 2014.
- [3] Dr Pritesh Y Shukla. "The INDIAN SMART VILLAGE- Foundation for Growing India". International Journal of Applied Research 2016.
- [4] Roshini Pandey. "MGNREGA and Its Role in Rural Development". International Journal of Scientific and Research Publications, Volume 7, Issue 11, November 2017.
- [5] Mrs B. Josephine Sandhya Rani, "Smart Village-The Real Future of India", International Journal of Innovative Research in Information Security (IJIRIS) ISSN: 2349-7009(P), Issue 09, Volume 3 (December 2016) www.ijiris.com ISSN: 2349-7017(O).
- [6] Mr Nayan Kakadiya, Mr Purvang Kumbhani Mr Bhautik Bhatt. "Updation of urban elements in rural areas – a Case study on Chansad Village, Gujarat". International Journal of Advanced Engineering and Research Development, February 2017.
- [7] Patel Diptesh K., Dabhi Nikunj H., Jagtap Shashank C., Kale Nitin A., Parmar Sanjay M., Chauhan Darshak V, "DREAM VILLAGE- A CASE STUDY OF BAKROL VILLAGE", International Journal of Advance Engineering and Research Development Scientific Journal of Impact Factor (SJIF): 4.72 Special Issue SIEICON-2017, April -2017 e-ISSN : 2348-4470 p-ISSN : 2348-6406.
- [8] Dr V. S. Rajamanya, Prof. A. Deshmukh, "Study and development of the village as a Smart village", International Journal of Scientific & Engineering Research, Volume 7, Issue 6, June-2016 395 ISSN 2229-5518 Pg 395-408.
- [9] Mr Milind R. Hegade, Mr Sachin R. Kuber, Mr Pankaj P. Sathe. Mr Ranjit R. Mote, Mr Rohan R. Bhosale. "Smart Village System". IJSTE- International Journal Of Science Technology And Engineering, Volume 3, Issue 04, October 2014.
- [10] Ramachandra T.V, Ganesh Hedge, Subhash Chandran M.D, Tejaswini Ananth Kumar, Vishnumayananda Swamiji. "Smart Village Framework". ETR 90, Smart Village, Energy and Wetlands Research Group, CES, IISC 2015.
- [11] Honorable Norman B. Rice. "Smart growth: a catalyst for public interest investment". Fordham Urban Law Journal, Article 6, Volume 26, Issue 5, 1998.
- [12] Swatch Bharat Mission (SBM) scheme, October 2014.
- [13] Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme, 2005.
- [14] Schemes of Ministry of Agriculture.
- [15] District Rural Development Agency (DRDA) scheme, 1st April, 1999.
- [16] Clinical Establishment Act, 2010.
- [17] Members of Parliament Local Area Development Scheme, updated in 2014.
- [18] Indira Awas Yojana (IAY) scheme, 1957.
- [19] National Rural Drinking Water Programme (NRDWP), 2009.
- [20] National Health Mission (NHM) scheme.
- [21] Ministry of New and Renewable Energy (MNRE) schemes.