

Planning for Smart Village in Rural Development

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Abstract: *Planning and development of village as a smart village. We define smart village as bundle of services of which are delivered to its residence and businesses in an effective and efficient manner. "Smart Village" is that modern energy access acts as a catalyst for development in education, health, security, environment that in turns support further improvement in energy access. We making smart village by taking smart decisions using Smart Technologies and Services.*

Keywords: SV, ST, Smart Technologies

1. Introduction

When "India lives in its villages" said Mahatma Gandhi, a great freedom fighter and visionary leader of India. A rural area is a geographic area that is located outside cities and towns, while rural areas are also known as 'village' in India.



Numbers of rural units or villages in India have increased from 6, 38, 588 to 6, 40, 867. According to 2011 census, rural area has population of 68.84%, where as urban area has population of 31.16% only. It is growing fact that the rural population is suffering more consequences for livelihood

In India there are 6, 00,000 villages out of them 1,25,000 villages are backward 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. Village is main criteria for development of nation.

Now days, our government also gives strong focus on smart village. Government implements so many schemes on smart village. India's government want to turn 100 cities into 'smart economic hubs' by the end of the year. But in a country where about 70% of the population live in rural areas.

The development may be used for rural development through a concept of "Smart Village". The Smart Village concept will be based on the local conditions, infrastructure, available resources in rural area and local demand as well as

potential of export of good to urban areas. Villages are the heart of the nation.



2. Objectives

It is planned to create the 3D models for Buildings (Residential, Commercial, School, Hospital, High Rise Building, Tall building, Skyscraper, Infrastructure, Industries, etc) in the village areas

Further, it is planned to have an application of 3D city model to plan **Road Side Vertical / Underground Mechanical Digital Parking**

In the area at suitable locations. As population is increasing in village areas so the number of vehicles is also increasing, therefore more parking spaces would be required near residential and commercial areas. The basic concept of smart village with information technology to provide benefits to the rural community.

3. Methodology

Smart Education, Modern Technologies, Smart Infrastructure, Smart health, Smart connectivity, Smart Environmental, Smart Energy, Smart agriculture, (Mobile apps to help farmers improve their Agriculture), Skills Development (digital skills)

Requirement of Smart Village:

Educational facilities, E-governance, Smart security, efficient public transportation system, Latest & affordable medical facilities, Safe drinking water facilities, Rain harvesting / Rain water drainage system, improving sanitation conditions, Solid and liquid waste management, Environment,

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Use of renewable Energy, Energy conservation, Economic Facilities regarding to the Agriculture and Use of modern technologies for improvement of locality,

consumption optimization 25-30% average energy saving.

4. Benefits

- 1) **Creation of Job:** Generally village people migrate from village to city for purpose of job. If village becomes smart so all the job requirements are fulfills & people not migrate from one place to another.
- 2) **For farmer E-learning:** facility that will be able to ask there quarries online.
- 3) **New technologies in education:** e-learning, desktop publishing, horoscope generation of interested person of the village. Transportation of village into comfortable & safe space that enhance quality
- 4) **Locally Produced And Locally Consumed Energy:** In villages if the mountains, hilly area are present then use of solar energy & wind energy then energy is produce in that village itself & use for development of village.
- 5) **Contribution to Global Environment:** The system can reduce reliance on fossil fuels & contribute to reduction of greenhouse gases such as carbon dioxide .Energy

5. List of Districts of Bihar

Bihar, a state of India, currently has 38 administrative districts.



| | | | | | | |
|--------------|-------------------------|----------------------------|----------------------------------|--------------------------|---------------------------------|-----------|
| [Code] DA | [District] Darbhanga | [Hedquarters] Darbhanga | [Population (2011)] 39,37,385 | [Area in km.sq] 2,278 | [Density (/km. sq)] 1,442 | [Map] |
|--------------|-------------------------|----------------------------|----------------------------------|--------------------------|---------------------------------|-----------|

Proposed Village: [Singhwara]

| S.No. | Village | Administrative Division | Population |
|-------|-----------|-------------------------|------------|
| 1 | Singhwara | Singhwara | 12,059 |

Singhwara is a large village located in Singhwara Block of Darbhanga district, Bihar with total 2725 families residing. The Singhwara village has population of 12059 of which 6100 are males while 5959 are females as per Population Census 2011.

The following villages are located in Darbhanga district: Darbhanga Sadar, Baheri, Biraul, Keoti Ranway, **Singhwara**, Jale, Bahadurpur, Benipur nagar parisad, Manigachhi, Kusheshwar asthan, Hanumannagar, Gaura Bauram, Hayaghat, Alinagar, Ghanshyampur, Kusheshwar Asthan Purbi, Tardih, Kiratpur

6. Conclusion

Smart Villages are the need of the hour as development is needed for both rural and urban areas for better livelihood and Information technology will offer effective solution. There are successful technologies available, which have been implemented in urban areas. There is tremendous pressure on urban landscapes due to migration of rural people for livelihood. Smart Villages will not only reduce this migration but also irrigate the population flow from urban to rural area. IT and GIS are the unbreakable pillars to

support the whole process of village development. Smart village concept will have potential to uplift the grass-root level of the country,

A specially designed suitable framework for rural areas on the grounds of Science, Technology, Engineering, Regulations and Management will play important role to build next generation smart villages. Each village is a unique example and having diverse set of problems and situations. It may be difficult to implement the same model of village development for all the villages.

Smart village concept is having high replication potential in other countries of developing world.

The concept of smart village may also be extended to small towns and also townships surrounding the big Cities. The research will be used further for various planning applications.

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