

Conceptualizing “Smart Village” With Case Study Hiware Bazar: Need of Indian Village Development

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ABSTRACT

India is one of the fastest developing countries of the world today. Over a last few years, “Village Development” in developing countries like India has become an integral part for overall development of Nation. India contains a lot of undeveloped villages so there is a lack of development in the rural zones of India. The heart of nation “India” lies in villages. The development of India can be achieved only by transforming the current scenario of rural areas. India being a rural dominated country, the smartness concept is not even thought about the rural areas in India [02]. The current paper mainly elaborates the concept of “smart village” with help of case study “Hiware Bazar” and its need of implementation in rural areas for future Development of India. “Smart Village” is that the technology which acts as a means for development, enabling local business opportunities and education, improving health conditions, enhancing democratic used basic amenities and responsible individual and community engagement and overall enhancement of rural village dwellers. Smart village technology focuses on improved empowered local self-governance, resource-use efficiency, access to sanitary facilities in village to build a vibrant and happy society[02]. The current study considers the Smart Village as an innovative means of improving rural people’s life and it includes a case study of village “Hiware Bazar” which has successfully implemented a strategic development plan in three phases; social empowerment, developing the Smart Village ecosystem and economic empowerment.

Keywords: Smart Village, Self –Governance, social empowerment, economic empowerment.

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I. INTRODUCTION

A rural area which is located outside cities and towns generally known as 'village' in India. A settlement with a maximum population of 15,000 is defined as “Village”(According to the Erstwhile Planning Commission of India). According to 2011 census, rural area has population of 68.84%, whereas urban area has population of 31.16% only [02]. Many of India’s population lives in nucleated villages. For the Indian context, villages are the heart of the nation. Migration of the people takes place in large scale from rural areas to urban areas, which may lead to formation of urban jungles in city area . Hence for the overall development of the India the focused must be given to Indian village for making them smarter one. The villages can be made smarter one by offering basic

amenities i.e effective water supply system, modern farming techniques, employment generation activities, modern technology in schools, sanitation program and system for healthy living conditions etc.

The development of Village is dependent on the local conditions, available resources, infrastructure in rural area and local demand as well as potential of export of good to urban areas. Every village has to become a self-sufficient, **Self –Governance for** social empowerment and economic empowerment. Concept of “Smart”, will involve having vision for future. Being smart means achieving latest knowledge & putting the idea into action. This does not require brave resolutions. It requires brave, corporate, intelligent work[02]. There are some important components of smart village as shown in following diagram Fig.1.

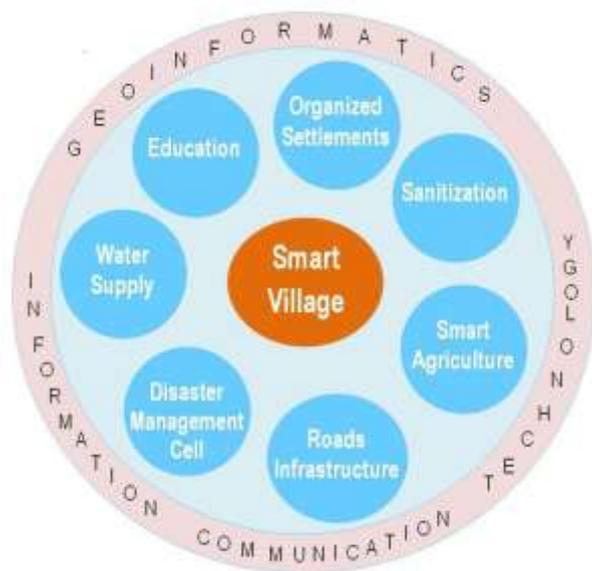


Fig. 1 Components of Smart Village

Among these all components there are three very essential and important component parts of smart village are Smart water System, Smart Farming system, Smart road network system. Hence for Construction of “SMART INDIA”, there is basic need to take small step towards the Development of villages in India as a “SMART VILLAGE”.

Importance of smart village

The concept of smart village in the today’s life seems more valuable as there is a faster development of cities occurred which leading to formation of urban jungles, where the population ratio per km of land is way above the desired norms. A smart village is one which will automatically link local production with local procurement and local distribution. So that local business opportunities can available to local village people. A smart village will also have knowledge, power, healthcare, and entrepreneurship technology and internet connectivity. A smart village will not only connect rural areas with Internet, but will also provide support to modern agricultural practices. A network of small scale industries connecting to agriculture and a strong network of rail and roads with basic amenities such as education and health for all including farmers, will transform the face of real India [02].

Objectives of smart village

- Availability of toilet, regular power supply, safe drinking water for each home in village.
- To know all information about its citizens, applicable services, available resources, and schemes.
- Generation of micro enterprise and employment opportunities to every household in village .
- To sustain village culture, heritage and identity plans for development of People and Service .
- For revenue generation from functional solid/liquid waste management system.
- To end all maternal deaths and disease causing deaths by providing good basic health facilities in Health care centers.

- Awareness on modern technologies that can be implemented in villages, nearby places and farms. e.g. Drip Irrigation, Solar Panels Lighting Systems on streetlights etc.
- Good facilities for animals like cattle and dogs: dispensaries, pond for cattle, veterinary hospitals and vets.

Objective of study

To study briefly the concept of Smart Village with help of a case study “Hiware bazar”.

Data and Methodology

The data regarding case study i.e. hiware bazar is collected from previous research papers and from village website. The entire analysis making up the current paper is based on primary data obtained from the previous research paper and survey. Hiware bazar is a village situated in ahmednagar district of maharashtra. The village is considered as ideal village of our nation India and successfully implemented the development plan in 1994. One hundred households from a total of 180 (55.55%) with population of 1150 from hiware bazar have been surveyed for obtaining the primary based information [07].

Study area

Hiware bazar is situated in ahmednagar, maharashtra. It is located at 17 km towards west of ahmednagar. The total area of land in hiware bazar is 976.44 Hectares with the population of 1142 and the households 218 (ahmednagar district, 1991). The studied village is characterized by an unpredictable and lacking quantity of rainfall with an annual average of 330 mm (GoM). Temperatures of village between 12 and 44 degree (ibid). The rain were received between the months of july and September in village , with September receiving the maximum of it. The village get rain on approximately 35 – 40 days of the year. Due to such scarcity of water, village people come forward for village development. So they draw some development schemes in villages. Following are some development plans in conducted in hiware bazar.

1) Watershed Management Plan

A Watershed Development Plan is essentially established for improving water conditions in village. It is primarily designed for increase the water content in the soil, thereby leading to an increase in crop productivity. The Watershed development Program at hiware bazar is implemented by the Yashwant Watershed Development Trust as a part of the larger Adarsh Gram Yojana, [09]. The main focus was given on the construction of continuous contour trenches (CCT) and earthen bunds and enhanced geothermal systems(EGS).The construction of CCTs and Bunds has been completed by the villagers themselves through the process shramdana[09]. The watershed development program plays an important role in agriculture and in providing drinking water. It has also been work good in the conservation of both water and soil.[09]. Following are some impacts of watershed development program conducted in hiware bazar. The watershed development program plays an important role in agriculture and in providing drinking water. It has also been work good in the conservation of

both water and soil.[09]. Following are some impacts of watershed development program conducted in hiware bazar.



Fig.2 Water Retaining Structure In hiware bazar [09]

- In water head. (70-80 ft. to 20-25 ft.)
- Change in traditional cropping pattern (Jawar & Bazara to Onion, Potato, Horticulture)
- Rise in cropping intensity Rise in fodder availability (from 1500 mt. to 6000 mt.)
- Rise in milk production (from 300 lit. to 3000 lit./day)

2) The Drought Prone Area Program



Fig.3 Forest Land In hiware bazar [09]

The Drought Prone Area Program is implemented in the villages surrounding hiware bazar, taking the latter as a model for the development of CCTs and EGS. These villages nimgaon,wagha,nimgaon ghana ,bhorwadi, akolner, chass, kamargaon , jakhangaon, bhoyrepathar etc. A total of 4000 hectare would be treated for development in order to assure water supply to 1500 hectare [09]. The drought prone area Program is established to bring the entire area under cultivation. Following are the some activities held under drought prone area Program (Table 1).

Table 1 Activities of drought prone area Program[09]

| Sr. No. | DESCRIPTION | UNITS |
|---------|-----------------------------|----------|
| 01 | Earthen nala bund | 24 Nos. |
| 02 | Continuous contour trenches | 57.42 Ha |
| 03 | Cement nala bund | 11 Nos. |

3) Rural Sanitation Program

A Rural Sanitation Program was implemented with financial support from the zila parishad of ahmednagar. Near about

170 Latrines had been constructed and successfully completed; the number will soon be increased to 190 since 20 are presently under construction [09].This program enhances cleanliness and healthy environment in hiware Bazar.

4) Women’s Welfare

The role of women have been successfully incorporated into the Adarsh Gram Yojana through the formation of Women’s Welfare Groups and Self Help Groups (SHGs).Women come forward for various activities of development of hiware bazar village. The contribution of women of hiware bazar takes the village identity to highest level.



Fig.4 Involvement Of Women Farm [09]

Table 2 Showing Socio-Economic Characteristics of hiware bazar details: Demographic Details [08]

| Sr. No. | Item | Quantum |
|---------|--|-----------------|
| 01 | Total No. of homes | 218 |
| 02 | No. of homes covered in the study | 100 |
| 03 | Total population of the village | 1141 |
| 04 | Total count of male | 589 |
| 05 | Total count of female | 552 |
| 06 | Household disposable income | (1994)Rs.11,967 |
| | | (2004)Rs.62,396 |
| 07 | % Change in household disposable income | 421.40% |
| 08 | Proportion of families living at farm houses | 55% |
| 09 | Poverty | (1995) N.A. |
| | | (2004) 00% |

Table 3 Showing land and rain characteristics of hiware bazar details :Demographic details [08]

| Sr. No. | Item | Quantum |
|---------|---------------------------|----------------|
| 01 | Total land of the village | 976.44 hectare |
| 02 | Land under cultivation | 795.28 hectare |

| | | |
|----|-------------------------|--------------|
| 03 | Land under forest | 70 hectare |
| 04 | Grazing land | 100 hectare |
| 05 | Cultivable waste | 4.5 hectare |
| 06 | Land not cultivable | 6.36 hectare |
| 07 | Average annual rainfall | 330 mm |

Results

Plantation and conservation of forest and agricultural activities are considered as a significant aspect of rural economy both for the environment and economic progress of the local farmers. But the case of the studied ideal villages in maharashtra is altogether different. It is the basic prerequisite of the ideal village model in maharashtra that is, to enhance and maintain forest and agricultural cover through the government, panchayat and individual plantation and maintenance of the same. In fact the forest and agricultural activities has a vital role in sustainable transformation of the rural economy of Hiware Bazar. In all, the 100 households of Hiware Bazar have planted 4690 trees of thirty four categories which have been maintained by the villagers of studied village at the private individual household level (Table 4).Following table shows feedback of residents of hiware bazar after implementation of development plan.

Table 4 Showing Feedback from Respondents About Basic Socio-Economic Changes of hiware village [08]

| Sr. No. | OPINION | %AGREE |
|---------|--|--------|
| 01 | Rise in Agricultural Productivity | 95 |
| 02 | Rise in Agricultural Resources | 98 |
| 03 | Improvements in ground Water Table | 97 |
| 04 | Increase in Social Integration | 98 |
| 05 | Change in Income and Thinking | 97 |
| 06 | Achievement of Literacy & Education | 97 |
| 07 | Improvement in Living Conditions | 65 |
| 08 | Road connectivity | 78 |
| 09 | Rise in Forest Cover | 89 |
| 10 | Generation of Employment Opportunities | 68 |
| 11 | Village Free of Conflict | 78 |
| 12 | Cleanliness and Health | 89 |
| 13 | Adoption of Modern Life | 26 |
| 14 | Improvement in Water table | 100 |
| 15 | Availability of Urban Amenities | 43 |
| 16 | Change in traditional Cropping Pattern | 78 |
| 17 | Rise in plantation | 75 |

CONCLUSION

Today, the hiware bazar becomes an ideal and smart village role model for other villages in our country. By consistently calling upon every person from community to consult with and participate in their development process, the panchayat had succeed in creating pride in hiware bazar's remarkable achievements.

Smart villages are the need of the development for rural areas to have standard life style in village and technology will offer effective solution. Technological development already exists at the urban area and at the same time lack of modern technologies in rural area. Taking education, skill for development to villages can well guide the energies of the youth as a powerful tool for the nation, and at most the overall development of the country can be possible with the development of the villages only.

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