Case Study of Smart Village and Local Village

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Abstract— In India villages are the cultural and economic foundation of our country. Villages contribute the major patron of national income. They are the foundation of industrial growth of country. This research paper study explores the first-hand lessons learned in the RVWRMP in Nepal since 2006. This project is embedded within the local government. The key project entry points are decentralisation, participation and empowerment. This research paper reflects how the community-managed systems are used for multiple uses whether they were designed for it or not. It focuses on household- and community-level changes and related institution building and participatory planning through Water Use Master Plans and a Step-by Step approach. The recommendations are made for scaling up multiple use services.

Index Terms -Community, Connectivity, Smart security, Food Security, Educational facilities.

I. INTRODUCTION

A. General:-
A small community or group of houses in a rural area larger than a hamlet and usually smaller than a town is known as village and villagers equipped with all the modern technologies without destroying the nature is known as smart village. Smart village is a concept adopted by national state and local government of Indian as an initiative focused on holistic rural development derived from Mahatma Gandhi’s vision of ideal village and village self-rule / independent. In India there are 6,10,010 villages out of them 1,12,510 villages are backward so there is a need for designing and building the village as a smart village. With modern nation and urbanization people migrate from one place to another place for different facilities such as educational employment and affinity of people towards the locality or city. Villages are main criteria for development of nation so develop the village in such a way that which is self-dependent in providing the service employment and well connected to the rest of world i.e. smart village. The smart village corrects the social oversight by providing accommodation for sustainable family relationship without disturbing the lifestyle of different generation. The vision of smart village is that modern energy access can act as catalyst for development in educational health productive enterprises clean water sanitation environmental sustainability and participatory democracy which helps to support further improvement in access to energy. We know that India is a developing nation with the help of smart village we can make India as a smart nation. Now days our government also gives strong focus on smart village. Government implements so many schemes on smart village. Smart governance and educational Smart building Smart mobility.

B. Requirement Of Smart Village:-
Following are the Requirement Of Smart Village:-
- Efficient public transportation system.
- Smart security.
- Improving sanitation conditions
- Solid and liquid waste management.
- Rain harvesting /Rain water drainage system.
- Safe drinking water facilities.
- Use of renewable energy.
- Energy conservation.
- Functional bank account.
- Facilities regarding to the agriculture.
- Latest & affordable medical facilities.
- Educational facilities.
- Grievance redresser
- Strengthening CBOs.
- Smart Agricultural
- E-governance.
- Improvement on women empowerment
- Use of the modern technologies for improvement of locality
- Food Security
- Local Business
- Fertilizer & Bio-Diesel Plant.

Fig.1 - Requirement Of Smart Village.

C. Scope of the study:-
Today India is going digital and there has been an increase in the use of technology over the last three years. This is a positive sign of India’s development and progress to cope with the world. Prime Minister Narendra Modi has started a
mission to make a new India of the 21st century by 2022 as it is the year in which India will complete 75 years of independence. All of us have seen on how a small country like Israel has successfully made a barren desert into a rich cultivable land using a technology called drip irrigation. It also purifies the sea water and supplies it across the country as Israel does not have any river. This is not the sea on which Israel is dependent on for water is called the Dead Sea and it is drying up fast. Israel is constantly trying to save this sea from drying up with the help of technology. In my opinion if we implement these above technologies and build smart villages across the country then it will not only help increase the production of rich crops but will also help increase the standard of living for every farmer in the country. This can motivate more people especially youngsters to adapt to farming which will bring prosperity to our country.

D. Objectives:-

- The main object of the smart village not constructed on the image of a city or a very developed village of some state or nation. But on a venue to show inherent smartness of the villages. India lives in its village.
- Villages are the food basket of the nation. The concept of “Smart Village” will address the multiple challenges faced for sustainable development of rural India.
- If we use the concept of Smart Village will provide long-term social, economic, and environmental welfare activity for village community, which will enable and empower enhanced participation in the local governance processes, promote entrepreneurship and build more resilient communities.
- At the same time, a “Smart Village” will ensure proper sanitation facility, good education, better infrastructure, clean drinking water, health facilities, environment protection, smart agriculture resource use efficiency, waste management, renewable energy etc.
- There is urgent need for designing and developing Smart Village which are independent in providing the services and employment and yet well connected to the rest of the world. Based on various programs undertaken taken by Central and state governments along with further technological Initiatives, the Smart Village can achieve SMART infrastructure, SMART service delivery, SMART technology and innovation.
- Smart Village technique will Encompass a sustainable and inclusive development of all sections of the village community, so as they enjoy a high Standard of living.

II. METHODOLOGY

For the smart village system the following methodology is adopted:-

- Assessment of the investment climate of the village.
- Formulate the growth strategies for the village
- Community involvement.
- Connectivity
- Technology

Fig. 2 Methodology of smart village

A. Assessment of Investment Climate of the village:-
Investment of a climate region is defined as policy, institutional, and behavioural Environment, both present and expected, that influences the returns, and risks, associated with an investment. We perceive these as location specific factors like infrastructure, primary occupation of majority of people, nature of industries/business (SMEs) and finance inflow/outflow that impacts the investment and growth of the region. The investment of climate of villages differs depending upon the significant occupation of the village and its natural resources. The primary occupation of the villagers can be farming, aqua culture, smart agriculture working for industries such as apparel or leather goods or doll making. The village can be a tourist location, pilgrimage centre, or a place of historical importance i.e. forts, museum etc. Mines, valleys, gardens, Forests, Ocean shores or River banks can be part of the natural environs of the village. So growth strategy of a village depends primarily on its investment climate. Hence the assessment of the investment climate of the village is the first step in design of a Smart Village.

B. Formulate the growth strategies for the village:-
Providing the quality utility services like power, water, sanitation, medical facilities and essential services such as education, healthcare, transportation, infrastructure (roads, railways, buildings, equipment) etc. must be the primary strategy for the development of every village. Some of the utility services & facilities can be managed at a district level and others such as health care, schooling etc. need to be managed at village level for reasons of proximity and accessibility. Investment of the climate a village is also impacted to a very large extent on the availability of the above mentioned utility and other services in the villages. The next step is to the formulates Growth Strategies for the village to make it self-sufficient taking into account the investment climate and other factors discussed above. Strategic questions such as what the kind of SMEs needs to be development in the village, the kind of vocational training to be given to the residents of the village and how to attract investment in village as well as entrepreneurs must be formulated and answered. For example: If village is a tourist location, then the growth strategies would be aligned towards construction of restaurants.
and hotels, gardens, parks, development of transportation services like cabs or buses, women security vocational training to act as guides, security, working as chefs in restaurants or kirana shops selling the unique products made in the village, pharmacies and hospital services through mobile van etc. The residents of the village can be trained to be engaged in providing the above mentioned services & facilities to tourist. Once there is a clear picture on the kinds of industries/ SMEs that must come up in the village, then the funding agencies & company Microfinance Institutions or NGOs that can be decided. The Business Development are comes to the village.

C. Community Involvement:-
The community involvement is the power to bring positive, measurable change to both the communities in which you operate and to your business. Community involvement examples include in-kind and financial donations, employee volunteer days, funding enduring non profit partnerships, and more. To makes the water resource management system with help to the village peoples. Increasing the lake of awareness to rising the community involvement of people.

D. Connectivity:-
Prior to making Smart Village, It should become SIMPLE village first with basic facilities and amenities. It has been 70 years since our independence, great minds have been working in a India Politics to progress India in forward direction but villages, towns and cities lack basic amenities. I have get simple solution for Political leaders who can develop India just like this snap, if they have determination to fulfill their duties as we do in our roles.

Each village should have following 5 basic amenities required in 5 years.
- Roads
- Electricity
- water
- hospitals
- schools

E. Technology:-
Use of the various advance technology to developing the smart villages. Human society is developing with rapid momentum and achieved various successes & achievements. The technology that we use here can be availed to the people living in rural areas to help in improving their lifestyle & improving the knowledge.

III. CASE STUDY
A. Smart Village Ralegan Siddhi :-

<table>
<thead>
<tr>
<th>Country</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
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<td>Sarpanch</td>
<td>Anna Hazare</td>
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Table 1 Details of Ralegan Siddhi Village

This village located in a Parner Taluka of Ahmednagar District, Maharashtra state. The distance between pune to ralegan siddhi of 87 km from Pune. The area of a 982.31 ha (1991). It is considered a model of environmental conservation. The village has carried out programs like tree planting, terracing to reduce soil erosion and digging canals to retain rain water, rain water harvesting. For energy, the village uses solar power, wind turbine, biogas (some generated from the community toilet) and a windmill. The research paper is heralded as a sustainable model of a village republic.
• Water and Soil conservation:
  - Fig. 5 - Percolation tank and Tree plantation.
  - Fig. 6 - Retained water.
  - Fig. 7 - Soil Conservation Measures.

• Biogas Plants:
  - Fig. 8 - New Gobar Gas Plant replacing old steel tank with RCC tank.

• Health:
  - Fig 8 - Private Hospital.

• Education:
  - Fig 9 - Primary School.
  - Fig 10 - High School.
C. Local Village Papalwadi:-

<table>
<thead>
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<tbody>
<tr>
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Table 2 Details of Papalwadi

Papalwadi is a Village in Khed Taluka in Pune District of Maharashtra State, India. It belongs to North Maharashtra region. It belongs to Pune Division. It is located 53 KM towards North from District headquarters Pune. 11 KM from Khed. 124 KM from State capital Mumbai. Papalwadi Pin code is 410513 and postal head office is Chas. Papalwadi Local Language is Marathi. Papalwadi Village Total population is 828 and number of houses are 190. Female Population is 47.8%. Village literacy rate is 72.3% and the Female Literacy rate is 30.1%.
opportunity to show panegyrics and thanks to our guide Prof. Zope M.T whose suggestions helps us lot throughout the duration of our efforts on project. We feel great sense of gratitude towards her/him for being so patient & attentive whenever any problem came up during research paper work.

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