# COLLEGE PROJECT
# NANO-RURBAN ECONOMY

**RACHANA SANSAD ACADEMY OF ARCHITECTURE**
**AIDED AND UNAIDED**
**I 2020-2021 I**

# EXERCISE-1
# CHARACTERISTICS OF RURAL INDIA

This report consists of various identified characteristics of rural areas in India- their problems, reasons and possible solutions, along with the factors associated with each characteristic, and how they are linked with, and affect each other.

**CONTENTS:**


1) Social Structures.
2) Economic Structure.
3) Educational Structure.
4) Geographical Structure
5) Infrastructure.
6) Village Planning.
7) Technology and Interventions.
8) Transport and Connectivity.
9) Renewable Energy.
10) Migration.
11) Outreach and Media.
12) Administrative Policies.

# 01 SOCIAL STRUCTURE.

# SOCIAL STRUCTURES

**PROBLEMS:**

- Discrimination based on caste, race, etc.
- Deprivation from basic human rights.
- Unjust practices and rise of crime against people who are considered to belong to lower castes.
- No access to education, and lack of opportunities to grow.

**REASONS:**

- Social structures have been present in the rural parts on India since a long time, and still continue to exist even as the country is developing.
- The existence of social structure can be traced down to multiple reasons, like the lack of educational facilities and awareness in the rural areas which leads to lack of knowledge for the rural population. The rural population has little to no information concerning their basic rights and hence, no action is generally taken against discrimination and crime which arise due to presence of social structures.
- One major contributor to the existence of social structures is the existence of a pluralistic society- a society where people belong to diverse castes and races. This difference is used to decide social status wherein some segments of the society are assigned a higher status and role in the society, while the rest are considered as inferior and are deprived of basic human rights. Even with the changing times and the development in the county, this practice and discrimination still prevails.
- Concentration of wealth, and occupations constitute another factor that is used as a discrimination factor in social structures. The richer population has bigger occupational set-ups and own huge farmlands, etc., and hence have power over the poor population as they are dependent on the landowner for work opportunities and to earn money.

**SOLUTIONS:**

- Educated people should go to the villages and settle their. Education should be both compulsory and free. Night school should be set up for the adults to teach them.
- the village should equipped with a hospital and a charitable dispensary for providing a proper medical aid roads and other means of communication should be improved.
- cooperative credit societies should be set up to advance loans to the peasants. Arbitration board should settle disputes and differences .Educational films should be exhibited.
- good libraries should provided in every village in this way each village should be developed into a self sufficient unit
- schemes of rural uplift should be implemented properly to improve the condition of the villagers.
- to eliminate inequality that is if growth is demanded the agricultural economy has to liberalized and produces set free because when farmers and ruler industries have access to a steady income they will invest in improving productivity
- There should be a proper and fairer entitlement and and a proper way of branching the things and schemes .NGOs for farmers and landless labourers and for the one who required it

**BIBLIOGRAPHY:**


- https://www.yourarticlelibrary.com/sociology/social-structure-what-is-rural-social-structure/34969
- https://www.slideshare.net/pantaroshan/rural-social-structuresocial-change-and-continuity
- https://accountlearning.com/social-structure-indian-society-features/
- https://www.careerlauncher.com/rbi-grade-b/social
- https://www.jstor.org/stable/41602124?seq=1
- https://www.researchgate.net/publication/336685726_Indian_Social_Structure

# FACTORS TO ANALYZE SOCIAL STRUCTURES

## PULARISTIC SOCIETY

- CASTE DIVERSITY
- RACIAL DIVERSITY
- DIVERSE LANGUAGES

## COMMUNALISM

- RELIGIOUS DIVERSITY
- ETHNIC DIVERSITY
- DIFFERENCE IN BELIEFS

## ILLTERACY

- LACK OF KNOWLEDGE
- LACK OF RESOURCES
- IGNORANCE

## TRADITIONAL PRACTICES

- REGRESSIVE ATTITUDE
- LACK OF KNOWLEDGE
- ILLITERACY

## WEALTH DISTRIBUTION

- OCCUPATIONS
- OPPORTUNITIES
- EDUCATION

## POLICIES

- HUMAN RIGHTS DEPRIVATION
- SOCIAL STATUS
- OPPORTUNITIES

## DISCRIMINATION

- SOCIAL STATUS
- HUMAN RIGHTS DEPRIVATION
- ROLE IN SOCIETY

## CRIME AND INJUSTICE

- EXPLOITATION
- HUMAN RIGHTS DEPRIVATION
- LACK OF OUTREACH

# 02 ECONOMIC STRUCTURE.

# ECONOMIC STRUCTURE

**REASONS:**

- Excessive dependence on nature
- Small and economic land and livestock Holdings
- Low capital labour ratio
- Low factor productivity and low rate of turnover
- Lack of basic infrastructure
- High incidence of poverty
- Unskilled workforce
- Low literacy rate
- Poor quality human labour low level of product efficiency
- Instability of output in agriculture sector
- Imbalance in distribution and growing inequalities
- Prevalence of chronic unemployment
- Prevalence of low level Technology
- Improper and high interest credit system
- Bad marketing strategies and presence of middle person between farmers and consumers
- Overcrowded workforce in farming (51%)

**SOLUTIONS:**

Credit and Banking in Rural Areas : Formation of NABARD (National Bank For Agricultural And Rural Development), in addition to the presence of RBI and helping hand of SHGs are successfully bridging the gap between formal credit system and rural poor.

Measures of Improvement in marketing strategies:-
Firstly, markets were regulated to obtain transparent and orderly marketing conditions. Secondly, the provisions of improvement in transport infrastructure provided easier and new channels of connectivity. Some illustrations of successful marketing channels involve big scale markets and various national and multi-national fast food chains reaching out directly to farmers. These companies enter into deals with farmers which require them to produce the output of a certain quality.

Diversification into Productive Activities:- proper distribution of workforce in all occupation.

Centre and state government have over all estimated a total capital expenditure of Rs. 7,73,915 crore between fiscals 2020 and 2025 on rural infrastructure development.

INDUSTRIALISATION: resulted in lessening pressure (of surplus)and an increasing amount of capital, capital goods will forcibly create the economic necessity of enlarging thev holding.

Pradhan plans to groom and promote 10,000 youth as Entrepreneurs or Self-employed(YSE), who are linked to local livelihood eco-systems

**BIBLIOGRAPHY:**

https://www.investindia.gov.in/team-india-blogs/rural-infrastructure-sector-under-national-infrastructure-pipeline
https://www.toppr.com/guides/economics/rural-development/diversification-into-productive-activities/

# FACTORS TO ANALYZE ECONOMIC CONDITION

## CAPITAL

- RELAXATION IN TAX PAY
- EFFICIENT CREDIT SYSTEM
- FUNDS FOR INFRASTRUCTURE

NABARD

## OCCUPATION

- JOB OPPORTUNITIES
- FORMAL SECTOR EXPANSION
- DIVERSIFICATION IN PRODUCTIVE ACTIVITIES

1. PRADHAN MANTRI VANDHAN YOGANA
2. NITI AVOG
3. NREGA

## POLICIES

- EMPLOYMENT GENERTATION
- GOVERNMENT ACTS FOR RURAL WORKERS
- COLLABRATION WITH NGOS

1. FISCAL POLICY
2. MONETARY POLICY
3. SUPPLY SIDE POLICY

## INFRASTRUCTURE

- TRANSPORT FACILITIES
- HEALTHCARE FACILITIES
- EDUCATION FACILITIES
- HOUSING

1. PMAY-GRAMIN
2. PMGSY
3. JJM

## TECHNOLOGY

- DIFFERENT INTERVENTIONS
- AWARENESS OF TECHNOLOGY
- IMPLEMENTATION OF TECHNOLOGY

## MARKETING STRATEGIES

- EXPANSION FOR RURAL PRODUCTION
- EXPORT OF GOOD TO LARGER MARKETS
- CONNECTIVITY TO INTERNATIONAL MARKET

1. PRADAN
2. APMC

# 03 EDUCATION.

# EDUCATION

*ABSTRACT:*
*India has the largest education system in the world after China. However, issues of Quality education and access remain challenges in some parts of the Country. The role of education in facilitating social and economic progress is well accepted. Access to education is critical to access emerging opportunities that accompany economic growth.*

**PROBLEMS:**

- Lack of infrastructure
- Lack of transportation facilities
- Less in number
- Lack of basic amenities
- Lack of extracurricular activities
- Deficiency of funds
- Problems of Rural Schools Teachers compensation
- School Employees
- Promoting Technology private endowments from private and public businesses.
- Creative fundraising by the School district
- Poor management and organization
- Low income

**SOLUTIONS:**

- Ensure every child is in school and learning there. There should be some initiative with the government and institutions for effective coordination, implementation and monitoring of the education sector with focus on learning, equity, gender inclusiveness and disaster risk reduction.
- Encourage colleges and universities to develop materials and resources specifically for rural schools and to train personnel to work more effectively in small schools.
- Provide a forum for all those involved in public education in rural areas – including teachers, administrators, board members, and members of the rural community at large whereby they may come together professionally and exchange ideas.
- Promote state, regional and local delivery systems which bring about efficient and
- effective education for children in rural areas.
- Innovative approaches to education can include working to change the classroom dynamics through active child participation, promoting gender equality, keeping children healthy and safe and ensuring that schools are not isolated from the communities they are serving.
- There can also be a ‘child centered pedagogy’ in multilingual and multi-grade situations and providing technical support to build the capacity of teacher education institutions to better train teachers on inclusive, child-centred and life skills-based pedagogy for improved learning outcomes for children and improved transition of girls to secondary schools.
- Education specific to their parent's occupation can be imparted for their growth, as well to improve their living conditions.

**BIBLIOGRAPHY:**

- https://www.unicef.org/india/what-we-do/quality-education
- Scholarly Research Journal For Interdisciplinary Studies

# 04 GEOGRAPHICAL STRUCTURE.

# GEOGRAPHICAL STRUCTURES

The study of settlement has been one of the most significant themes of human geography. The term "**settlement geography**" is derived from the German" siedlunge geographic" which involves the study of visual imprints made by man upon cultural landscape in the process of occupation. In the beginning various settlement features bore simpler forms and relationship with the environment.

**REASON**

- There are many organisms on this planet. In them, human is the most powerful animal on the basis of his brain. There are has three basic needs of man 1.Food 2.Cloth 3.Shelter.
- In the primitive stage, he used tree branches, caves or rock-cut for shelter. After that, there was a change in man's work with respect to space and time and that influenced his settlement. That is why his shelter was converted into Hamlet, Village, Town and finally into city and this hierarchy was mostly influenced by physical, social, economical and cultural factors. These factors also influenced the distribution, spacing and morphology of settlement.
- Geographical structures helps to form a settelment, available on resources in terms of water, land, forests, wildlife etc.
- Geographical structure also help the settlements to grow in economic.
- This environment influences the entire rural way of life and their dynamic structure.

**SOLUTIONS**

- Better Amities can be provided.
- Tourisms.

## Conclusion

Given the geographical and cultural diversity of India, the country has opportunities to harness rural tourism. If implemented and promoted properly, rural tourism projects can become a driver of economic growth by generating employment for the youth. It keeps the potential of addressing issues such as poverty, empowerment of women and strengthening the economic status of the rural people.

BIBLIOGRAPHY:

- https://www.tutorialspoint.com/ancient_indian_history/geographical_background_of_indian_history.htm
- https://www.researchgate.net/publication/254359476_The_Satvai_and_Settlement_Pattern_in_Rural_Western_Maharashtra
- https://shodhganga.inflibnet.ac.in/bitstream/10603/5432/15/15_synopsis.pdf

# FACTORS TO ANALYZE GEOGRAPHICAL STRUCTURES

| GEOGRAPHICAL REGIONS | ECONOMIC | AMENITIES | EXITING SURROUNDINGS |
|---|---|---|---|
| HIMALAYAS | AGRICULTURE | EDUCATION | WATERBODY |
| INDO- GANGETIC PLAINS | HOTICULTURE | MEDICAL | FLORA FAUNA |
| THAR DESERT | DOMESTICATION | TRANSPOTATION | ROADS |
| DECCAN PLATEAU | MANUFACTURING | COMMUNICATION | LANDSCAPE |
| EAST COAST | CONSTRUCTION | RESTAURANTS | |
| WEST COAST | TOURISM | MUSEUMS | |
| ISLANDS | | | |
| CENTRAL HIGHLANDS | | | |

| RURAL TOURISM SCHEMES | |
|---|---|
| PIDDC SCHEME | Rural Tourism Infrastructure Development Component under PIDDC scheme – Promoting Village Tourism |
| SWADESH DARSHAN | Positioning Tourism as an Engine of Growth |
| DPPH SCHEME | Scheme for Organizing Fair, Festival and Tourism related events – Domestic Promotion & Publicity including Hospitality |
| HSRT SCHEME | Hunar Se Rozgar Tak (HSRT), Ministry of Tourism |
| PMKVY SCHEME | Pradhan Mantri Kaushal Vikas Yoiana (PMKVY) – Developing Human Capital |

# 05 | INFRASTRUCTURE.

# INFRASTRUCTURE

**PROBLEMS:**

- Not enough educational options pursue after basic education, stopping youth from staying back and improving local conditions
- Small number of job opportunities and job types
- Public sanitation awareness, wrongful usage of provided structures
- Housing schemes not made available with immediate effect
- Lack of  enough health facilities
- Child Labor
- Lack of transparency in the distribution of funds from government
- Lack of awareness in the society about schemes
- Lack of efficiency in the processing of schemes
- Lack of existing infrastructure
- Lack of data collection
- Lack of networking among rural areas

**REASONS:**

- People migrating to cities in search of jobs, education
- Lack of social development, eg., wrong social traditions and superstitions
- Lack of connectivity to urban areas
- Low literacy rate
- Lack of digitalization
- Local authorities are out of reach

**SOLUTIONS:**

- Regular Camps or Awareness Programmes
- Upliftment of society by giving moral education
- Networking with NGOs
- Associating more with the public sector to provide technology, electricity, etc
- Better healthcare
- Introducing awareness regarding sanitation
- Helping smaller, local businesses grow

**INFERENCES / ARGUMENT:**

Rural Infrastructure is largely dependant on the government and efforts from the private sector for its overall development. There is very little to no knowledge about the schemes available among the locals. The programmes initiated at national and state levels become very far-fetched and inefficient for people living in rural areas. There is dire need for transparency and efforts for creating awareness from the government and local bodies.

# FACTORS TO ANALYZE INFRASTRUCTURE

## HOUSING
- FOR LOCAL RESIDENTS
- STORAGE
- PRADHAN MANTRI AWAAZ YOJANA

## HEALTH
- PRIMARY HEALTHCARE CENTRES
- NGOs, and CAMPS
- AVAILIBILITY OF PHARMACIES
- RASHTRIYA SWAASTH BIMA YOJANA

## SANITATION
- AWARENESS
- IMPLEMENTATION OF SHCEMES
- SWACHH BHARAT ABHIYAAN

## EDUCATION
- HIGHER EDUCATION
- IMPLEMENTATION OF SHCEMES
- DIGITALIZATION
- SARVA SHIKSHA ABHIYAAN
- SHAALEY POSHAN AHAR

## TRANSPORT
- AVAILIBILITY OF PUBLIC TRANSPORT
- QUALITY OF ROADS
- IMPLEMENTATION OF SHCEMES
- PRADHAN MANTRI GRAHAM SADAK YOJANA
- BHUMI ABHILEKH SADAK YOJANA

## ELECTRICITY
- LARGER REACH INTO DEEP ENDS
- AWARENESS ABOUT NONCONVENTIONAL METHODS
- REGULARITY OF POWER CUTS AND TIMING

## WATER
- PROPER TREATMENT
- AVAILIBILITY & DISTRIBUTION OF WATER
- STOPPING CONTAMINANTION OF NATURAL WATER BODIES
- JALYUKTA SHIVAR YOJANA

## CONSERVATION
- MAINTENANCE OF HERITAGE STRUCTURES
- KEEPING ALIVE VERNACULAR METHODS
- CREATINNG A SOURCE OF REVENUE, TOURISM
- NATIONAL HERITAGE CITY DEVELOPMENT AND AUGMENTATION YOJANA

## OCCUPATION
- AWARENESS OF AGRCULTURAL TECHNOLOGY
- IMPLEMENTATION OF SCHEMES
- AWARENESS SEMINARS

## ADMINISTRATION
- TRANSPARENCY OF FUNDS DISTRIBUTED
- FASTER IMPLEMENTATION OF WORK
- AWARENESS AND REGULALR INSPECTIONS

## WORSHIP SPACES
- DIVERSIFYING COMMUNITY
- SOCIAL AWARENESS PROGRAMMES (SUPERSTITIONS)
- MAINTAINING OLD TRADITIONS AND FESTIVITIES

# 06 VILLAGE PLANNING.

# VILLAGE PLANNING

**PROBLEMS**.

- Improper management of infrastructure
- Public awareness of various schemes related to planning
- Improper road connectivity
- No waste management systems
- Major issues of drinking water

**REASONS**

- Villagers not aware about their own land, own rights, own schemes which are
- Their goodness
- Old beliefs also play important role in mismanagement of resources
  pathetic approach to waste management and drinking water resources

**SOLUTIONS**

- Awareness about all such points which leads to a proper well being and good
- Infrastructure
- Creation of job opportunities within the village so that capital is available with individual
- As well as with the panchayat body in the form of taxes
- Helping aid from the private institutions

BIBLIOGRAPHY:
-https://rurban.gov.in/doc/Model%20Planning%20Guidelines%20for%20Rurban%20Cluster.pdf
- https://rurban.gov.in/assets/download/pdf/ICAP_book.pdf

# FACTORS TO ANALYZE VILLAGE PLANNING

## REGIONAL SETTING

- DEMOGRAPHY
- ANALYSIS OF EXISTING SCENARIO
- STRATEGIES AND PROPOSAL BASE ON VISION
- CONVERGENCE OF CENTRAL AND STATE FUNDED SCHEMES

## ECONOMIC BASE

- OCCUPATIONAL STRUCTURE
- MSME CLUSTER PROFILE
- TYPE OF MSME CLUSTER

## LAND UTILIZATION AND LAND MANAGEMENT

- Water Bodies
- Heritage zone
- Protective and Eco - sensitive zone

## TRANSPORTATION

- ROAD CONNECTIVITY BETWEEN VILLAGES
- ROAD CONNECTIVITY BETWEEN VILLAGES
- CONNECTIVITY TO NEAREST TOWN FROM CLUSTER

## INFRASTRUCTURE

- SANITATION
- PIPED WATER SUPPLY
- SOLID AND LIQUID WASTE MANAGEMENT
- VILLAGE STREETS AND DRAINS
- INTER-VILLAGE ROAD CONNECTIVITY
- PUBLIC TRANSPORT

## DISASTER AND CLIMATE RESILIENCE

## RESOURCE AND POTENTIAL

- RESOURCE MOBILIZATION OPTIONS

## LOCAL LEVEL GOVERNANCE

- SPECIAL NEEDS OF GRAM PANCHAYAT

BIBLIOGRAPHY:
-https://rurban.gov.in/doc/Model%20Planning%20Guidelines%20for%20Rurban%20Cluster.pdf

# 07 TECHNOLOGY & INTERVENTION.

# TECHNOLOGY AND INTERVENTIONS

**PROBLEMS:**

- Technology is defined as the systematic knowledge for product manufacture and service provision in industry, farming and commercial fields.
- This knowledge must be able to be transferred and it must be systematic that can satisfy needs and problems in the rural community.
- It must be organized in terms of providing solutions to problems.
- It must exist in certain places, like in some documents, and must be presented, so no matter what it means it must be able to be transferred from one person to another, so that it can be utilized for useful purpose in industry, farming and commercial fields.

**SOLUTIONS:**

- Nothing has taken the country by storm as much as the mobile phone.
- With over 900 million mobile devices in use at present, 377 million of which are in rural India, the mobile industry is posting a staggering growth of 43.23% annually.
- So, what better way to make mobile as the medium to deliver solutions to the people who need it at the grassroots.
- From remote monitoring of crops to reaching out to potential markets, from last mile delivery of government and private services to addressing domestic violence issues ingeniously, mobile phones are being used in a host of ways to uplift and empower rural India.

**BIBILOGRAPHY:**

http://reallydosomething.weebly.com/rural-technology1.html

https://www.thebetterindia.com/16218/8-mobile-phone-ideas-changing-lives-rural-india-mobile4good14/

https://srijanindia.org/case_studies/

https://socialinnovationinhealth.org/case-studies/operation-asha-2/

# FACTORS TO ANALYZE TECHNOLOGY AND INTERVENTIONS

## POLICIES :

| FARMING | HEALTH CARE | EDUCATION | GOVERNENCE |
|---|---|---|---|
| KISAN SANCHAR | MY HEALTH MY VOICE | MAHILA SHAKTI | HELLO SAKHI |
| LIVLIHOOD 360 | | EDUVARTA | BAREFOOT COLLEGE |

## APPLICATIONS :

| FARMING | HEALTH CARE | EDUCATION | GOVERNENCE |
|---|---|---|---|
| SWAYAM SHIKSHAN PRAYOG | OPERATION ASHA | CHINH | INFOCRAFTS |
| SRIJAN | SWAYAM SHIKSHAN PRAYOG | | SURAT MUNCIPAL COORPORATION |
| JAYALAXMI AGROTECH | SRI KANCHI KAMAKOTI MEDICAL TRUST | | |
| | DIMAGI APP | | |

# 08 TRANSPORT & CNNECTIVITY.

# TRANSPORT AND CONNECTIVITY

The **rural transport problem** refers to difficulties experienced in providing **transport** links to **rural communities**. Low **rural** population density makes viable public **transport** difficult, though people in **rural areas** usually have a greater need for **transport** than urban dwellers.

**PROBLEMS**

There are many issues surrounding the low initial-cost provision of gravel roads. These include:
•Short road-life expectation due to erosion and wear
•Lack of drainage and watercourse crossings
•Damage to health and detriment to farming productivity from dust
•Damage to road users and equipment from rough roads
.

**SOLUTION;**

•Design simple, high error margin techniques with low maintenance regimes
•Use local materials as much as possible
•Remember the cheapest option is probably the worst option no matter what the economic analysis or traffic volume figures indicate.
•Local transport and accessibility issues are complex, intersecting with many sectors, levels of government and policy areas;
•Low population densities and resource constraints in rural areas make innovation and flexibility in local transport a necessity;
•All rural areas are different, and strategies need to take into account local problems and opportunities;
•Effective delivery of projects often depends on the expertise or capacity of multiple actors, from multiple sectors; and
•Due to their local legitimacy, they are well-placed to influence policy.

BIBLIOGRAPHY:
- LIST OF IMPORTANT LINKS REFFERED FOR DATA ABOVE (FONT SIZE OR 10)

# FACTORS TO ANALYZE TRANSPORT

## TRANSPORT INFRASTRUCTURE

- ROAD CONDITIONS
- INADEQUATE ROAD AND HIGHWAY FACILITIES
- DANGEROUS PATHS
- DIFFICULT ACCESS TO PLANTATIONS
- INACCESSIBLE EDUCATIONAL FACILITIES
- LIMITED FARM MECHANIZATION
- SHELTER FOR BUS-STOPS AND RICKSHAW STAND
- SAFETY FOR WOMEN
- SHORT PATHWAYS

## TRANSPORT POLICY

- DRIVER TRAINING
- SCARCITY OF APPROPRIATE TRANSPORT
- SPECIALIZED TRANSPORTATION
- PERSONAL TRANSPORT
- UNETHICAL PRACTICES CONCERNING MOVEMENT OF PEOPLE
- EMERGENCY SERVICES

## MEANS FOR GOODS SUPPLY AND DISTRIBUTION

- LIMITED MARKET TRANSPORTATION
- RESTRICTED DELIVERY OF ESSENTIAL SERVICES
- PROHIBITIVE COST
- OVERLOADED VEHICLES

# 09 RENEWABLE ENERGY.

# RENEWABLE ENERGY

- **General Introduction**- Economic growth, the world over is driven by energy, whether in the form of finite resources such as coal, oil and gas or renewable such as hydroelectric, wind, solar and biomass energy. Energy generation and consumption powers the nation's industries, vehicles, homes and offices. Energy also has significant impact on the quality of a country's air, water, land and forest resources.
- **Primary Commercial Energy Resources -** Coal, Oil and Natural Gas, Hydro Electrical, Nuclear Resources

**ADVANTAGES OF INVESTING IN RENEWABLE ENERGY**

- **Robust Demand -** As economy grows, electricity consumption is projected to increase the renewable energy will account for 55 per cent of the total installed power.
- **Increasing Investments -** India can see renewable energy investment worth US$ 500 billion.
- **Policy Support -** Government plans to establish renewable energy capacity of 500 GW by 2030.
- **Competitive Advantage -** India was ranked fourth in wind power and fifth in renewable power installed capacity as of Competitive 2018.

**PROBLEMS IN ADOPTION OF RENEWABLE ENERGY**

- Policy do not always reflects needs.
- Challenges in finding the right solution for specific energy needs.
- Adequate finance is not available.
- Data are critical but not available.
- Ignorance to work in rural areas.

**SOLUTIONS**

- **Policy cannot be designed in silos -** The centre has to talk to the state. At the same time, the departments also must interact with each other to understand the need for integrating energy into health, education and livelihood development plans and vice versa.
- **Greater engagement is required -** from the vendor community to help the doctors and the teachers understand the existing technologies, their limitations and possibilities.As in the case of policies, vendors located away from where the need is and cannot do justice to requirement of developing an optimal backup system.
- **Innovative financing model required -** are required given the lack of resources and collateral in most of the cases. For this to be possible, private and public funding agencies must work together along with the support of national and international development agencies and donors.
- **Data consolidation -** must be undertaken, given the number of organisations working to collect and analyse information.

# FACTORS TO ANALYZE RENEWABLE ENERGY

- GEOGRAPHICAL CONDITION
  - AVAILABILITY OF RESOURCES
- ECONOMIC
  - INNOVATIVE FINANCE MODELS
- INFRASTRUCTURE
  - EDUCATION
  - HOSPITALS
- POLICIES
  - OPPORTUNITIES
  - INTEGRATION
- OUTREACH
  - GREATER ENGAGEMENT
  - DATA CONSOLIDATION
- EDUCATION
  - LACK OF KNOWLEDGE
  - OPPORTUNITIES

India plans to produce 175 GW of renewable energy by 2022
DESCRIPTION OF ACCELERATION ACTIONSDGS & TARGETS RESOURCES MOBILIZED
Description
The Government of India has set a target of installing of installing 175 GW of renewable energy capacity by the year 2022, which includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro-power.


- https://www.sciencedirect.com/science/article/pii/S0301421513003315
- http://www.itpi.org.in/pdfs/07_03.pdf
- https://qz.com/india/1802679/how-india-can-improve-renewable-energy-adoption-in-rural-areas/
- https://rurban.gov.in/index.php/Public_home/about_us
- https://mnre.gov.in/img/documents/uploads/670406a017f54c9386fcde911ee5abe6.pdf
- https://www.mahaurja.com/meda/en/off_grid_power/rve_programme
- https://www.ibef.org/industry/renewable-energy.aspx
- https://www.teriin.org/projects/green/pdf/National-RE.pdf
- https://ipdefenseforum.com/2020/08/indian-navy-increasing-renewable-energy-sources/

# 10 MIGRATION & REASONS.

# MIGRATION AND REASONS

INCREASE IN MIGRATION RATE IS DUE TO THE FOLLOWING FACTORS

- Increasing unemployment
- Low wages
- Small size of land holdings
- Lack of infrastructural development and facilities
- Environmental degradation and depletion of natural resources
- Limited livelihood options

WHAT CITIES ARE OFFERING THE MIGRANTS

- Employment opportunities
- Educational opportunities
- Improved medical services
- Entertainment facilities
- High wages
- Less hazardous work
- Infrastructure facilities
- Better civic amenities

SOLUTIONS

- Increase financial and human resources in migration prone areas.
- Promote public- private partnership for promotion of safe internal migration.
- Providing banking facilities for migrants to enable safe and secure transfer of remittances.
- More focus in national development plans (Five Year Plans, Jawaharlal Nehru National Urban Renewal Mission and City Development Plans).
- Establishment of a universal national minimum social security package covering minimum wages and labour standards and incorporating portability of benefits in all government social protection schemes and public services.
- Design special outreach strategies for migrants within public services and government programmes.
- Adopting development strategies in backward areas such as sustainable livelihood opportunities, food security programmes and creating opportunities for access to credit.
- Revise the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act (1979).

BIBLIOGRAPHY:

https://www.jstor.org/stable/40738301?seq=1

https://www.researchgate.net/publication/319253803_From_the_village_to_the_city_The_changing_dynamics_of_migration_in_contemporary_India

http://www3.weforum.org/docs/Migration_Impact_Cities_report_2017_low.pdf

# FACTORS TO ANALYZE IN MIGRATION

| SOCIAL FACTORS | ENVIRONMENT-AL CONDITIONS | ECONOMIC CONDITIONS | OTHER |
|---|---|---|---|
| EDUCATION PROFILE | DROUGHT CONDITIONS | LOW WAGES | LACK OF FACILITIES |
| AGE PROFILE | UNSEASONAL RAINFALL | SMALL SIZE OF LAND HOLDINGS | JOB TRANSFER |
| MARTIAL STATUS | NATURAL CALAMITIES | LIMITED LIVELIHOOD OPTIONS | UNCERTAIN PROFIT-HIGH WAGES |

# 11 OUTREACH & MEDIA.

# OUTREACH MEDIA AND MARKETING

WHAT IS MARKETING?

Marketing is the oldest science with the human beings of identifying, creating, exchanging need and relationships between seller and buyer at a profit, thereby promoting and enabling the process of trading product or service. Satisfying needs and wants through an exchange process", the marketing is the broader way to reach customer which involves selling as the prime cause been influenced through different steps like need understanding, brand recognition and thereby completing element of sales and purchase.

MARKETING IN RURAL AREAS:

- Marketing in rural areas is new emerging sector in our country.
- The traditional way of marketing source in rural areas is television and radio.
- Along with T.V. and radios, newspapers, magazines and mic announcement also place a important platform for marketing of a object.
- Due to access to internet in rural areas has started increasing, social media and marketing from internet base have started taking shape in such areas.
- To bridge the gap between the villagers who are less literate to understand the digital technology and the apps and internet some steps should be taken with respect to it.

REASONS FOR MARKETING:

- The increase in procurement prices is putting more money into the hands of the rural population.
- A digital connection between the urban and rural area should be enhanced for the easy flow of goods and services without having a multiple middle men or any sort of corruptions.
- To create a connection and enhancement to the small scale businesses in the rural area to the people of urban areas where they can get the original authentic goods from these rural areas.
- Boosting the production of rural goods via marketing can help the economic growth of the rural area leading to blurring the boundaries between the rural and urban economic status.
- Introducing and explaining the importance of the local goods to the urban people to reduce the import rate of the country.

SOLUTIONS TOWARDS MARKETING:

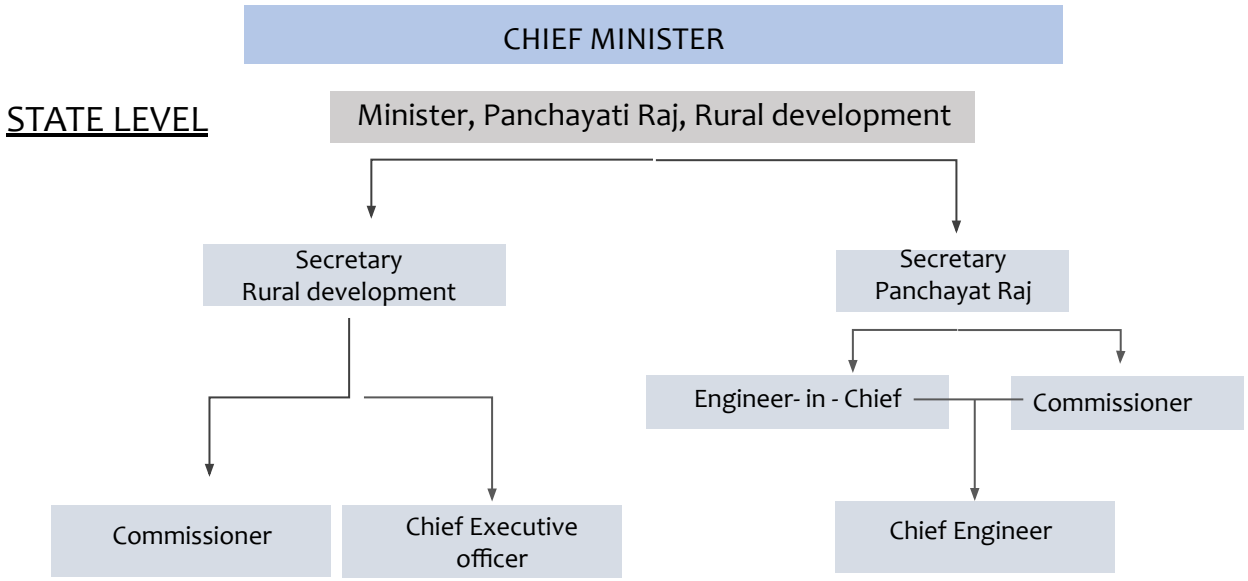
- The major solution for the marketing of a rural area needs to be done is that the format of advertisement should be shifted from hardcopies to digital marketing.
- Things such as local languages, easy navigation of applications, easy accessibility of internet and network in the rural areas should be taken into consideration.
- Promotion and advertisement of the farm products, poultry products, small scale businesses by the women should be encouraged more by television channels, newspapers and radio stations.
- Every city should have some kind of exhibition or campaign once in a week where people from all nearby rural areas can come together and sell their products and services on one single platform.

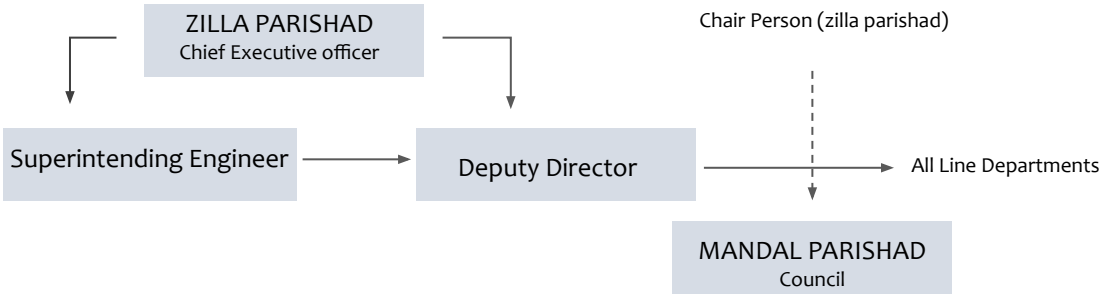
ARGUMENT:

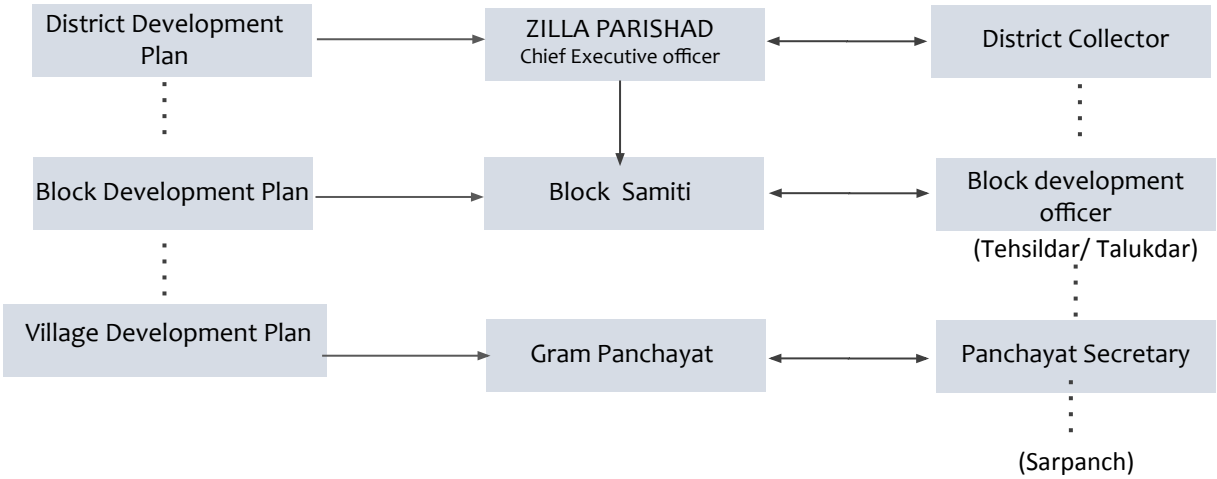
How to enhance trade and connection between the small scale rural businesses to the urban population with the help of outreach media and marketing to have a easy money flow within the country rather than importing goods from other countries?

# 12 ADMINISTRATIVE POLICIES.

# ADMINISTRATIVE POLICIES



# ADMINISTRATIVE POLICIES

## AGRICULTURE

- PM-KISAN SAMMAN NIDHI YOJANA
- PRADHAN MANTRI KISAN MAANDHAN YOJANA
- PRADHAN MANTRI FASAL BIMA YOJANA
- CREDIT CARD SCHEME (KISAN / PASHU)
- PARAMPARAGAT KRISHI VIKAS YOJANA
- PARAMPARAGAT KRISHI SINCHAYI YOJANA
- DAIRY ENTREPRENEURSHIP DEVELOPMENT SCHEME
- RAINFED AREA DEVELOPMENT PROGRAMME
- SOIL HEALTH CARD SCHEME
- NATIONAL BUSINESS FOR SUSTAINABLE AGRICULTURE

## ECONOMIC STRUCTURE

- PRADHAN MANTRI VANDHAN YOJANA
- JAWAHAR GRAM SAMRIDDHI YOJANA
- SWARNAJAYANTI GRAM SWAROZGAR YOJANA
- SAMPOORNA GRAMIN ROZGAAR YOJANA
- NATIONAL RURAL LIVELIHOOD MISSION
- DEEN DAYAL UPADHYAY – GRAMIN KAUSHALYA YOJANA

## INFRASTRUCTURE

- SHYAM PRASAD MUKHERJEE NATIONAL RURBAN MISSION
- PRADHAN MANTRI AWAS YOJANA
- JAL JEEVAN MISSION
- RASHTRIYA SAMA VIKAS YOJANA
- INDIRA AWAAS YOJANA
- SWATCHH BHARAT MISSION

## RENEWABLE ENERGY

- NITI AYOG
- NATIONAL SOLAR MISSION
- NATIONAL OFFSHORE WIND POLICY
- PRADHAN MANTRI SAHAJ BIJLI HAR GHAR YOJANA
- FAMILY BIOGAS PLANTS, WATER MILLS AND MICRO HYDEL SYSTEMS, SOLAR STREET LIGHTING SYSTEMS, SOLAR LANTERNS, SOLAR HOME LIGHTING SYSTEMS, SOLAR COOKERS, STAND-ALONE SOLAR OR BIOMASS POWER GENERATORS AND WIND PUMPS

# ADMINISTRATIVE POLICIES

## OUTREACH
- NATIONAL AGRICULTURE MARKET

## HEALTH
- RASHTRIYA SWASTHA BIMA YOJANA

## MIGRATION
- MIGRATION POLICY

## CONSERVATION
- NATIONAL HERITAGE CITY DEVELOPMENT AND AUGMENTATION YOJANA

## WATER
- ACCELERATED RURAL WATER SUPPLY PROGRAMME
- STATE WATER AND SANITATION MISSION

## TECHNOLOGY AND INTERVENTION
- SELF RELIENT INITIATIVES USING THROUGH JOINT ACTIONS
- OPERATION ASHA

## TRANSPORT AND CONNECTIVITY
- PRADHAN MANTRI GRAM SADAK YOJANA
- NATIONAL URBAN TRANSPORT POLICY

## EDUCATION
- NATIONAL PROGRAMME FOR EDUCATION OF GIRLS AT ELEMENTARY EDUCATION
- SARVA SHIKSHA ABHIYAN
- SAMAGRA SHIKSHA

## FOOD SCHEME
- VILLAGE GRAIN BANK SCHEME
- ANTYODAYA ANNA YOJANA
- NATIONAL FOOD FOR WORK PROGRAMME

# EXERCISE-2
# FINAL SMART VILLAGE IDEA PROPOSAL

This report consists of various ideas and principles to form a smart and a sustainable village.

**GROUPS:**

1) Lincy Lopes (Sem9) Rashi Bhansali (Sem3)
2) Bansi Patel (Sem9) Atharava Girme (sem3)
3) Shruti Bhagwat (Sem 9)
4) Bhavika Chaudhari (Sem 9) Hardik Mandaliya (sem 7)
5) Unmesha Nag (sem 9) Pranav Apar (sem 3)
6) Shaili Annapure (Sem9) Yash Sarak (Sem 5)
7) Unmesh Tamore (Sem 5) Chinmay Galwe (Sem 9)
8) Vaibhavi Raut (Sem 9) Kiran Chapte (Sem 3)
9) Drashti Timir Shah ( sem9) Adarsh bhanushali ( sem 5)
10) Rutu patil (sem 7) Shrushti Mhaske (sem 9)
11) Aditi Mane (sem 9) Sejal Umare (sem 3)
12) Stuti Bhargava (Sem9) Hrutuja Kapse (Sem9)

01 | GROUP 1

# IDEAS FOR A SMART VILLAGE:
# THE VISION FOR A SELF-SUSTAINING VILLAGE

LINCY LOPES (SEM 9)
RASHI BHANSALI (SEM 3)

## | INTRODUCTION:

As we discussed what makes a village ideal and also what various problems are faced bu rural areas in India. So to make an ideal village we should overcome all these factors and also invent more ideas to make a self-sustaining. The word Swaraj is a sacred, Vedic word, meaning self-rule and self-restraint, and not freedom from all restraint, which 'independence' often means. So the village must justify this. **The village should be self-sufficient.**

### I. | THE ROLE OF EDUCATION:

The biggest problem in rural areas, that further manifests into numerous issues, is the lack of education and proper resources of knowledge. As it is said education is key to success and is the powerful weapon to change the world. So adding to it, education should be compulsory to each n every person despite gender religion and caste. **Education will help to uplift people, stop people from migrating.**

A person belonging to the village lacks basic knowledge whether it's about farming, law or social behaviour. In the case of farmers, they are cultivating their land by spraying pesticides occasionally without testing the actual requirement whether it's needed for the crop or not. This increases the cost of productivity and hence sometimes their input capital becomes greater than what they earn from the crops.

Though the government has initiated to help them through helpline no. but there hardly would exist any village which would have availed its benefit. This is only because they are mostly illiterate and very shy to talk over the phone stating themselves as a farmer or they assume it previously that they are not going to understand what advisers might instruct to them. They should start teaching about each pesticide and their effects. **A person can be hired for a group of villages whose work is to instruct every person whenever any suggestion anyone would need. The hired person should also instruct them to sell their crops at right time to have better profit.**

### II. | INTRODUCING TECHNOLOGY:

**Give farmers various tips about round the year farming, crops suitable to the weather changes and water and soil availability**. Ask them to plant fruit-bearing trees at the edge of their farms, which would not only give financial benefits but also act as boundaries. Also, inform them about animal husbandry and various advantages of having varied cattle.

- Make reservoirs around the village covered with solar panels.
- Use the electricity generated from solar panels to give irrigation facilities to crops
- Use drip irrigation, it saves on the water all well as it controls the growth of weeds. Makes the crop more productive.
- Build greenhouse systems and automate them as much as possible

- Do cross-pollination if possible on certain crops
- Do complimentary cropping
- Set up a lab to experiment with solutions specific to the village, tell the educated villagers to dedicate some time for the betterment of crop yield in village
- Save water by building water conversation tanks in homes (if the scarcity of water is faced)
- Show them the advances in the field and ways to improve. About the local climate soil seeds and which is an economical method of farming. A scientific approach to farming

## III. | FREE SCHOOLS:

- Educate children to use computer systems for researching for their problems over the Internet
- Inspire a new generation to become entrepreneurs, start something in the village, generate revenue and make progress.
- Teach them the art of giving and sharing.
- Formal education to growing children which are done by the establishment of schools and colleges and at the same time education and training villagers about their occupation.
- About recent advances in different fields related to their occupation, which may vary FM different villages FM agriculture, handicraft, poultry, and animal husbandry, dairy.
- Let the people participate and unleash the child inside them. Let them live for themselves.
- If you can't open a school you can improve your existing govt school (if any) don't care for the whole village if you can influence at least few children's for study that would be good

## IV. | ENVIRONMENTAL AWARENESS AND OTHER FACILITIES:

- Grow more trees, build lakes and set up a proper drainage system
- Help the village be clean and green by doing a gathering every week to clean the village. It helps a lot.
- educate and explore the natural resources available and make appropriate use of those e.g., Gobar gas usage, rainwater harvesting, solar energy to provide electricity, compost manure etc...
- Conserve forest and trees around villages and make it a healthy place and better place than cities
- **A Watershed Development Programme** is essentially designed to increase the moisture content in the soil, thereby leading to an increase in productivity.
- Formation of a community, regular meets and setting up of the development of goals for village development.
- Banking facility in villages.
- Cold storage and grain storage facility.

- Encourage villagers to open cooperative so that they can speak as one.

- Skill development which might help them diversify.
- Water management practice.
- Proper implementation and surveys of the schemes provided by government.

## V. | HEALTHCARE:

Prevention is better than cure. Teach them how to maintain hygiene in their surroundings and how to manage the environment to be healthy. Basic medical facilities to treat common ailments and espy women and children.

- Health and education are the two prime sectors where we need to spend a lot, you can try to increase health facilities if there is already a good hospital or clinic in your village you can ask them what else equipment they need, you can arrange free medical checkups
- You can install a water purifier plant for the whole village

- Sanitary lavatories, proper water supply, regular health checkups.

## VI. | AGRICULTURE:

- Agriculture is a major source of income in most rural areas.
- Scientific agriculture practices are easily accessible to each village.
- Schools should teach agriculture and encourage them.
- NGO should set up to solve and help every agricultural related problems.
- Importance should given to all types of cultivation.

## VII. | SMALL SCALE INDUSTRIES AND START-UPS:

It could be handy-craft or pottery or carpet making, etc. Anything that the people are already good at. If the men are busy in the fields, the women could do this at home. You don't need huge factories. Also if the people are already good at it, it means they already have easy access to a continuous supply of raw materials. The only thing that needs some efforts is transporting these finished products to the buyers. That again depends on the infrastructure of your village and vicinity of markets.

- teaching investments in banks and savings, management of money and benefits from govt policies, many more…

## VII. | BIOGAS PLANT:

If your village uses a conventional method of burning wood for cooking, a biogas plant will surely help them a long way. It will also act like a dumpsite for all the animal and farm waste. This surely needs a good amount of investment, but I am sure the local administration should also be able to chip in.

## VII. | ELECTRICITY AND COMMUNICATION:

Electricity either by solar energy or supply FM, the electronic board shall help in many ways and prevents accidents like a snake and insects bites.

- Electricity supply which of course is different from electrification.
- Proper road facility and transport for timely communication to cities and other facilities
- Infrastructure. Roads. Accessibility to urban centres. Accessibility to other villages.

- **Banks, Post office**: The federal government decided to set up the Indian Post Payment Bank will have a substantial impact on villages. It will become operational next year.

- A village with such a facility will radically change the way it does business and execute its projects.

- So there. What's needed and the immense problems they face. It needs commitment at the federal and state levels. Not from one man alone but it'll take one determined man to get things moving.

- ***One of the toughest barriers to crack is the caste barrier and social differences***

- In India there are villages within villages, there are villages that exist at a stone's throw from each other. People from there can't use even the basic facilities of the nearby village. They can't enter it. To get to someplace they have to take a detour of the village. Hindu temples, the focal point of social activity in a Hindu village, are barred to the residents of the ghetto village.

- We have to overcome all the social issues to make a perfect village.

- Village should be a place where people of all creeds live together in harmony.

- It should more like a family. No racism on basis of any factor should be there.

- There should be proper management of and from gram panchayat to run each and every process of villages.

***We can make a ideal village just try to find where your people are suffering what you can do to make their life little easier or better***

**This were basics to make ideal village, adding to it**

- One must always be towards inventions and welcomes new things coming up
- Using renewable energy more will make village sustainable and unleash innovation would help the village to expand.
- Using wind power, solar, hydro etc for various things.
- There should be special amenities and place to income for physically challenge people. The village should be universally used.
- A suggestions and interactions and feedback from each visitor coming in village and also people living there will add for a samrt Village

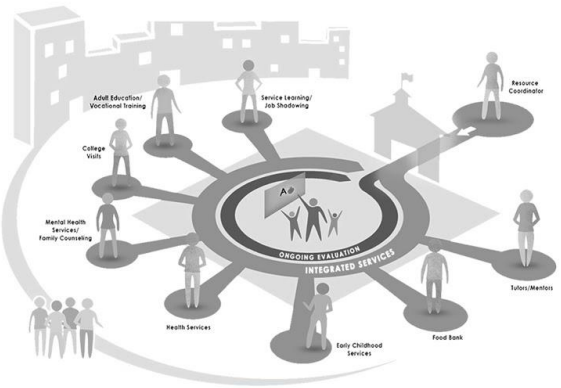
02 | GROUP 2

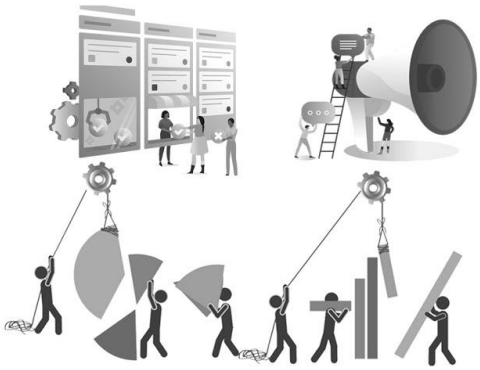
# IDEAS FOR A SMART VILLAGE:
# Sustainable approach for designing rural ecosystem to balance natural and human made resources.

ATHARVA GIRME (SEM 3)
BANSI PATEL (SEM 9)

# ECONOMIC DEVELOPMENT OF RURAL INDIA

Creation of tech based, modern , cost effective and energy efficient Planning



Development infrastructure, accessibility transportation, social and public amenities

Growth of community, iskill development, technology, expansion of markets

Sustainable approach for designing rural ecosystem to balance natural and human made resources.

**AIM AND OBJECTIVES:**

The overall goal of our Village Development work is that people in poor rural villages have access to their most basic needs, improved education and health, and a means of sustaining their livelihoods and increasing their standard of living. More specifically, they should have:

- Sanitation and drinking facilities
- Electricity and power supply
- Proper infrastructure and housing
- Health care facilities with awareness of hygienic living and working conditions
- Social amenities like worship places, community centres and public amenities like public grounds, civic service buildings etc.
- Education at institutional and schooling levels for all kinds of children and teenagers.
- Increased their take-home income as a result of participation in our livelihoods programmes

**TO ACHIEVE :**

- Prevent distress migration from rural to urban areas, which is a common phenomenon in India's villages due to lack of opportunities and facilities that guarantee a decent standard of living
- Make the model village a "hub" that could attract resources for the development of other villages in its vicinity
- Provide easier, faster and cheaper access to urban markets for agricultural produce or other marketable commodities produced in such villages
- Contribute towards social empowerment by engaging all sections of the community in the task of village development
- Create and sustain a culture of cooperative living for inclusive and rapid development

- **Education**

Improved literacy level
Negligible drop outs/left outs
Maximum enrolment of children in schools
Equal participation of girls in education
Awareness of parents on education, child rights, women rights and human rights
Qualified candidates in all sectors of education

- **Health sectors**

Healthy practices among the villagers
Reduced diseases and health problems
Reduction on consumption of alcoholism
Awareness and knowledge on transmitting diseases
Safe drinking water and sanitation
Majority will have access to pure drinking water
Maximum of villagers will use modern clean sanitation methods
Much improved health and hygiene for villagers

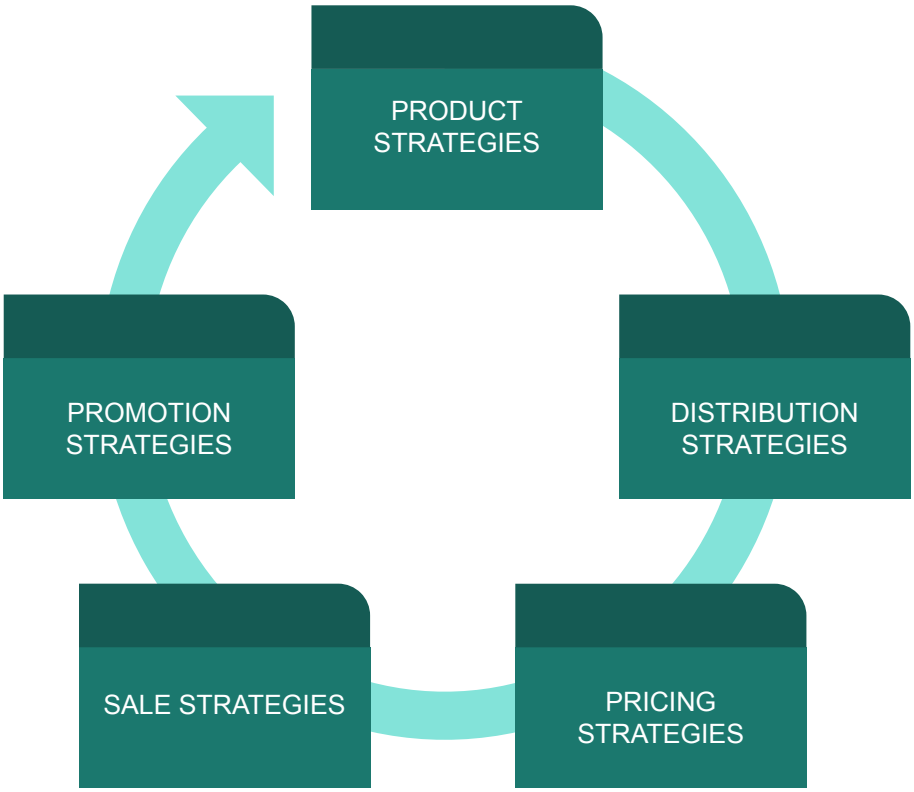
- **Livelihood**

Alternate self employment activities
Increase in income level
Improved socio economic activities
Reduced migration
Productive economic activities

- **Human resources**

Villagers capable of empowering themselves and extend the project to nearby villages
Skilled workers and professionals
Educated youth and women
Better transportation facilities

# ECONOMIC DEVELOPMENT WITH MARKETING STRATEGIES




**Different Components of markets which can be targeted :**
local market
International market
Retailers
Company produce and preserving storages
Redistribution  stockists
Traders and NGOs

A marketing channel has to be selected wisely to ensure the proper distribution of goods or services to the customers through the networking and supply between : Manufacturer, wholesaler, retailer, customer, agent etc.

**Effective methods needed to be implemented in expertising in rural marketing:**
New business modules
Rural marketing specialist agency
Technology driven digital marketing strategies
Long term per capita expenditure in overall chain of supply and demand of produce.

**Ways to promote the methods of marketing strategies**
Mass media
Personalised media
Local media
Advertising through workshops etc.

## PROBLEMS FACED BY MARKETING UNITS

- High distribution costs
- High initial market development expenditure
- Inability of the small retailer to carry stock without adequate credit facility
- Generating effective demand for manufactured foods
- Wholesale and dealer network problems
- Mass communication and promotion problems
- Banking and credit problems
- Management and sales managing problems
- Market research problems
- Inadequate infrastructure facilities (lack of physical distribution, roads warehouses and media availability)
- Highly dispersed and thinly populated markets
- Low per capita and poor standards of living, social, economic and cultural backwardness of the rural masses
- Low level of exposure to different product categories and product brands
- Cultural gap between urban-based marketers and rural consumers

## SUGGESTIONS

Suitable structure of support prices for various commodities adjusted from time to time.The government has to take the lead in the establishment of modern infrastructure facilities.

Regulated infrastructure of markets and warehouses. Rural roads must compliment and coordinate with railways, nearest waterways (ports), and airports if possible.

The power of General Insurance must be given to cooperatives.

The development of communication systems appropriates to rural market, info cells needed for rural communication.

Rural market need more number of godowns and ancillary platforms for packaging and market office cum information cell, bank and post office also required.

Agricultural technology must reach all over the country, irrespective of size of land holding.

Rural communication must be in regional language and dialects.

The existing marketing staff must be increased and adequate training must be given.
Extending of financial support for modernization of the agro-processing units is also needed.
Processing units should utilise fully capacity.
The proper packaging technology must be improved.

**HINDUSTAN UNILEVER LIMITED**

Hindustan Unilever is the pioneer and largest player in India's FMCG market. HUL was the first company to step into the Indian rural marketing.

- HUL proactively engaged in rural development in 1976 with Integrated Rural Development Programme in Etah district of Uttar Pradesh.
- In 1990, HUL launched 'Operation Streamline' for distribution of products to inaccessible rural markets with High potential using unconventional transport like bullock carts, tractors and bicycles and appointed rural distributors and star sellers.
- In 2000, HUL started Project Shakti to reach inaccessible low potential rural markets.
- HUL embarked upon Project Samuriddhi in 2003 to create sustainable villages in Dadra and Nagar Haveli.

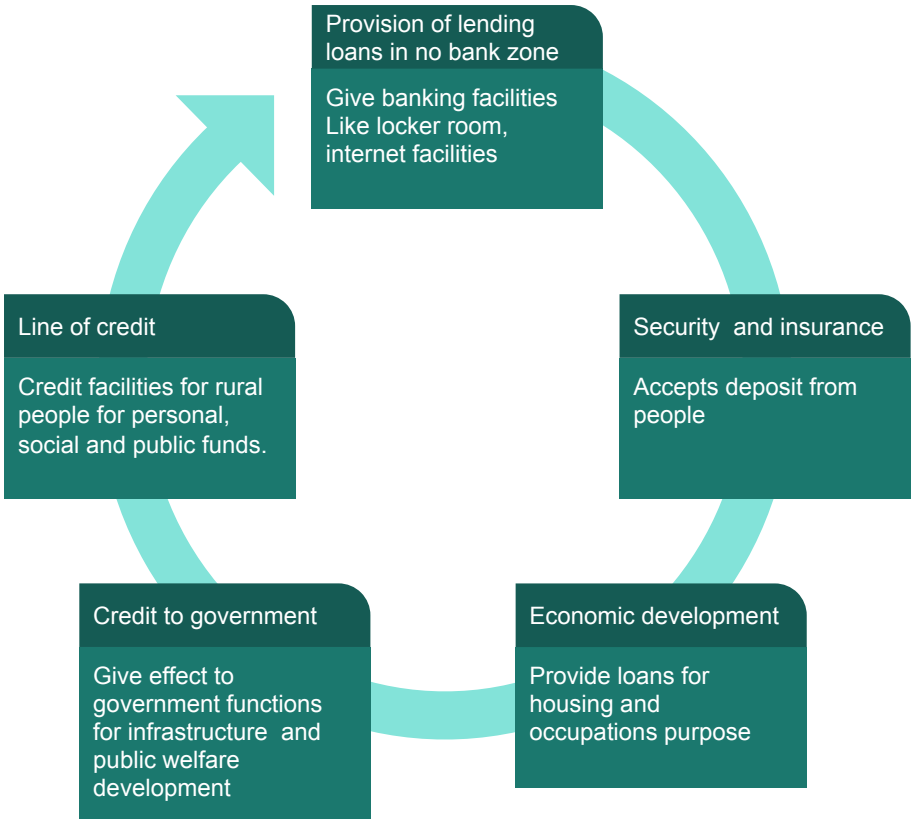
**KHUSHIYO KI HOLI**

"Khushiyon ki Doli" is a rural marketing initiative launches in three states – Uttar Pradesh, Andhra Pradesh and Maharashtra.

Through a multi-brand approach, Khushiyon ki Doli also helps to create a cost efficient rural activation module. It involves various personal care and home care brands of HUL including Wheel, Surf Excel, FAL, Sunsilk, Vim, Lifebuoy and Closeup. The module follows a 3-step process, starting with awareness, moving on to consumer engagement and finally retail contact.

Hul multi brand rural activation programme
https://www.hul.co.in/news/news-and-features/2010/hul-launches-multi-brand-rural-activation-programme.html

# ECONOMIC DEVELOPMENT WITH BANKING STRATEGIES




Banking is a necessary medium for financing of a system. Lack of banking facilities in rural areas need to be acknowledged for supporting the rural population for their occupation, housing development, security and future investment.

Different kinds of banks and procedure needs to be followed in effective means with transparency, integrity of system and financial security of the people using its facilities.

Bansking funds can be used for purpose of development of agriculture, trade, commerce, industry and other productive activities in the rural areas, credit and other facilities, particularly to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs.

There are different types of banks :
Scheduled banks : commercial and cooperative banks
Non scheduled banks

Swarnjayanti Gram Swarozgar Yojana :
https://www.india.gov.in/swarnjayanti-gram-swarozgar-yojana

National Bank for Agriculture and Rural Development (NABARD):
https://www.nabard.org/

Regional Rural Bank Act, 1976
http://legislative.gov.in/actsofparliamentfromtheyear/regional-rural-banks-act-1976

Spandana Sphoorty:
http://www.spandanaindia.com/about/index.html

**REGIONAL RURAL BANKS IN INDIA**

The State Bank of India is one of the major commercial banks, which is having around 30 Regional Rural Banks, in 13 states in India under their operations.
The RRBs are controlled directly and indirectly by the sponsoring bank, NABARD, RBI, and Central Government

**OBJECTIVES OF THE RRBS**

- To minimise and bridge the credit gap in rural areas
- To control the outflow of cash and rural deposits to urban areas
- To minimise the regional imbalances
- To increase rural employment opportunities
- To save the rural people from the hands of the moneylenders
- To act as a catalyst in accelerating the economic growth of a particular region
- To develop banking habits among the rural people and mobilize saving funds for the economic growth
- and development of rural areas
- To encourage trade and commerce in rural areas
- To support entrepreneurship in rural areas
- To cater to the needs and demands of the rural and backward areas which are not covered by the other efforts of the Government

**COOPERATIVE BANK**

- These banks are **o**rganised under the state government's act. They give short term loans to the agriculture sector and other allied activities.
- The main goal of Cooperative Banks is to promote social welfare by providing concessional loans
- They are organised in the 3 tier structure
- Tier 1 (State Level) – State Cooperative Banks (regulated by RBI, State Govt, NABARD)
- Funded by RBI, government, NABARD. Money is then distributed to the public
- Concessional CRR, SLR applies to these banks. (CRR- 3%, SLR- 25%)
- Owned by the state government and top management is elected by members
- Tier 2 (District Level) – Central/District Cooperative Banks
- Tier 3 (Village Level) – Primary Agriculture Cooperative Banks

**SPANDANA SPHOORTY**

the Organisation was named as Spandana. Spandana is a public limited company registered with Reserve Bank of India (RBI) as an NBFC MFI.

**PROGRAMS FOR VILLAGE DEVELOPMENT IN INDIA**

**Shyama Prasad Mukherji Rurban Mission (SPMRM).**
"The soul of India lives in its villages" by father of the Nation

**Saansad Adarsh Gram**
Yojna (Parliamentarian's Model Village Scheme),
each parliamentarian is mandated to adopt rural villages and ensure that these village are transformed in to "Smart Villages"

Villages will be backed up by the provision of basic amenities that are often only available in urban areas and a social security system. This new drive will provide more opportunities to report on exciting developments undertake fruitful collaboration with other partners and disseminate impactful findings that can benefit off-grid communities far beyond India.

- Major Programs in Agriculture
- National Agricultural Development Program
- Fertilizer Subsidy
- Accelerated Irrigation Benefit Program
- Fertilizer Subsidy
- Bank loans, Free Electricity
- Major Programs to Improve Employment
- Public Distribution System
- Mahatma Gandhi National Rural Employment Guarantee Scheme
- National Food Security Bill
- Major Programs & Partnerships to Improve Nutrition
- Security
- Mid Day Meal Scheme
- **Integrated Child Development Scheme (ICDS)**
- **Annapurna Scheme** (Ministry of Rural Development) for senior citizens
- The Nutritional Program for Adolescent Girls
- Emergency feeding program (in eight districts in Orissa)
- **Swatchh Bharat Abhiyan** : Total Sanitation Initiative
- Integrated Rural Development Program is the main project under which above all and many more scheme falls.

**Sources :**

https://theinvestorsbook.com/rural-marketing-strategy.html#Strategies

https://www.fibre2fashion.com/industry-article/2182/rural-market-strategies-in-india

https://www.businessmanagementideas.com/marketing-management/rural-marketing-strategies-in-india-product-pricing-place-and-promotion/18616

https://byjus.com/free-ias-prep/types-banks-india/

**For rural development related schemes:**

National rural employment guarantee act :
https://nrega.nic.in/netnrega/home.aspx

Pradhan Mantri Awaas Yojana :
http://pmaymis.gov.in/

Swarnjayanti Gram Swarozgar Yojana:
https://www.india.gov.in/swarnjayanti-gram-swarozgar-yojana

Indira Awaas Yojana :
https://pmayg.nic.in/netiay/home.aspx

Niti Ayog :
https://niti.gov.in/
https://niti.gov.in/planningcommission.gov.in/docs/reports/sereport/ser/separd/sdexsum1.htm

Rashtriya Vridhavastha Pension (RBP):
http://sspy-up.gov.in/IndexOAP.aspx
https://nsap.nic.in/

# 03 | GROUP 3

**SUSTAINABLE + SMART VILLAGE**

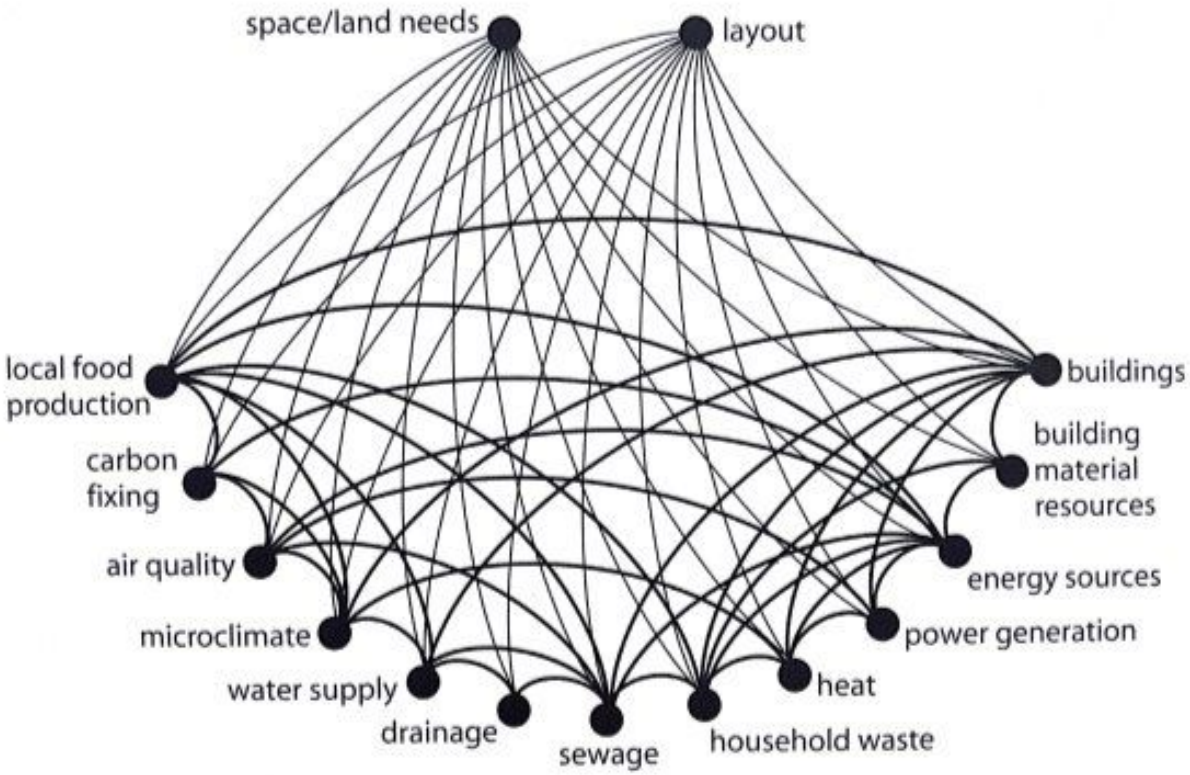
SHRUTI BHAGWAT (SEM 9)

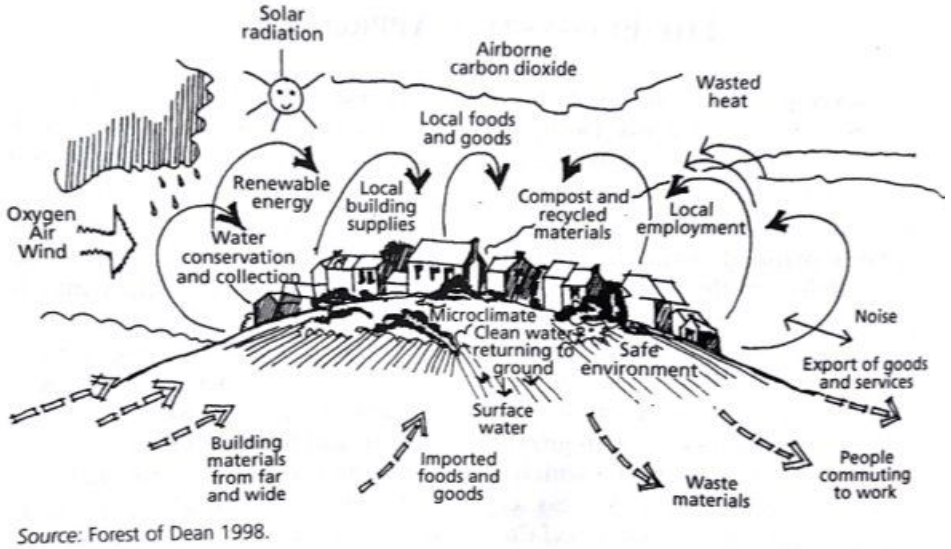
# SUSTAINABLE + SMART VILLAGE

## SUSTAINABLE IDEAL VILLAGE

Littlewood (1998) defines sustainable communities as,

*'The village would be a balanced community for people of all ages and incomes, where people can live, work, and enjoy vibrant community life, the majority without the need to commute and where everyone could feel a sense of personal belonging. It would provide affordable housing, work opportunities, food production, energy, and water conservation as well as self-reliance for its residents in an ecologically aware and sensitive way.'*




Source: Forest of Dean 1998.

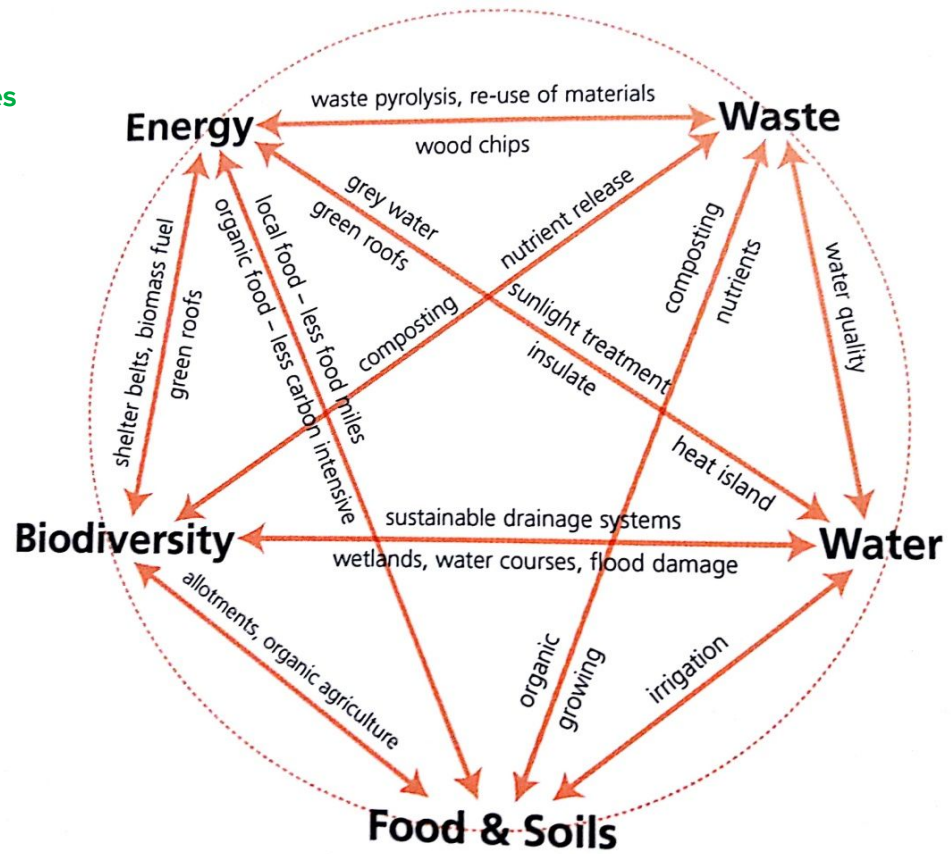
**Components in the village to achieve Sustainability will be-**

PERMACULTURE- THE NEW WAY OF LIFE

Permaculture is a new sustainable way of growing food that takes its inspiration from nature. The waste of one is food for another. Anything that cannot be used by another is considered a waste. The idea will be to create cycles of waste and water in such a way that they perform multiple functions throughout the cycle.

- The community should be able to produce/collect food and water for itself.
- The layout of the community will be kept in such a way that the food that is being grown is easily looked over by the people living nearby will be one way.
- The trees being grown should be fruit trees or other trees which will provide some useful product, the trees needing more care being nearer to people's houses.
- Trees will shade the walkways and roads.
- The House plot will be provided with a gardening area.
- If land available is less, rooftop gardens and community parks will be provided. An active cycle of recycling and composting is needed and places in the community for these activities to happen. This space should be accessible to everyone but measures need to be taken to avoid visual contact and foul smell.
- The areas where water tends to collect will be made into lakes which store this water for later use
- Should have waste management, energy production, and means of the transient in ecologically sustainable ways.

**Smart Villages**



**Some Systems which would enhance a village are-**

1. **FOOD PRODUCTION**
   - Locally produced food will feed the community and reduce its dependence on outside sources of food. Food that is brought from long distances is unsustainable.
   - Food growing when integrated with other aspects of community life and sustainability will solve many other problems.
   - 'Integrate water, waste, employment, recreation, housing, energy generation, wildlife, and so on into a whole system.' Growing food will become a part of buildings by the application of thoughtful design. Compost from organic waste will be used for increasing soil productivity.
   - The food gardens will become a part of community parks where the community as a whole tends to them. Through constructed wetland systems, they will be used to clean water.
2. **CONSTRUCTION MATERIALS**

   - Local sourcing– The radius within which the material has been sourced should be less. It is important because it tells about the embodied energy of the material being used for construction.

   - Low environmental impact– Materials that have a low environmental impact to be encouraged.

   - Low embodied energy– Materials that use low energy from the beginning till implementation on the site.

   - Recycled/reused materials– construction materials using reused or recycled waste is an attempt at reducing the waste produced from another process.

3. **ENERGY PRODUCTION**
   - Renewable– Communities will be a part of producing their energy requirements by using renewable methods.
   - Efficiency in using (equipment)- Use of efficient equipment in their large scale and small scale activities.
   - Climate responsive– Use climate-responsive ways of living/construction which in turn reduces energy demands.
4. **WATER EFFICIENCY**
   - Recycling/ reuse/ treatment
   - Water collection schemes- schemes employed for enhancing groundwater recharge or surface collection of water.

6. **ACCESSIBILITY**
    - More bicycle and pedestrian-friendly roads
    - Public transport- availability of public transport for local commuters
    - Alternative fuel
7. **SOCIO-ECONOMIC SITUATION**
    - Employment and governance will strengthen the community, i.e small scale industries in a community will provide employment to the people in their own locality without depending on outside sources.
    - The governance is essential because if the local people are part of the decision making bodies for their community, they tend to be more responsible and thoughtful.
8. **SUSTAINABLE TRANSPORTATION**
    - **Cutting the needed numbers of vehicles** and the need for transport. Telework, telecommuting, and better clustering of activities are ways to reduce the need for motorized transport
    - Large areas with asphalt tend to restrain the water to percolate into the soil which will lead to a lowered groundwater table. The **materials used in road constructions should be sustainable** from an ecological point of view. It should be naturally existing materials, demand low energy use, occurs plentiful, has a long lifetime, and exist in the nearby area.
    - The placement of the **bicycle tracks** is vital to minimize the exhaust fumes that the cyclist is exposed to. Promote cycling as a way of transport by arranging happenings they hope that people will use the bike for shorter trips within the city. To promotes the use of bikes by building segregated cycle tracks along roads and intends to implement a cycle network.
    - Segregated and priorities for **bus lanes**, more efficient fare collection, more comfortable stations, the use of clean bus technologies, and with a flexible route.

# SMART VILLAGE

## Attributes Of A Smart Village

1. **Social-** To bridge inequities in outcomes of development interventions across social groups leaving no one behind.
2. **Infrastructural**- To remove the impediments which create deprivations due to infrastructural facilities.
3. **Financial**- Attracting entrepreneurs and venture capitalists for productive investments in off-grid villages in order to enhance opportunities for a village community towards livelihood and greater financial security.
4. **Technological**- Exploring various technological options to address the vulnerabilities arising out of and being experienced in and around rural India.
5. **Behavioral**- Processes and mechanisms to bring about behavioral changes in the village masses in order to get their sustained involvement in the creation of a smart village.
6. **Environmental**- Appreciate and estimate the emerging environmental challenges which have already surfaced and are likely to appear in a more frequent manner and affect the rural space.
7. **Political**- Mobilizing political consciousness, awareness, and support towards the need for the creation of a smart village.

## Components of Smart Village-

1. **Smart Energy-**
    - The provision of clean and sustainable, energy is central to almost all other dimensions of rural development
    - For rural energy supply and management, the element of 'smart' refers to the creation and management of mini, micro, and nano grids within the energy eco-system of a village or a group of villages. It is particularly relevant to rural areas with no or unreliable grid connectivity. These micro/nano grids bring in the element of self-reliance in energy for the rural community and create a possibility of giving back the surplus to the grid.
2. **Smart Connectivity-**
    - Smart connectivity has two distinct connotations for the smart village concept. One is to provide reliable and high-quality broadband and voice communications.
    - And the second, probably more importantly, through a range of Information and Communication Technology (ICT) solutions, applications and services, be an integral part of smart technology solutions for all other domains like smart agriculture, smart water management, smart education, smart health-care and so on.
3. **Smart Agriculture-**
    - For any village, its agricultural ecosystem is one of the most intrinsic identities that directly relates to its social, environmental, and financial fabric. Efficiency and productivity in agriculture are directly related to the farming practices adopted by the communities.
    - Infusion of PA techniques and practices will drive transformation at every stage in agriculture. The immediate benefits are self-sufficiency for villages, generating business, and increasing financial freedom for villagers (both farmers and suppliers).
4. **Smart Education-**
    - Smart villages will aim to increase the time available for students to study and will address prevalent factors that negatively affect the ability of students to acquire the knowledge and skills necessary to achieve economic goals and improve labor productivity.
    - ICT-equipped schools will provide a good deal of handholding in accessing the internet and consequently the world's knowledge base, ending the information isolation experienced by many rural communities.
    - New opportunities will be generated for distance and adaptive learning, reducing the need to move to towns or cities to achieve higher levels of education. In addition, ICT and internet access also have a "pull factor", providing incentives for school attendance and for attracting and retaining good teachers, addressing issues such as school dropouts and cognitive development.

5. **Smart Health-**
    - At the most basic level, households in smart villages will be able to consume potable water and a more nutritious diet due to the reduced cost of boiling water and cooking food, and enhanced agricultural productivity arising from associated development initiatives and reduced wastage.
    - ICT-enabled m-health initiatives will enable mobile health diagnostic solutions, requiring relatively low levels of local medical skill and providing access to specialist health-care services based in urban communities where necessary.
6. **Smart Environment-**
    - Smart villages will be stewards of the environment aided by technologies to monitor key environmental indicators such as forest health, water quality, soil conditions, and changes to the landscape.
    - They will also reduce pressure on deforestation using efficient cookstoves to decrease the need for traditional biomass energy sources such as charcoal and wood a key driver of unsustainable forest use.
    - Smart villages will host community-run recycling facilities ranging from those equipped to recycle wastewater and organic waste from agro-processing, to next-generation facilities for the recycling of e-waste, including energy-storage and generation technologies such as batteries and solar panels.
7. **Smart Infrastructure-**
    - In order to ease the life of villagers in every possible way, a village has to be well supported with infrastructure to enhance the efficiency of habitats and efficacy of inputs from the villagers.
    - The infrastructure includes roads, institution buildings, weather station equipment, hospital equipment, telephone towers, etc.
    - Most of these infrastructures can be established with well-intended village habitats and the guiding institutions through the convergence of funds, functions, and functionaries. The smart element needs to be included in every stage of infrastructure development.

Bibliography


- http://nirdpr.org.in/nird_docs/tps/DG_Smart-Village-9-2-18.pdf
- https://ukdiss.com/examples/scope-of-sustainable-communities-in-india.php
- http://hj.diva-portal.org/smash/get/diva2:4255/FULLTEXT01.pdf
- https://www.semanticscholar.org/paper/Utilization-of-ICT-in-Building-a-Smart-Village-for-Ella-Andari/4834410cbcbc532577601821a252b3bd0a01fb0b

# 04 | GROUP 4

**SELF SUFFICIENT VILLAGE AND SMART VILLAGE**

BHAVIKA CHAUDHARI (SEM 9)
HARDIK MANDALIYA (SEM 7)

# ABSTRACT

India is a country of villages, where the development of the nation significantly depends on the progress of villages. The dream of India as developed nation is possible only with self-sufficient and self-reliant villages. This can be achieved only with decentralised models of development empowering local youth while capitalising through sustainable management of natural resources – land, water, energy and human resource. Sixty eight percent of Indian population resides in rural area and agriculture is the prime agent of rural economy. India ranks second worldwide in agriculture products. Agriculture and allied sectors like forestry, logging and fishing employs more than 50% of the total workforce and accounts to 18% of the GDP. Though the contribution by farm sector has been significant, government's push to other sectors has led to stagnation by agriculture sector.

Many village developmental activities and plans were formulated in order to mitigate poverty, unemployment, illiteracy, malnutrition in kids, health problems and also to provide basic needs of livelihood. However, due to lack of implementation, many villages are still deprived of drinking water, sanitation facilities, primary health centres, equipped primary schools, electricity, proper road and public transportation systems, banks and communication services. Recent ambitious initiative SAGY by Govt. of India to make one "Model Village" (Adarsh Gram) every year from each MP's constituency. The guidelines emphasise on self-reliant and self-sustainable villages to realise Mahatma Gandhi's vision of Swaraj.

SMART (Self-sufficient and Self Reliant village with empowerment of Manpower (rural youth) through locally available natural resources and Appropriate Rural Technologies) ensures self-sufficient and self-reliant village by optimising natural resources and local youth power through appropriate rural technologies.

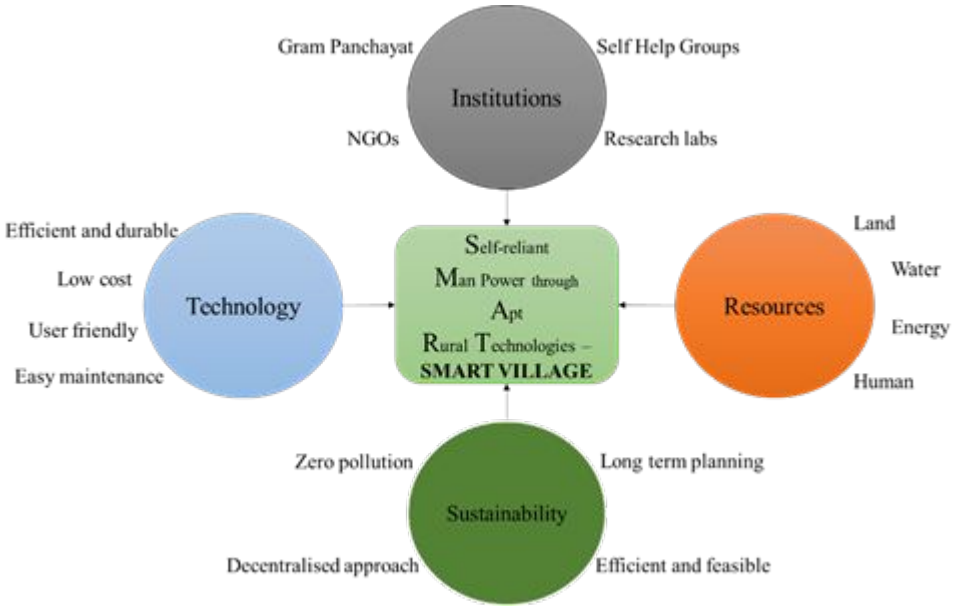
This concept can be proposed for different villages, essentially empowers the man power through enhanced job opportunities (cluster approaches in development – industries, distributed energy system through micro grid, rejuvenation of soil and water bodies through micro watershed programmes, medicinal plants arboretum, sericulture, horticulture, livestock sector).

This also boosts economic status through improved productivities in agriculture, sericulture, horticulture and livestock sectors.

SMART Village framework essentially institutionalise sustainability and self-reliance by utilising local resources (natural and human) through appropriate rural technologies. It also promotes decentralised governance and employment generation with the help regional governmental and non-governmental organisations.

# FRAME WORK OF SMART VILLAGE

The framework can be adopted and replicated in all Indian villages to sustain natural resources while improving water availability, cropping pattern, livestock management and local employment prospects.




The primary step is to quantify the available natural resources in the region which include land, water, energy and human resource. Status or the quality of the resource is also an important factor to be considered apart from quantity in order to implement technological interventions.

However, educated and sensible human power is the most important resource as they constitute ultimate users and stakeholders of the all other natural wealth.

Technology is basically utilisation of resources to achieve required outcome such as agriculture and agro processing, livestock and milk products, oil seed cropping and oil extraction, medicinal plants and herb production etc.

On the other hand, technology can also help to improve the resource status and balance the natural system. For example, percolation ponds and check dams across the streams will increase the water percolation and recharges the ground water.

Planting grass like lemon grass (Cymbopogon citratus) and trees in slopes conserves soil and water. Technological interventions should be aptly chosen for optimum utilisation of resources and the sustainable development of region.

# SUSTAINABILITY OF SMART VILLAGE

Sustainability is a qualitative as well as quantitative parameter which is tagged with every process. In a village scenario sustainability refers to the revitalising the resources with a feedback process ensuring a closed operating cycle.

Ideally, any process which displaces resource to achieve an outcome, either help in generating the utilised resource or should have neutral effect of the environment. Nevertheless, most of the village processes bring resources back to the system either in a residual form with technological interventions.

For illustration, soil fertility used for agriculture is recuperated from organic manure, where agriculture residue is used as livestock fodder. The feedback process has to be maintained to ensure sustenance of resources.

Proposed smart village framework ensures the sustainable agriculture, livestock, horticulture, energy utilisation and water exploitation.

**Resource assessment and understanding of village dynamics would aid in assessing the needs of local people.**

- Rejuvenation of soil and water resources through micro-watershed management, planting of native species of trees and medicinal plants, interventions in dairy sector (removal of middle men with automation – quantity of milk as well as payment directly to respective farmer's bank accounts) needs to be implemented on highest priority.

- This helps in solving multi-pronged water scarcity problem while elevating the income. Community hot water supply, vocational training (on cattle dairy farming, fodder and agriculture cropping) and skill development needs to be initiated to generate employment, educate villagers and strengthen dairy farming.

- The initiatives based on cluster approach involving community solar PV micro grid, community biogas generation, agro processing, food processing, organic manure production, medicinal plant growing and herb extraction needs to be introduced through community involvement (participatory approach) would promote decentralised industrial and entrepreneurship activities.

- The region to be equipped with amenities such as primary health facilities, schools, sanitation, provision of hot water and treated drinking water.

# SMART VILLAGE

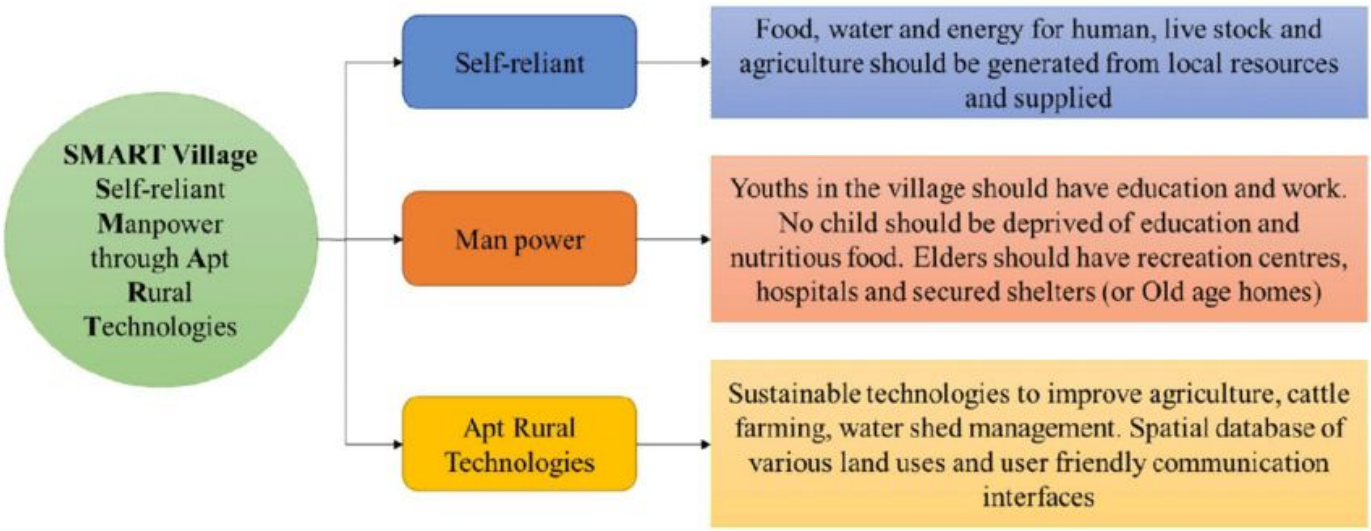
Mahatma Gandhi envisioned the concept of an ideal village - a complete republic and independent of its neighbours for its vital daily needs.

This is to ensure that every village grows enough food, milk and vegetables for villagers. It also has a school and nobody is refrained of basic education.

Primary education is mandatory and schools have playground, proper sanitation and drinking water. Village has to maintain its own water resources ensuring clean water to all.

As far as possible every activity in the village is conducted in cooperation basis without any discrimination. Smart village also refers to a bundle of services delivered to its residents through community participatory approach in an effective and efficient manner.

The services include affordable clean water, basic education, shelter and food, communication and transportation, job for the youths, farms and grazing fields for cattle and a proper market for agriculture produce.




## BIBLIOGRAPHY


https://www.mkgandhi.org/articles/global-village.html

https://researchmatters.in/news/making-india%E2%80%99s-villages-self-sufficient

https://www.researchgate.net/figure/A-Smart-Village-framework-6_fig1_334636355

# VISION FOR SELF SUFFICIENT VILLAGE

| SECTOR | ACTION | EXPECTED BENEFITS |
|---|---|---|
| Agriculture | Drip Irrigation<br>Low water yearning crops during pre- monsoon<br>Watershed management<br>Horticulture crop and impetus to sericulture<br>FSI and soil testing centres | Multiple cropping per year<br>Overcome water scarcity issues<br>Generates more job for local youth<br>Increases per capita income |
| Water Resources | Micro- watershed management<br>Rejuvenating lakes and de- silting<br>Percolation pond and gully controls across the streams<br>Greening watershed with native tree species<br>Soil and water conservation | Increases water availability<br>Increases ground water table<br>Help agriculture, horticulture and fodder cropping<br>Economic benefits |
| Livestock | Automated dairy system<br>Online payment<br>Functional veterinary hospital<br>Vocational training to farmers on livestock management<br>Fodder cultivation and manure production | Removes anomaly in payment system<br>Generates employment and promotes entrepreneurship activites<br>Economic benefits |
| Health | Establishment of PHC<br>Maintaning the ayurvedic hospital<br>Vocation training on maintaining the cleanliness around household<br>Mandatory toilet and bathroom for each home<br>Constuction proper drainage system | Healthy villagers and society<br>Herb extraction centre can be openend in ayurvedic hospital<br>Success model of Swacch Bharat program |
| Education | Renovation and maintenance of abandoned schools<br>Establishing a high school<br>Vocational training for youths<br>Knowledge part at RK Mission<br>Wild life training and knowledge centre with the help of BNP | Skilled human resources<br>More job opportunities in cities<br>Eco- tourism initiatives<br>Employment for local youths |
| Transportation | Increase BUS service<br>Weight monitoring of heavy load vehicles/ quarry lorries | Quarry monitoring<br>Easy communication with cities |
| Energy | Solar PV micro- grid<br>Community solar water heater<br>LPG to every home or Improved cook stoves for water heating<br>Community biogas plants | Employment generation for skilled youths<br>Self- reliant on energy needs |
| Environment | Tree planting in all barren/ fallow land<br>Plant dust barrier trees<br>Plant avenue trees on the sides of road | Pure air and water<br>Reduces temperature and improves water availability |
| Society | Remove alcoholism<br>Create awareness among people about problems of alcohol consumption and smoking, also benefits of cleanliness and education<br>Bank facility<br>Build sense belongingness and promote cooperative work culture<br>Celebrate "village day" or "annual sports day" once in a year | Healthy and peacefully society<br>Harmony and integrity among people<br>A step towards Vasudhaiva Kutumbakam (Earth is family) philosophy |

# 05 | INFRASTRUCTURE.

**ECONOMICALLY SELF DEPENDANT AND SMART VILLAGE**

UNMESHA NAG (SEM 9)
PRANAN APAR (SEM 3)

## INTRODUCTION

Village life has been one that is the most deep rooted in the traditional Indian lifestyle, it has determinately preserved our culture and values. Although in today's times villages have been the slowest to develop and the most difficult to reach, as compared to the metropolitan cities which are rapidly globalizing. There is a huge disconnect between the quality of life in the aforementioned jurisdictions. While the rural areas have tried to progress on their own, the economic condition of the country and the age of industrialization that we live in today have proven to be obstacles to the improvement of their quality of life.

## Roots and Ideologies of a Rural Lifestyle

One of the most important historical figures to promote a similar lifestyle, was Mahatma Gandhi. He believed in consumption of locally grown products & food which holds true for today's times too. He said that consumption of locally produced products safeguards the local market for producers; it saves valuable foreign currency & controls global warming. Gandhiji also stressed on rural development through small scale industries & the principle of trusteeship and the base of this evolution was "Charkha" and hence bridge the gap between the urban India and rural Bharat . His vision to create Indian villages prosperous and progressive is feasible through economic processes. His plan of Gram Swaraj aims at developing villages in a very efficient way while also retaining and strengthening parts of the village characteristics that need to be maintained intently.

There are huge prospects and ways to develop agriculture, village economy and villager's life and help rural economy become international trends of trade that unfold to villages and hence turning into an amalgamation of a Rurban Economy . The village is the basic unit of the Gandhian ideal social order. Gandhi succinctly pointed out, "If the village perishes India will perish too….. We have to make a choice between India of the villages that are as ancient as herself and India

of the cities which are a creation of foreign domination" .

## Case Study - Nano- Rurban Economic Module (example of generating revenue independently while helpling the socio-economic conditions) :

This is an example of an individual from Patoda, Aurangabad who single handedly improved personal financial conditions as well as led the village into a better quality of life.

Initial investment of Rs. 5000

vision for the development of the village.

Rented a flour chakki

Scheme: yearly tax of Rs. 4000 from the locals in turn of free service to gram panchayat

As a result whole village started giving tax to the government.

The revenue which was collected in Gram-Panchayat was further invested in other ways to develop the village.

Out of that revenue Gram-Panchayat bought  appliances and machinery for women.
Like sewing machine , machines for making papad , masala (spices), chips.
And daily products like natural handmade soap and handwash.

It’s main impact led to women empowerment through helping them generate their own income

Most of the rural villages in Vidarbha & Marathwada have saline soil, so the water is hard water and alkaline in nature.
They use traditional methods to lower the TDS of water from 2000 to 600 and then they started R.O water plants so that the water TDS range is between 100 to 200.

They provide 35 litres of pure and filtered water to all houses for drinking and cooking purpose.
And the normal water is supplied to all houses 24/7 for other purposes.

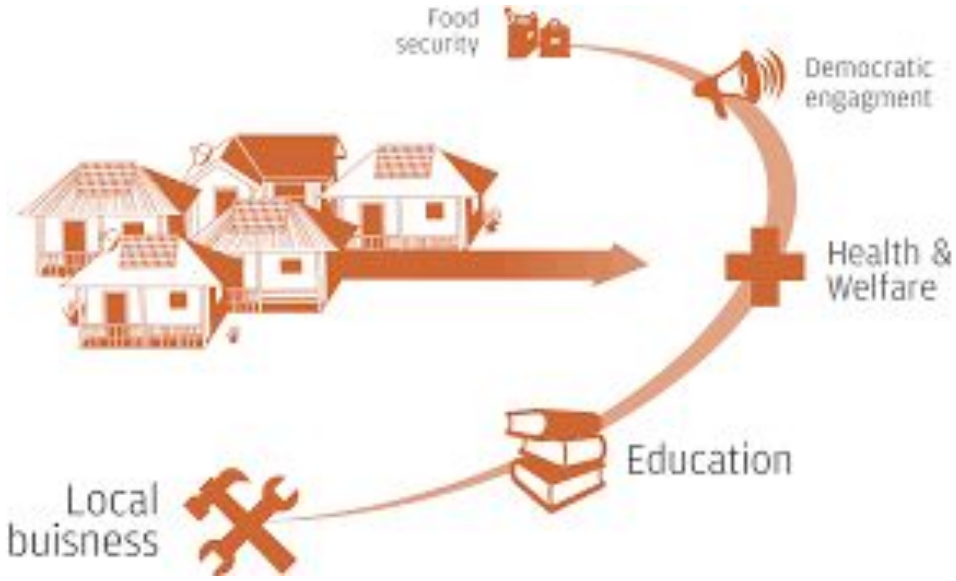
As the revenue of Gram-Panchayat increased they started a solar plant for electricity. So, the needn’t buy electricity from MSEB gov.

A few of the outcomes of this endeavor were,

- Incorporating a nursery in school with the help of students to spread awareness of tree plantation.
- Street lights being placed in all internal and major & minor streets.
- Gram-Panchayat have their own tractors which can farmers take on rent.. it costs only 500 per acre where as the market rates for ploughing is around 1200 to 1500 per acre. That saves farmers money.

## INTRODUCING FUNCTIONS AND PROGRAMMES TO THE RURAL FABRIC:

- Regular Camps or Awareness Programmes
- Upliftment of society by giving moral education
- Networking with NGOs
- Associating more with the public sector to provide technology, electricity, etc.
- Better healthcare
- Introducing awareness regarding sanitation
- Helping smaller, local businesses growth



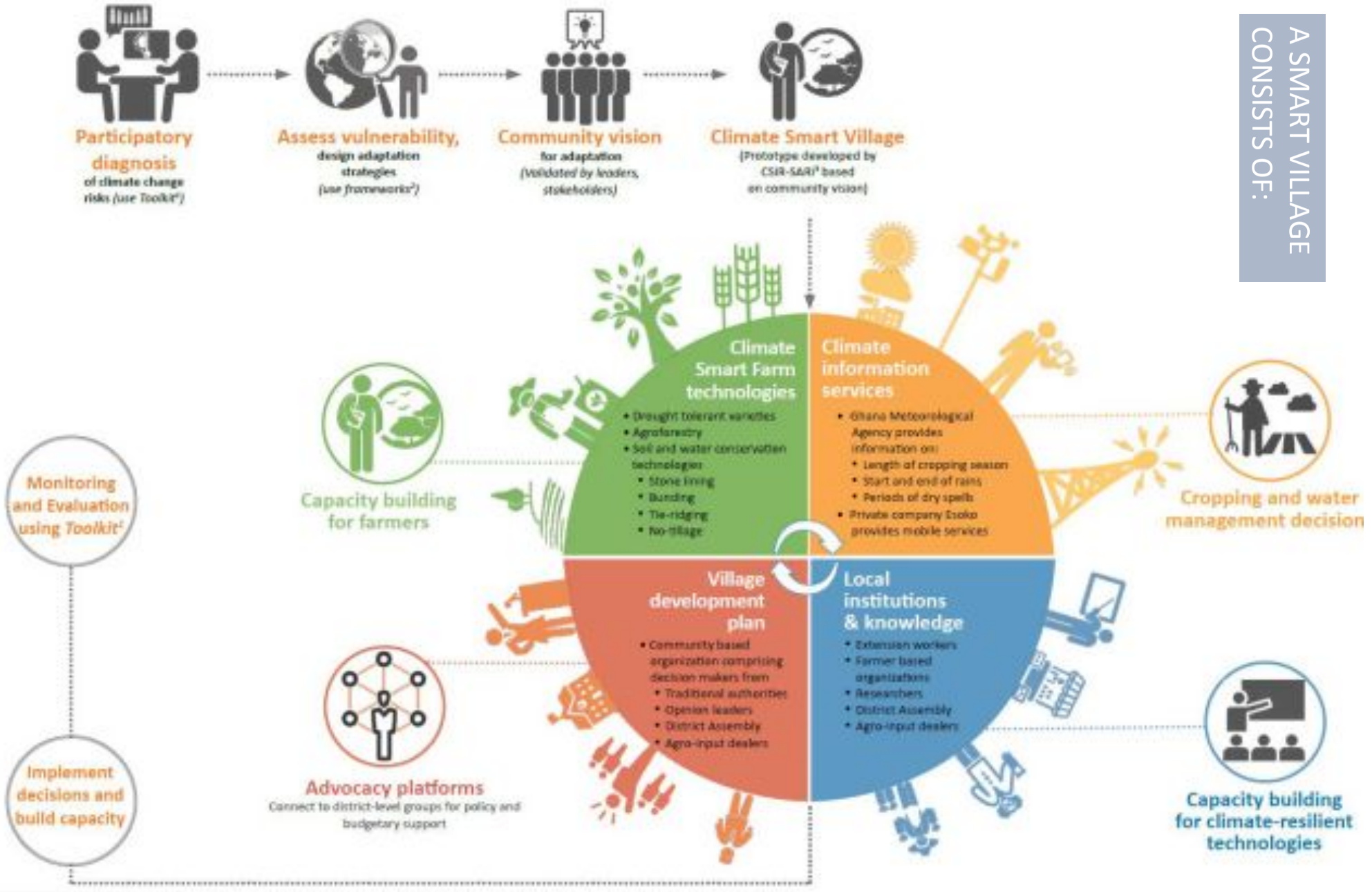

## WHAT CONSTITUTES AN IDEAL VILLAGE:

The village life today mainly revolves around a limited number of occupations and limited opportunities. To create a better environment, there need to be more efficient efforts from the entities working in the top tier of the judicial authorities with regards to rural welfare.
A few of the fundamental aspects of a village life that demand the most development are food, shelter, education, occupation, health and sanitation .
Some of the basic fundamental facilities a village should have.
1) Clean Drinking water
2) Regular sanitation of public facilities
3) Toilets at every house
4) women should be provided with maternity and personal care
5) Free educational schemes of the government to be improvised
6) Free library for all
7) Introducing advanced farming technology to farmers.
8) development of small cap industries
9) agricultural schemes of government promoted to be used by every farmer

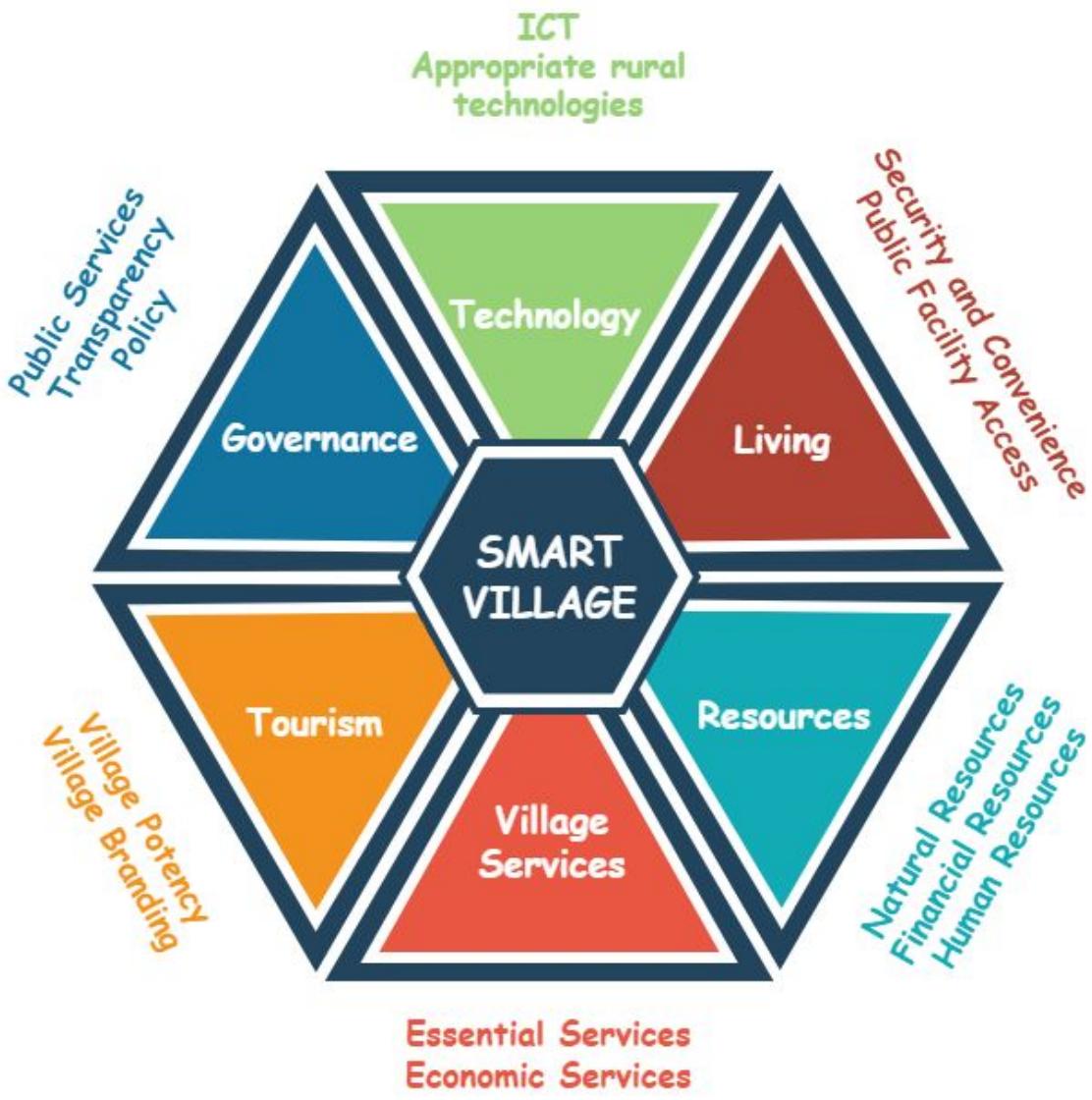
# OUR IDEAS FOR AN IDEAL VILLAGE:

-Complete prohibition Banning of Alcohol in village.
-providing network and internet connection to every house.
-Making HIV test mandatory before marriage.
-Using natural germicidal and pesticidal medicine like neem, hydrogen peroxide, cow dung to prevent from mosquitoes and other germs.
-giving prizes and awards to people for planting trees, cleaning environment and contribution in society.
-Giving spiritual and moral lesson to society for lowering the crimes and spreading consciousness in youth.
-providing occupation to youths wia small cap industries to Stop the youth migration to cities.
-Focusing on organic agriculture with advanced technologies.
Creating food for livestocks in the form of growing different types of gress and giving them nutritious food for better milk production.
-Creating Milk and milk products for getting a source of income.
-Giving free education, clothes, health diet, free books, and equal opportunity in society to below poverty line people.
-Using solar energy to generate electricity for the village.
-focusing on rainwater harvesting and natural water and other conservation technologies to save water for summer and drought situation.
-Introducing soil less agriculture and hydroponics , aquaponics to farmers.
-Using drip irrigation,Sub-irrigation,Manual irrigation to save water.
-Testing salinity and other chemical constituents of soil regularly.
-Constructing more and more water resources for drought situations.
-making compost organic fertilizers , pesticides,herbicides by using cow dung, waste food , wood debris , leaves wastage etc.
• Spreading awareness in society to differentiate wet and dry garbage.
-Providing a source of income for women and giving them knowledge and skills for women empowerment.
Providing good and nutritious food for children and pregnant women.
-We have to Stop the vandalism of moneylenders. that is one of the reason for farmers suicide.
-Giving knowledge to farmers about the government schemes for them.
-Conducting stress management and agricultural leadership programme for farmers to develop their vision.
- Farmers should use the schemes of government for fish farming ( pisciculture) , horticulture, poultry farming , boat farming. to create the new income source.

https://xcellity.wordpress.com/2017/09/29/designing-smart-villages/



| No | Dimensions | Aspects | Indicators |
|---|---|---|---|
| 1 | Governance | Public Services | Adminitration services |
| | | | Utilization of ICTs to provide services to the community |
| | | | Complaint Service |
| | | Transparency | Government Information transparency |
| | | | Financial transparency |
| | | Policy | Leadership |
| | | | Public participation |
| 2 | Technology | ICT | Internet availability |
| | | | IT infrastructure |
| | | Appropriate rural technologies | Sensor |
| | | | Cloud Computing |
| 3 | Resources | Natural resources | Land condition |
| | | | Water availability |
| | | | Energy uses |
| | | Financial resources | Agriculture |
| | | | Fishing |
| | | | Livestock |
| | | Human resources | Rural community |
| | | | Level of education |
| | | | Openness |
| 4 | Village Services | Essential Services | Health services |
| | | | Education services |
| | | Economic Services | Enterpreneurship |
| | | | Job availability |
| | | | Economic Institutions |
| | | | Distribution/Logistic facilities |
| 5 | Living | Security and Convenience | Waste management |
| | | | Environmental protection |
| | | | Public Safety |
| | | | Disaster management |
| | | Public Facility Access | Green space facilities |
| | | | Sport area facilities |
| | | | Banking facilities |
| | | | Road and bridge facilities |
| 6 | Tourism | Village Potency | Village identity |
| | | | Tourist destinations |
| | | Village Branding | Village branding platform |
| | | | Culture and traditions |




*https://iopscience.iop.org/article/10.1088/1757-899X/722/1/012011/pdf*

## CONCLUSION:

Other than these, a village should have spaces for a flourishing traditional and economic lifestyle by preserving systems such as that of bartering while eradicating social issues such as the caste system and help the overall growth of an individual that can benefit society.

06 | GROUP 6

# VISION FOR A SMART VILLAGE

SHAILI ANNAPURE (SEM 9)
YASH SARAK (SEM 5)

## Need for smart village

Effective and successful planning in an agricultural and overpopulated country like India should start at village level and should cover all factors connected with the socio-economic life of village people. It is futile to expect increasing capacity without providing better and healthier houses, educational, medical and recreational facilities, which is as important as investment in the form of better seeds, manure, irrigation and other facilities. Village planning forms a major part of rural reconstruction in India. The Government has taken a humble beginning to tackle this problem, as the financial implications of such a plan are enormous, which the country can ill-afford to meet all at once. The Government's seriousness to tackle this problem is proved by the fact that they have provided Rs. 6 crores for rural housing in the Second Five Year Plan, besides the establishment of Rural Housing Cell and Rural Housing wings with the six engineering institutions.
It is in this context that the problem of rural housing and village planning is linked up with the overall reconstruction plan of the village. The Government is thus taking more and more interest than before in making a beginning to tackling the problem. The establishment of Rural Housing Cell with the State Governments, **Rural Housing Wings with the six engineering institutions and the provision of Rs. 3 crores for rural housing in the Second Five-Year Plan are ample proof of the Seriousness of the Government in this respect.**

This field of activity is almost new in India. Much will depend upon how we approach this problem of village planning in the beginning. We are bound to make mistakes, but there is no other alternative initiating the huge task of village reconstruction. This will make set of Indian economy, in the long run, sound and responsive, the base of Indian so that it creates within itself self-generating forces of economic development.

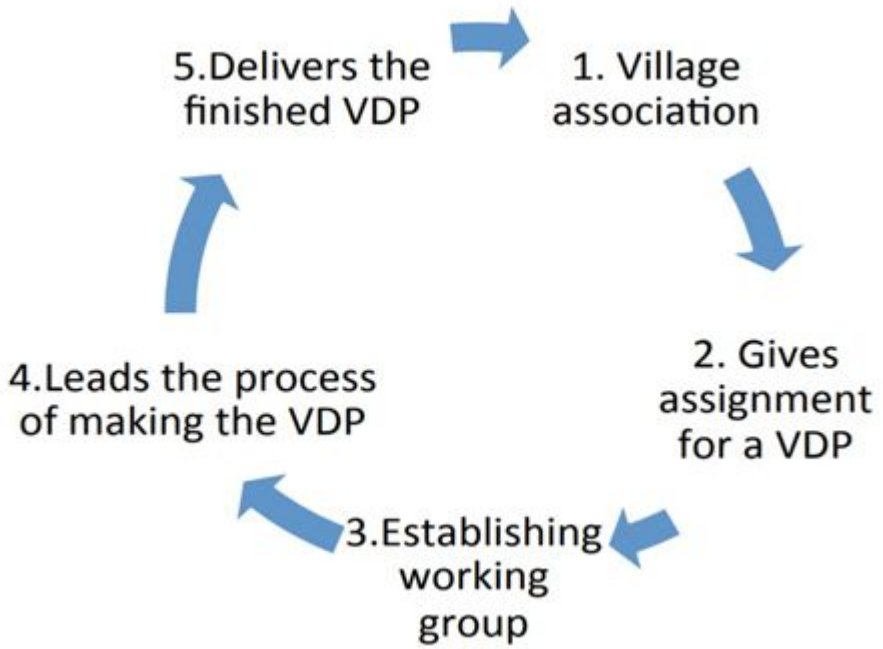
**Following are the few pointers that are the foundation for the village planning and development:**

•Infrastructure facilities development at village level
•Formation of Self Help Groups, Kisan Clubs & youth clubs
•Formation of village development committees
•Sensitization meeting with Govt. officials
•Conduction of skill based training programs for youth and women'
•Adoption of new technologies through exposure visit of farmers & youths
•Connectivity of roads
•Financial inclusion
•Organize awareness camps on education, health & sanitation etc.
•Vision on future development (10 years)
•Workforce: mobilizing social capital

## Benefits of Village planning

•Framework for village association
•Supported by whole village-> bigger chance of implementation of plans
•Enhanced social cohesion
•Respond to government plans
•Increased self-awareness/ confidence/ determination
•Enhanced local democracy
•Using /Learning skills More involvement to local markets
•A VP can help to realise goals (provide a framework) Leaving responsibility and tasks to villages

If communities are given power & responsibility of planning, implementation and monitoring for their own development, at least for activities pertaining to their respective areas, the quantum of growth, inclusiveness and sustainability is sure to increase



## Vision of smart village

To accomplish the 'Smart Village' status, the community, individually and collectively, will be empowered to take smart decisions using smart technologies and with the support of smart manpower and by managing to be self-sufficient.

**Aims of smart village**

•Homes with access to toilet, safe drinking water and regular power.
•A Smart Village knows all information about its citizens, available resources, applicable services and schemes.
•Every household has diversified livelihood opportunities and/or micro enterprise. Microenterprise a business operating on a very small scale, esp. one with a sole proprietor and fewer than six employees.
•Maintain its Identity, culture and Heritage
•Plans for development based on People, Assets and
•Service centric information and tracks its progress.
•It works towards Revenue generation.
•Has functional solid/liquid waste management system.
•proving good basic health facilities in Health care centred
•100% institutional deliveries
• Interacts with Government, NGO's, Social Entrepreneurs, Experts for its needs
•Functional toilet, potable water electricity available in schools, health centres.
•Awareness on new technologies that can be implemented in villages, farms and nearby places. e.g. Drip Irrigation, Solar Panels Lighting Systems on streetlights etc.
•Good facilities for Domestic animals like dogs and cattle: dispensaries, pond for cattle, veterinary hospitals and vets
•Define activities that can mobilize the complete community.
•Repair and renovate existing infrastructure.
•Strengthen the Gram Panchayat.
• Functional bank account.

## Smart village strategy

•Smart Buildings – security cameras , fire safety, electricity managements
•Smart Dairy – remote supervision and monitoring in open field and barns
•Smart Farming- Satellite data for farm activities.
•Smart agriculture- Smart agricultural equipment for crop production
•Smart Weather and Irrigation- Weather forecast water levels in dams
•Smart healthcare –Smart beds and equipment to monitor patient
•Smart Education – Interactive learning through videos
•Smart surveillance system – CC cameras and sensors to detect robber

Government Programs for Smart Village

• **Major Programs in Agriculture**
– National Agricultural Development Program
– Accelerated Irrigation Benefit Program
– Fertilizer Subsidy
– Bank loans, Free Electricity

• **Major Programs to Improve Employment**
– Public Distribution System
– Mahatma Gandhi National Rural Employment

• **Guarantee Scheme**
– National Food Security Bill

• **Major Programs & Partnerships to Improve Nutrition Security**
– Mid Day Meal Scheme
– Integrated Child Development Scheme (ICDS)
– Annapurna Scheme (Ministry of Rural Development) for
– senior citizens – The Nutritional Program for Adolescent Girls
– Emergency feeding program (in eight districts in Orissa)

07 | GROUP 7

# IDEAS FOR A SMART VILLAGE:
# An approach to digitalize rural community to make it self dependent

UNMESH TAMORE (SEM 5)
CHINMAY GALWE (SEM 9)

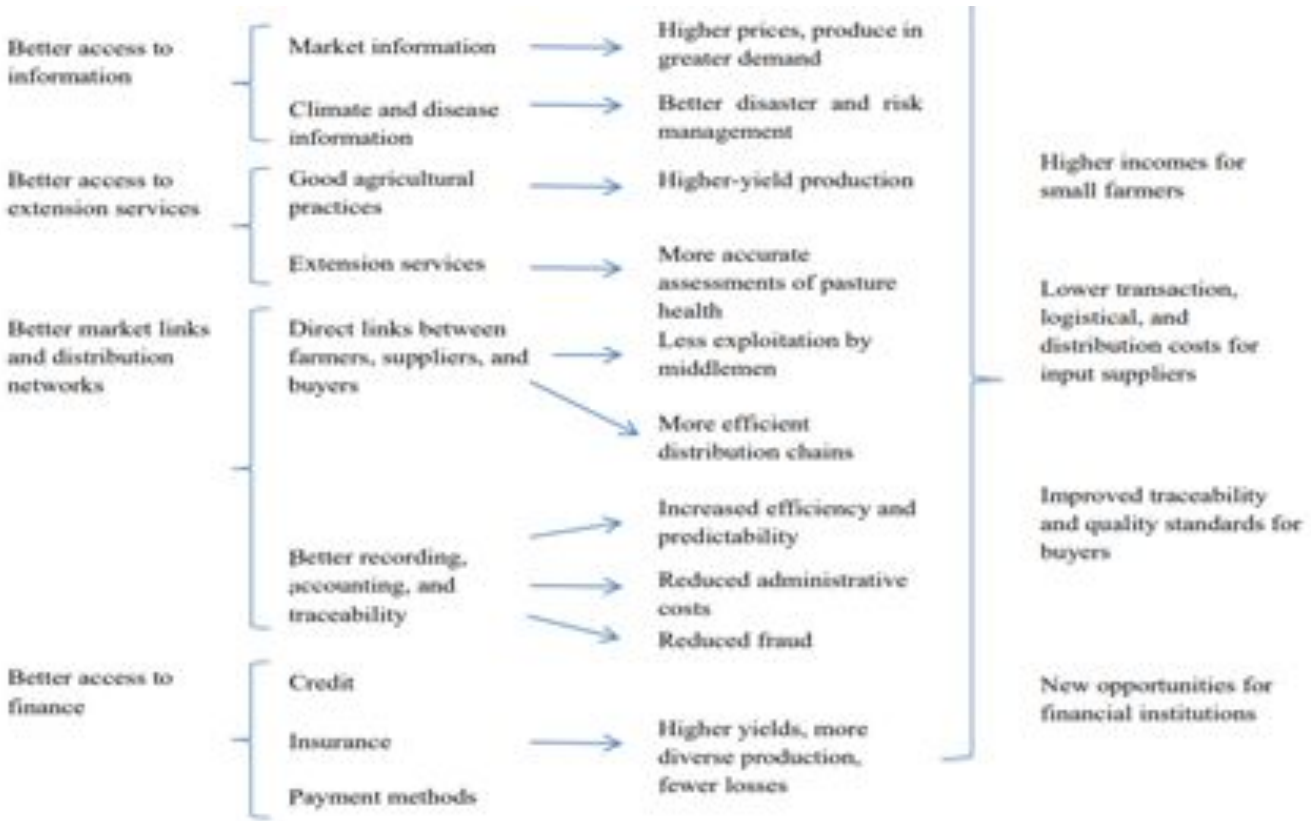
## TECHNOLOGY AND INTERVENTION

Nothing has taken the country by storm as much as the mobile phone. With over 900 million mobile devices in use at present, 377 million of which are in rural India, the mobile industry is posting a staggering growth of 43.23% annually. So, what better way to make mobile as the medium to deliver solutions to the people who need it at the grassroots, creating opportunities for economic growth, entertainment, information, daily life and business. From remote monitoring of crops to reaching out to potential markets, from last mile delivery of government and private services to addressing domestic violence issues , mobile phones are being used in a host of ways to uplift and empower rural India.

**In AGRICULTURE**, Farmers get proper information ,focuses on enhancing the productivity and profitability , problems and quires are being solved via the mobile applications. The service policies also provides harvest forecasts, prices and other important information that comes in handy for the farmers via the mobile phone.

Some applications also provides information to illiterate farmers with the help of various audio visual tools. It breaks the language barrier by providing information in regional languages.

### Result generated by mobile applications for agriculture and rural development



In villages illiteracy is one of the biggest problems. Lack of easy access, lack of teachers, lack of interest, poverty, gender differentiation, lack of infrastructure are few of the reasons which are holding back the progress in **RURAL EDUCATION**. But with the use of technology rural education can be given and hence the situation can be changed.

To reach rural areas, first of all study material can be distributed to the students then online interaction and online videos can be made with teachers. By using technology the problem of unqualified teachers can also be solved , because Teachers play a key role in the education and also student's life.

**HEALTHCARE** in rural development is an important tool which improve the quality, safety, effectiveness, and delivery of healthcare services in rural communities. Many applications and government policies are available which are implementing, updating records, maintaining .

Electronic health records (EHR) for patients, instead of paper records

Secure digital networks to send and deliver up-to-date records whenever and wherever the patient or clinician may need them

Electronic transmittal of medical test results

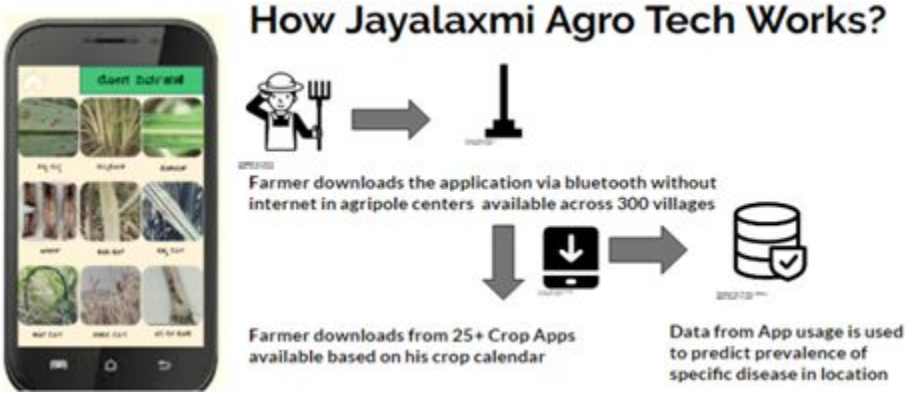
Telehealth applications to increase access to providers

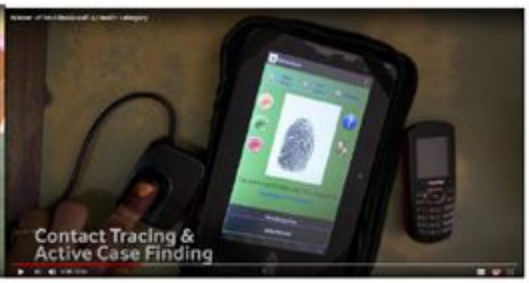
Telemonitoring applications that allow patients to transmit vitals or diagnostic information to providers remotely

Confidential and secure patient health portals for patients to access their personal health information online

Electronic communication between healthcare providers, as well as patients

## Interface of mobile applications:





**HARISAL village in AMRAVATI (India's first digital village)**

Harisal village, which was adopted by Microsoft to develop as India's first digital village. This village had score significantly low in all the human development index parameters, such as education, agriculture, employment, income levels.

Microsoft has used its '**white space**' technology, the unused spectrum between two TV channels, to provide free internet connectivity to Harisal and neighboring villages.

The villagers had expertise in making bamboo **PRODUCTS** such as mats, vases, bowls and baskets, but they did not get the right price for their products as middlemen would take the bulk of the profits. The situation has changed now as the state has laid an optical fiber network and installed WIFI in the villages. The villagers who have been taught how to use the Internet now sell their produce online, and get a much better price for their products.

To tackle the dismal **LITERACY** rates in Harisal, the state tied up with Hewlett Packard and a state of the art e Classroom was built, where the medium of teaching was in the local language and lessons were taught in short films and movies on television screens.

To overcome the lack of basic **HEALTHCARE** facilities, the state tied up with Amravati Super-specialty Hospital and JJ Hospital to provide tele-medicine. Now villagers don't have to travel to Amravati 120 kilometers away.

**SOLAR POWER PANELS** have been installed to provide power, and to train students further, ICT (Information and Communication Technology) classes are being held for them. To boost crop productivity, soil testing services have been made available to the villagers who are now advised on the crop to be sown.

**Following apps could be generated in future in order to enhance such villages even more :**

- **App which provides the updating notifications of the new policies and new app upcoming in the market**
- **App for agriculture, which provides the market cost of the crops all over India**
- **App for animal husbandry, the tracking app. A tracking band which could be tied to the animal and then the farmer could track the location of the animal by the mobile phone very easily.**
- **App for online auction of unused lands, animals etc to benefit the farmers.**

08

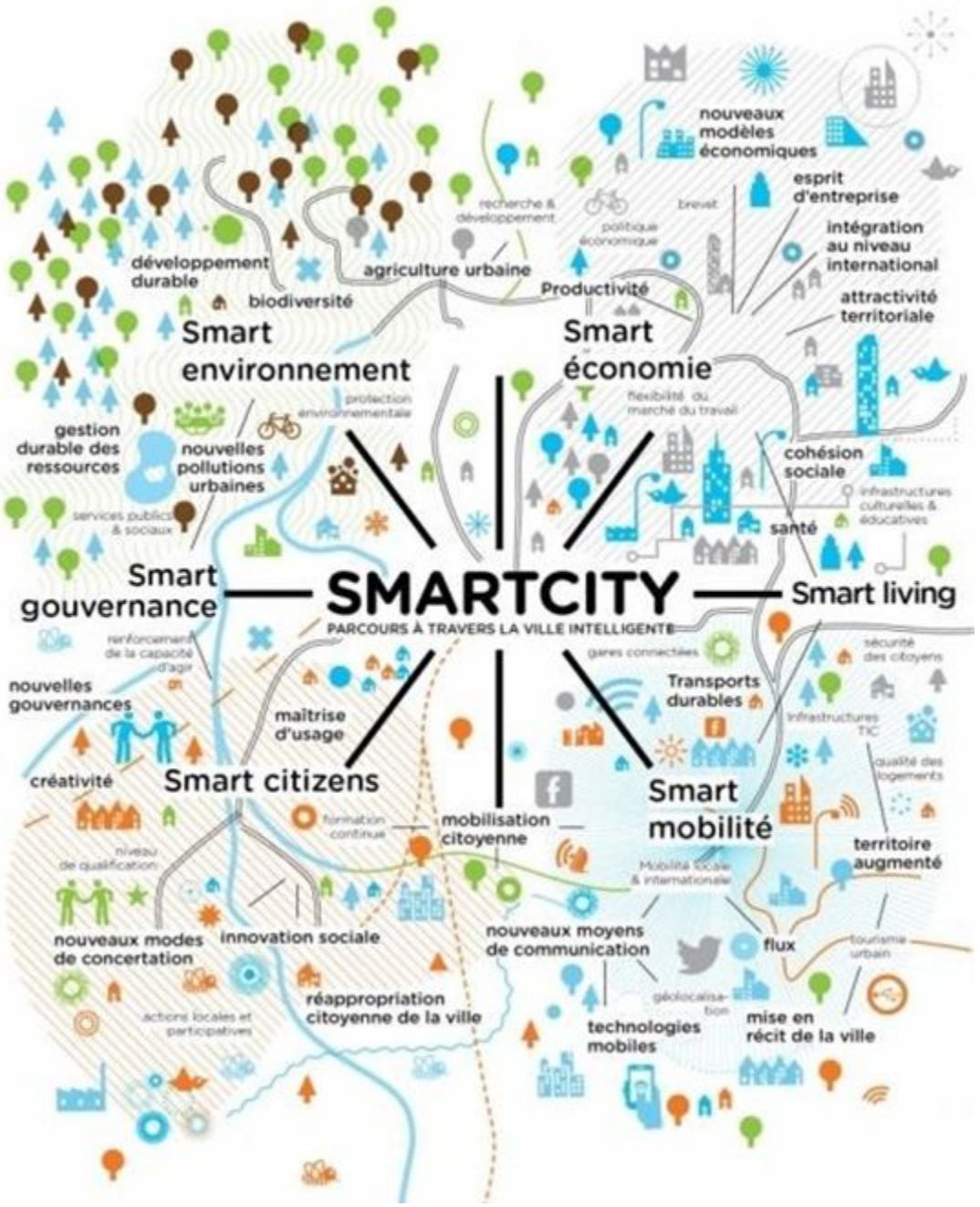
# GROUP 08

## DEVELOPMENT OF SMART VILLAGE AND ECO-VILLAGE

VAIBHAVI RAUT (SEM9)
KIRAN CHAPTE (SEM 5)

## SMART CITY

Smart city was an adaptive city, possessing high capacity to react; the key was on the adaptation and learning capacity, in which the citizens as the main roles in reacting, listening and receiving learning itself. Smart city concept was operated in complex urban area, combined several complex infrastructures, human behavior, technology, social structure and politic as well as economy. Smart city was more than digital city as it was able to connect the capital city physically with its social and develop the services and infrastructures of a better city by combining IT and politic vision to clear program for the city improvement and its services.



## SMART VILLAGE

Smart Village was one of concepts for the developed villages in India. This concept was developed by Viswanadham and Vedula in their book entitled “Design of Smart Village”. A smart village model followed a model from smart city as an effect of integrated technology changes to be implemented in the remote areas. The aim of smart village was to help it solve all problems through the implementation of ICT (Information and Communications Technology) and GIS (Geographic Information System).

The smart village model consisted of six dimensions

**1) Governance**

**2) Technology**

**3) Resources**

**4) Village Service**

**5) Living**

**6) Tourism**

## 1) GOVERNANCE

- This dimension focused on developing good governance in internal and inter-village governance. Government played an important role in this dimension because he had a duty to provide good public services. Governance was related to electronic services and social media in order to increase the empowerment and involvement of citizens in public management and transparency of the decision-making process.

- The governance dimension had three aspects, covering public service, transparency, and policy.

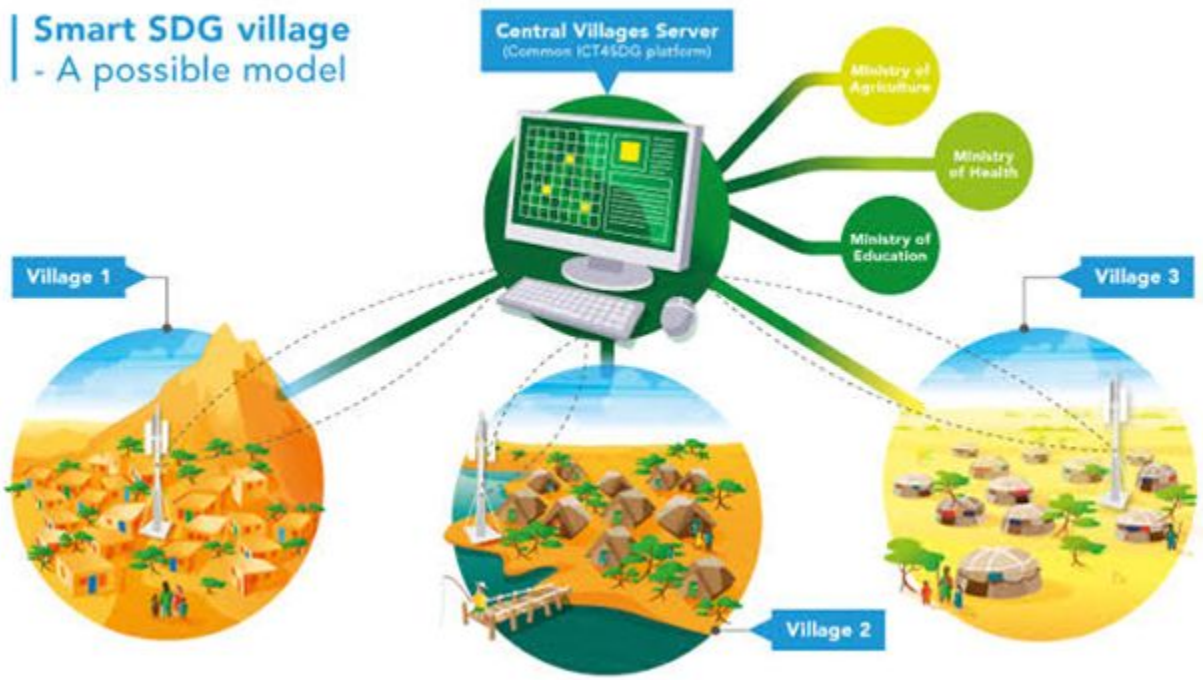
- One of the utilizations of information technology in government was e-government, which aimed to improve the quality and quantity of public services provided to the public, so that the services provided were faster.

- In addition to public services, the governance dimension must be transparent. Public transparency refers to the openness of information accessed by the public. All information related to the village, resources, potential, budget, agenda, production results, tourism, etc . Public transparency included openness of information and financial transparency.

- In village governance, an important role of the village head was needed as a decision maker. Leadership, chief of village played a role in encouraging community interaction and coordinating with various institutions. Community interaction was manifested in public participation in policy decision making at the village level.

## 1) TECHNOLOGY

- Technology also played an important role in the smart village. smart cities are a concept of city management by utilizing information and communication technology effectively and efficiently to maximize services to the community. Therefore, technology in smart village had important roles such as investing in infrastructure, business development, human resources, potential and building communities.
- In determining technology for smart villages, technology must have efficient, durable, inexpensive, easy to use and easy to maintain. Therefore, the use of technology was not only for optimal utilization of resources, but for carrying out sustainable village development.
- The technology dimension was divided into two aspects, namely ICT (Information and Communications Technology) and technology that was suitable for rural areas. The technology implemented in a smart village must be in accordance with the needs and abilities of the village itself.
- ICT was closely related to the concept of "smart". ICT was the core of various smart city and smart village concepts. While the technology used must be suitable to the needs of each village.



## 1) RESOURCES

- Village formation should have potential that covers natural resources, human resources, and economic supporting resources.
- Resources were the village's resources consisting natural, water and energy, human, economic, as well as infrastructure resources.
- The important thing that became the main focus of the village resources was the quality of sand, water, energy, and human resources.
- Human was the essential part of smart village since they planned the social view in the village through personality, skill, creativity, and social relationship with others.
- There should be a community empowerment activity in the village development. In the aspect of human resource, there were some important things that should be given attention like the education which was expected to be the encouragement of smart village.

## 2) VILLAGE SERVICE

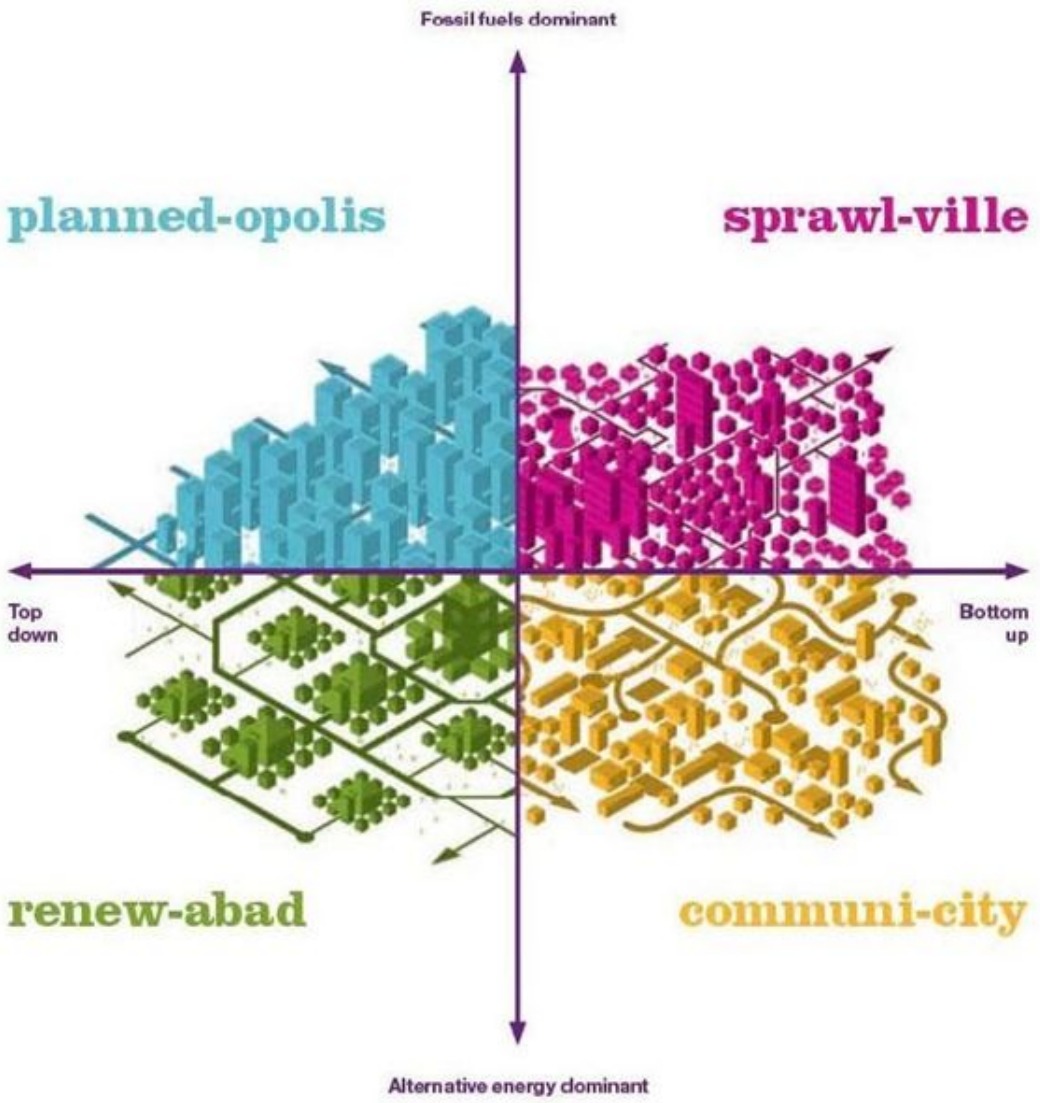
- The potential of the village resources could be converted into economy involving capital, economic organization, added value, and prosperity in term of economy. The focus area in economical services should be developed under the objective to earn village income.
- Village community who had been tested in term of value and moral, and had strong social capital, was able to develop creativity and power to reach capital, network and information.

## 3) LIVING

- Smart living was related to the quality of life such as health condition, housing quality, education facilities, social cohesion. Quality Smart living supported civil community and social inclusion in the village.
- Living was related to each individual life, this dimension focused on how someone lived their daily-life. , living dimension was divided into two aspects attempting to create safety and comfort, as well as easiness to access public facility.

## 4) TOURISM

- The development of tourism brought a new chance of job, infrastructure, and social connection that more alive into the area.
- If a village had potential in tourism, smart village should provide service in tourism object, accommodation, and supporting facilities to develop the tourist village.
- The dimension of tourism was divided into two aspects that were village potential and village branding.
- The village identity was able to be actualized through the development of the resources starting from food production or even craft.
- Developing platform and promoting conducive and comfortable trading ecosystem as well as building and promoting the product and service of regional creative industry in marketing the face of the city.



| No | Dimensions | Aspects | Indicators |
|---|---|---|---|
| 1 | GOVERNANCE | Public service | Administration services |
| | | | Utilisation of ICTs to provide services to the community |
| | | | Complaint service |
| | | Transparency | Government Information Transparency |
| | | | Financial Transparency |
| | | Policy | Leadership |
| | | | public participation |
| 2 | TECHNOLOGY | ICT | Internet Availability |
| | | | IT Infrastructure |
| | | Appropriate rural technologies | Sensor |
| | | | Cloud computing |
| 3 | RESOURCES | Natural Resources | Land Condition |
| | | | Water availability |
| | | | Energy uses |
| | | Financial Resources | Agriculture |
| | | | fishing |
| | | | livestock |
| | | Human Resources | Rural community |
| | | | Level of education |
| | | | openness |
| 4 | VILLAGE SERVICES | Essential Services | Health services |
| | | | Education services |
| | | Economic services | Enterpreneurship |
| | | | Job availability |
| | | | Economic institutions |
| | | | Distribution Logistic facilities |
| 5 | LIVING | Security and convenience | Waste management |
| | | | Environmental protection |
| | | | Public safety |
| | | | Disaster management |
| | | Public facility access | Green space facilities |
| | | | Sports area facilities |
| | | | Banking facilities |
| | | | Road and bridge Facilities |
| 6 | TOURISM | Village potency | Village Identity |
| | | | Tourists destinations |
| | | Village Branding | Village branding platform |
| | | | Culture and traditions |

## ECO-VILLAGE

The Word 'ecology' derives from the Greek oikos, meaning 'household' or 'place to live and logos means study and knowledge. Literally, ecology means the living place of creatures but refers to the “effect of environment on live creatures, the effect of live creature on environment and mutual relationship between live creatures.

Eco-villages are urban or rural communities of people to combine a supportive social environment with a life style with the lowest effect on environment. Eco-villages are the communities in which people feel that they are supported with their surrounding and are responsible to it. These villages create deep feeling of belonging to a group. They are small enough in which any person can feel security, power, being seen by others. People can participate in taking decisions effective on the life of themselves and society. Eco-villages show social dimensions, natural and economic environment of stability in an integrated trend with human participations as a continuous part of a balanced ecology.

.Eco-villages attempt to develop economic and social security via creating self-reliant and participative communities and local living. An eco-village is a friendly township with the participation of people improving natural, social and economic growth to enjoy these resources.

The main purpose of establishment or development of this new type of village is creating a good example of sustainable development at small rural size. A small development, in which human and environmental values are considered as acceptable.

## THE PRINCIPLES OF AN ECO-VILLAGE

The development of eco-villages or rural sustainable development can be classified in seven topics of sustainable living as follows:

- Sustainable living
- Waste management
- Environment improvement
- Optimal management of energy resources
- Optimal management of water and agriculture
- Improvement of health
- Cultural, social development

## DIMENSIONS OF ECO-VILLAGES.

### 1) ECOLOGIC DIMENSION:

- Developing organic food in community of region
- Establishing houses by natural and local materials by local architecture tradition
- Using renewable energy system with local focus
- Evaluation of biological cycle of products and activity
- Protection of water, air and soil health via correct energy management and avoiding resources and energy waste
- Encouraging bio-diversity and protection of natural non-residential areas
- Recycle of waste and creating a self-refining system

## 2) SOCIAL DIMENSION:

- Maintaining one's identity
- Learning how to take correct decisions and resolving disputes
- Dividing common resources and providing mutual support
- Emphasis on preventive healthy methods
- Providing useful work for all members
- Providing a complete life for children, elderly and minority group
- Promoting permanent education
- Encouraging to unity and respecting the differences
- Development of cultural manifestations
- Social capital, identity and social consistency

## 1) ECO-VILLAGE ECONOMY

- Self-reliant economy
- Ecologic or green economy
- Entrepreneur
- Local production, regional to global market
- Alternative banks
- Local income production

## ) CULTURAL/SPIRITUAL DIMENSION:

- Development of happiness via religious rituals and the festivals following natural cycle.
- Emphasis on creativity and art as the manifestation of unity
- Expressing a spiritual worldview by global relationship
- Respecting the ecological rules
- Respecting the spiritual statements by various methods
- Respecting the manifestation of different cultures
- Facilitation of individual growth and correct spiritual tradition
- Reliance on variety

## EXAMPLE

## PUNSARI GUJARAT

- After the Gram Panchayat election in 2006, Himanshu Patel was elected the Sarpanch of Punsari, Sabarkanth district in Gujarat
- Six year, the urvan village flaunt a WIFI and optical fiber borad band network.
- There are 5 primary schools in Punsari. All the fice schools have CCTV cameras placed enables parents to check their wards perfomance without interrupting the teachers and also to keep watch on the teachers.
- The Panchayat has installed a reverse osmosis plant 2010 to ensure the supply of clean drinking water to other ceremonies, water tankers arranged
- Effort have been made for empowerment of women and increasing security in the village. Some of the facilities provided by the Panchayat includes local mineral water, health care centres, banking facilities and toll free complaints reception severing.
- The village Panchayat had a capital of Rs 25000 five year ago. Today the deposit have soared to Rs 7 lakh
- For this efforts, the Sarpanch Himanshu patel was awarded with best gram sabha award at the Third National Panchayat Raj Day held in Delhi in November 2011

OUR PUNSARI

0
Km

09

# GROUP 09

## PROPOSALS FOR A SMART VILLAGE

DRASHTI TIMIR SHAH (SEM 9)
ADARSH BHANUSHALI (SEM 5)

# INTRODUCTION

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 o f people towards the locality or city. Village is main criteria for development of nation. So, develop the village in such a way that which is self dependant in providing the services, employment and well connected to the rest of the world i.e. smart village. The smart village corrects the 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 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 village is of Mahatma Gandhi i.e. swaraj and suraj village . But, now days it is newly termed as smart village. We know that, India is a developing nation, with the help of smart village we can make India as a SS nation. Now days, our government also gives strong focus on smart village. Government implements so many schemes on smart village.

# Concept of a Smart Village

The basic concept of smart village is to collect community efforts and strength of people from various streams and integrate it with information technology to provide benefits to the rural community. According to Mahatma Gandhi’s philosophy and thoughts smart village project provides, “Global means to the local needs.”

# Case of Kinhavali ( Shahpur)

Kinhavali is a large village located in Shahapur Taluka of Thane district, Maharashtra with total 778 families residing. The Kinhavali village has population of 3548 of which 1814 are males while 1734 are females as per Population Census 2011.

In Kinhavali village population of children with age 0-6 is 346 which makes up 9.75 % of total population of village. Average Sex Ratio of Kinhavali village is 956 which is higher than Maharashtra state average of 929. Child Sex Ratio for the Kinhavali as per census is 870, lower than Maharashtra average of 894.

Kinhavali village has higher literacy rate compared to Maharashtra. In 2011, literacy rate of Kinhavali village was 90.29 % compared to 82.34 % of Maharashtra. In Kinhavali Male literacy stands at 95.64 % while female literacy rate was 84.74 %.

As per constitution of India and Panchyati Raaj Act, Kinhavali village is administrated by Sarpanch (Head of Village) who is elected representative of village.

| Particulars | Total | Male | Female |
|---|---|---|---|
| Total No. of Houses | 778 | - | - |
| Population | 3,548 | 1,814 | 1,734 |
| Child ( 0-6 ) | 346 | 185 | 161 |
| Schedule Caste | 559 | 277 | 282 |
| Schedule Tribe | 162 | 112 | 50 |
| Literacy | 90.29% | 95.64% | 84.74% |
| Total Worker | 1,146 | 855 | 129 |
| Main Worker | 878 | - | - |
| Marginal Worker | 268 | 212 | 56 |

# Problems faced in the village

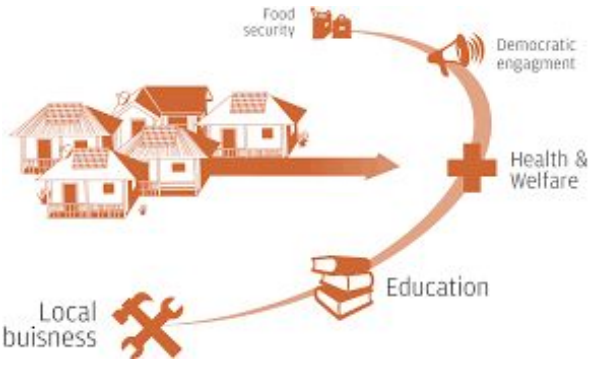
- The major issue faced in the village is that of electricity.
- Power cut affects water supply to villagers.
- Power cut affects medical treatments to villagers.
- Lack of power supply affects farming.
- Village roads have no street lights.
- In monsoon, lifestyle of villagers become worse due to no power supply.
- Lack of electricity leads to lack in development thereby increase in poverty.

Photo showing the natural vegetation of the village

Absence of appropriate street lighting

# Requirement for a Smart Village

1. Smart security.
2. Efficient public transportation system.
3. Improving sanitation conditions
4. Solid and liquid waste management.
5. Rain harvesting /Rain water drainage system.
6. Safe drinking water facilities.
7. Use of renewable energy.
8. Energy conservation.
9. Functional bank account.
10. Facilities regarding to the agriculture.
11. Latest& affordable medical facilities.
12. E-governance.
13. Use of modern technologies for improvement of locality.
14. Improvement on women empowerment.
15. Educational facilities



# Problems and Proposal to make the village into a smart and sustainable village

**ELECTRICITY** - It is the major issue face by the village. Power cuts create a lot of issue in terms of infrastructure and social and economic development.

- **SOLAR PANELS :**

  The supply of of electricity is quite unreliable.There is increase in scheduled and un-scheduled power cuts.Therefore use of renewable energy is become the need. Solar panels designed to absorb sunrays as a source of energy for generating electricity. Some solar panels have efficiency exceeding 19%.

  Government launched a scheme Javaharlal Nehru national solar mission in 2010. As a part of this mission the government has initiated a subsidy scheme to help the individual and organization. Initially the subsidy was 30% but now it is modified to 40% on the capital cost of solar system for rural and urban areas.

- **SOLAR STREET LIGHT :**

  Solar street lights harness energy from the sun to provide an alternative source of energy to conventional street lighting.

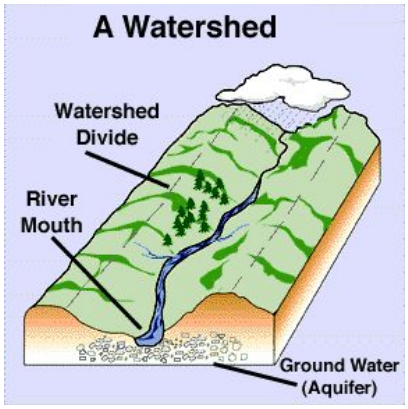
  **Benefits:**
  1. Zero running cost.
  2. Guarantied working in rainy weather.
  3. No schedule maintenance for up to 5 years.
  4. Environment friendly 100% powered by the sun.
  5. Solar panels reduce fossil fuel consumption

- **WATERSHED MANAGEMENT :**

- Watershed development refers to a set of measures that help retain water within a watershed. These include soil and water conservation, afforestation, grasslands development and protection of biomass.

- Water management means properly organizing the hydrosphere in order to prevent major water crisis in future.

- The main goal of Watershed Management is to implant the sustainable management of natural resources to improve the quality of living for the population

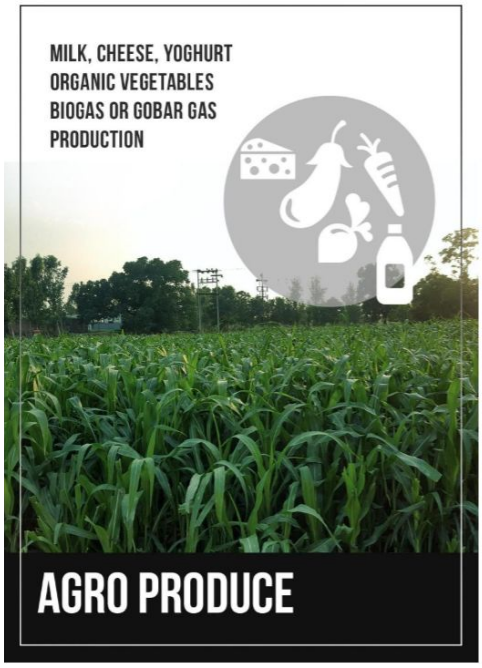


- **RAINWATER HARVESTING:** Rainwater Harvesting is a technique of collection and storage of rainwater into natural reservoirs and tanks, or the infiltration of surface water into subsurface aquifers. The rainwater harvesting is of different types such as,

Advantages:
1. Rainwater harvesting provides a good supplement to other water sources .Thus relieving pressure on other water sources.
2. It can be as a buffer and can be used in times of emergency or breakdown of public water supply systems.
3. Helps to reduce the storm drainage load and flooding in the cities.
4. It is a flexible technology and can be built to require meets of any range .Also the construction, operation and maintenance is not very labour intensive in most systems.
5. Prevents water wastage by arresting soil erosion and mitigates flood.
6. Sustains and safeguards existing water table through recharge.
7. Arrests sea water intrusion and prevents salination of ground water

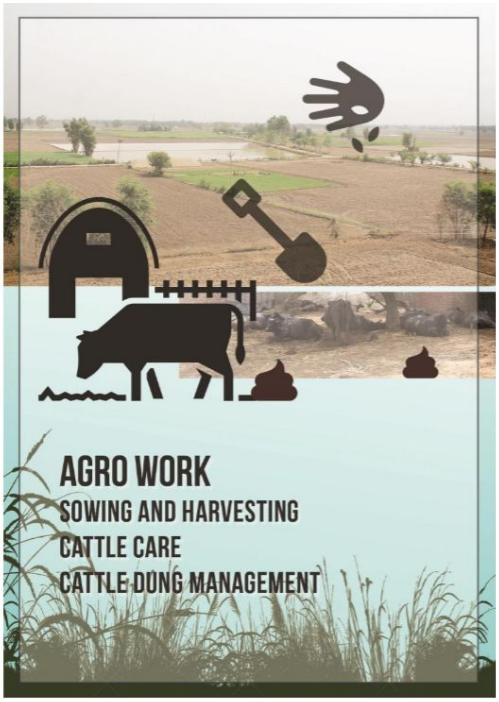
**AGRICULTURE**- Agriculture has a significant role in the socioeconomic fabric of India.

The schemes launched by government to aid the farmers are,
1. Soil health card scheme.
2. National agricultural development program to promote use of organic farming.
3. Fertilizer subsidy.
4. Bank loans, free electricity.
5. Gram Swaraj Abhiyan.
Saksham Kisan, samriddh Bharat.
6. Pradhan Mantri Fesal Bima Yojna (PMFBY).
7. Crop intensification such as SRI
8. Micro-irrigation, Agro-service center
9. Setting up seed banks




Agriculture and organic farming in combination with modern techniques and equipments leads to reduction in the time of work and increase the productivity or yield.

Best low cost small business ideas in agriculture,
1. Cultivation of food and cash crops
2. Flowers, medicinal herbs and gardening
3. Production and formulation of livestock feeds
4. Cultivation of mushroom
5. Marketing of fresh fruits
6. Retailing of food stuff
7. Fish farming
8. Snail farming
9. Source for agro-raw materials for urban manufacturing companies
10. Keeping bee for honey production
11. Start connecting rural farmers with exporters using internet
12. Production of fruit juice and jams
13. Sales and maintenance of farm equipment
14. Produce baskets, brooms, cane chairs, ropes etc.
15. Dairy products.
16. Post-harvest technology applications
17. Micro-enterprises
18. Traditional industries
19. Skill development of all eligible youth for self-employment and placement
20. Village Tourism including eco-tourism
.



**WOMEN EMPOWERMENT** - The women play a significant role in development of country. • A higher women literacy rate improves the quality of life both at home and outside the home, by encouraging & promoting education of children

Government implements so many schemes for women empowerment,

1. Beti bachao beti padhao scheme

2. Indira Gandhi matritva sahyog yojna(IMGSY)

3. Rajiv Gandhi national crèche scheme for the children of working mother

4. One stop center scheme

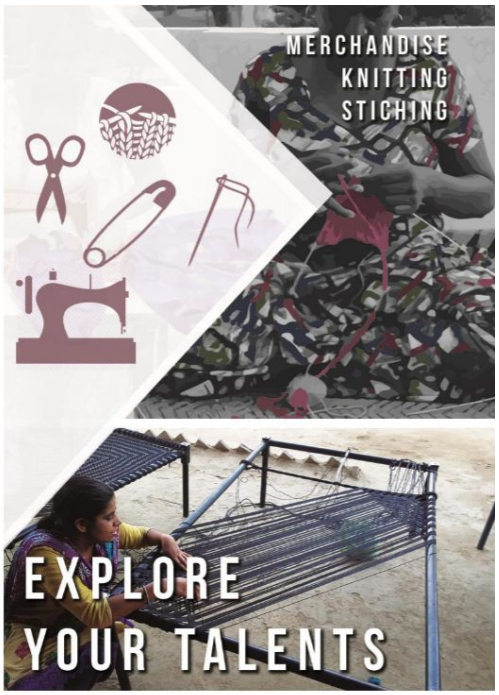
5. Women helpline scheme

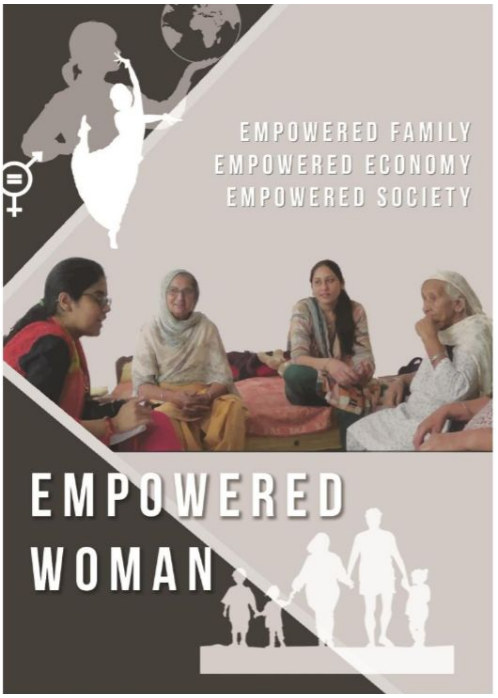
6. Ujjawala – a comprehensive scheme for prevention of trafficking and reuse rehabilitation and reintegration of victims of trafficking and commercial sexual exploitation.

7. Swadhar greh

8. Support to training and employment programme for women (STEP)

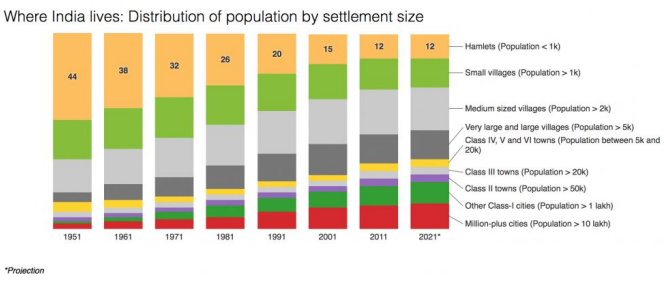
9. Stri shakti puraskar



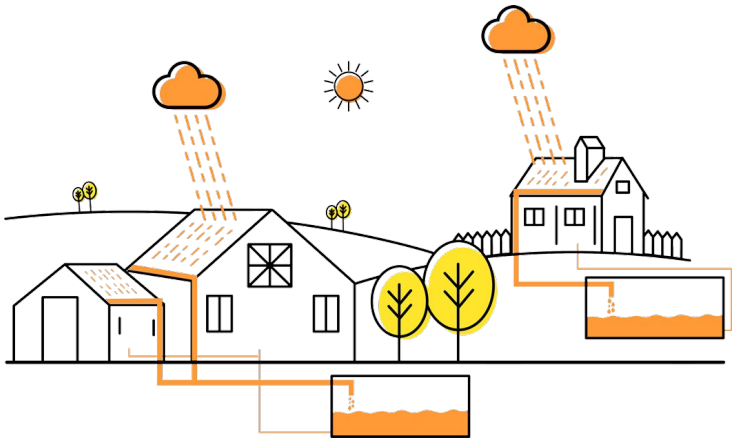
# Empowerment In Rural Area

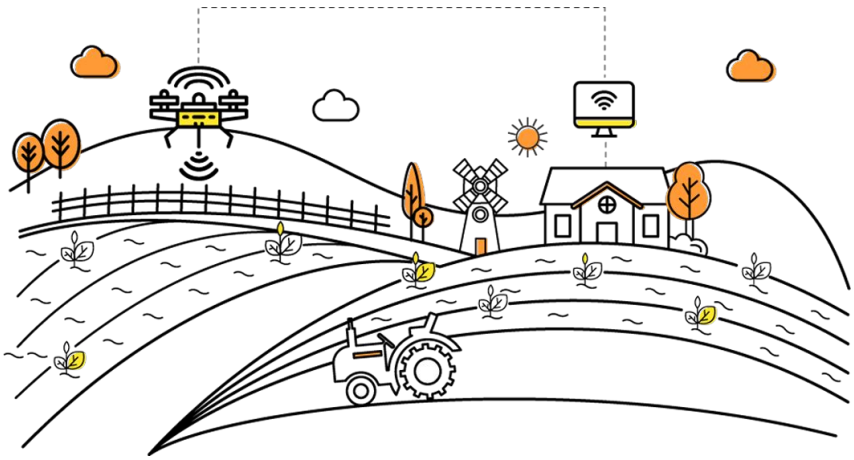
- Micro-banking providing peer-to-peer and microfinancing options for villagers to become entrepreneurs and create several small-scale jobs within the villages
- Micro-grids for local power generation through solar, wind, and batteries, enabling small-scale industries that create jobs and provide electricity to homes, schools and hospitals, creating a self-sustaining ecosystem
- Micro-water solutions like solar pumps and mini-desalination or water purification units that enable farming, sanitation, and provide pure drinking water to keep an entire village healthy
- Micro-education with educational tools accessible on mobile devices allowing schools to provide education without requiring the training of millions of teachers
- Micro-healthcare utilising the internet for remote medical diagnosis augmented with local nursing staff and medical diagnostics devices
- Micro-farming with increased productivity from customising seeds and agricultural advisory services in tune with local conditions, even for smaller plots of land



# Benefits from a Smart Village

- 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.
- 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.
- Contribution to global environment: The system can reduce reliance on fossil fuels &contribute to reduction of green house gases such as carbon dioxide .Energy consumption optimization 25-30% average energy saving.
- For farmer e-learning etc. facility that will be able to ask there quarries online.
- 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





10

# GROUP 10

## PROPOSALS FOR A SMART VILLAGE

RUTU PATIL (SEM 7)
SHRUSHTI MHASKE (SEM 9)

# IDEA OF A MODEL VILLAGE

68.9% of our population lives in rural areas (Census 2011). Though number is expected to fall in the coming years, it is still estimated that more than half of our population would be rural even in 2050. Despite there being several past initiatives by governments at all levels – Central, State and Local – in the past, the level of improvement has not kept pace with the rising aspirations among Indians. On most development parameters, there is still a significant gap between rural and urban India, as the table below illustrates.

| Sector | Parameter | Urban | Rural |
|---|---|---|---|
| Expenditure poverty | % people below poverty line (2011-12) (Tendulkar estimates) | 14% | 26% |
| | % people below poverty line (2011-12) (Rangarajan estimates) | 27.2% | 31.3% |
| Education | Literacy Rate - 2011# | 85% | 68.9% |
| | Average years of school education of working population* | 8.42 | 4.72 |
| Health | Infant Mortality Rate (IMR) – 2011## | 28 | 46 |
| | Life Expectancy at birth - 2002-06 ** | 68.8 | 62.1 |

Source: Census 2011, *Source: NSS 2009-10, Rural-Urban Divide in India, Hnatkovska and Lahiri, 2012, ** Source: Family Welfare Statistics in India, 2011, ## Source: National Health Profile, CBHI

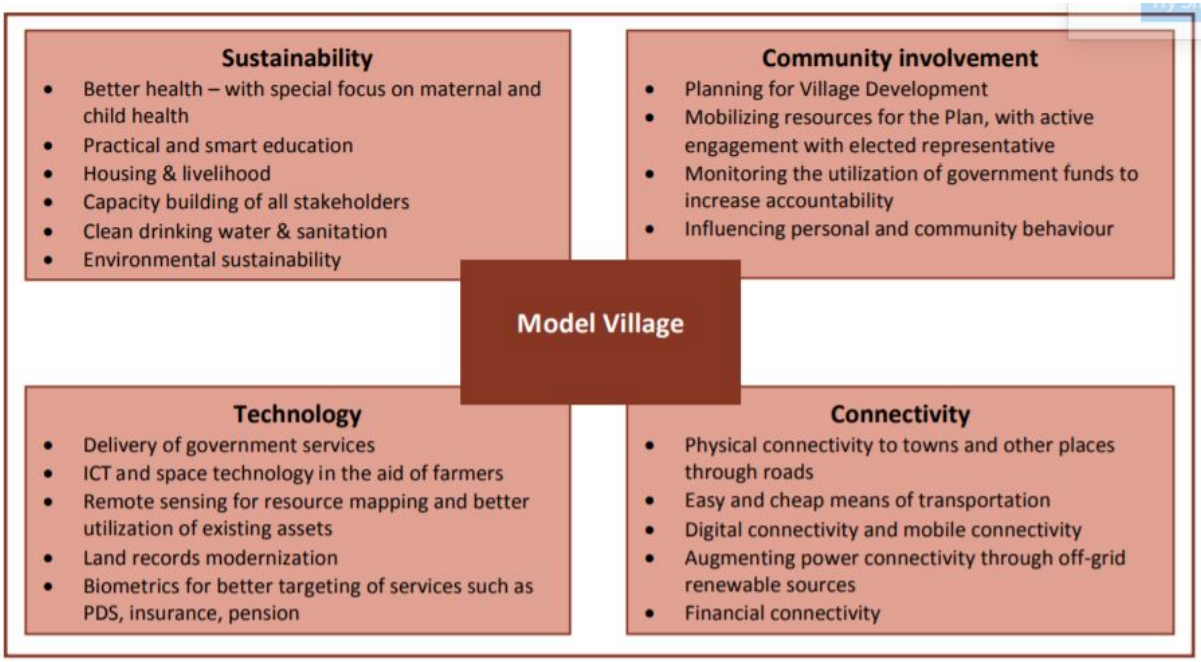
One reason for the failure of rural development schemes has been the lack of a holistic focus on the village as a unit. Separate flagship schemes targeting different sectors such as health (NRHM), education (SSA) and livelihood (NREGA, NRLM) have been launched in the past, but met with limited success. The "Model Village" concept could address these challenges comprehensively. It can address resource deficits in each of these sectors, with adequate focus on the special needs of every village. The idea of an "Adarsh Gram" or model village has been explored earlier as well, most notably through the Pradhanmantri Adarsh Gram Yojana, launched by the Central Government in 2009-10. Additionally, State governments have also taken steps in this direction. Himachal Pradesh launched a Mukhya Mantri Adarsh Gram Yojana along similar lines in 2011, with the allocation of Rs 10 lakh per village. The proposed "Sansad Adarsh Gram Yojana" of the Central Government aims to involve MPs more directly in the development of model villages. By adopting a village(s) under this initiative, an MP has the opportunity to directly benefit all sections of a village community in an integrated, efficient and participatory fashion.

## Objectives

- Prevent distress migration from rural to urban areas, which is a common phenomenon in India's villages due to lack of opportunities and facilities that guarantee a decent standard of living.
- Make the model village a "hub" that could attract resources for the development of other villages in its vicinity.
- Provide easier, faster and cheaper access to urban markets for agricultural produce or other marketable commodities produced in such villages.
- Contribute towards social empowerment by engaging all sections of the community in the task of village development.
- Create and sustain a culture of cooperative living for inclusive and rapid development.

## Key elements of a model village

A 21st century model village in India needs to incorporate certain key themes which would be essential for its success.




An intervention under one of these areas could have an effect across other areas as well. For example, technology could be used to improve the quality and delivery of other services such as health and education, which in turn contributes to sustainable development. Similarly, the use of renewable energy, apart from meeting energy needs, also contributes towards environmental sustainability. Village tree plantation drives could encourage a community participation, benefit the environment, prevent soil erosion and benefit agriculture, conserve water, and finally contribute to the aesthetics of the village. A number of these initiatives have already been taken in different parts of the country, but most of them have been attempted in isolation. The urgent need is to bring about a convergence of all such initiatives, for which 2 things would be essential –

a) grassroots level planning; and

b) mobilization of resources.

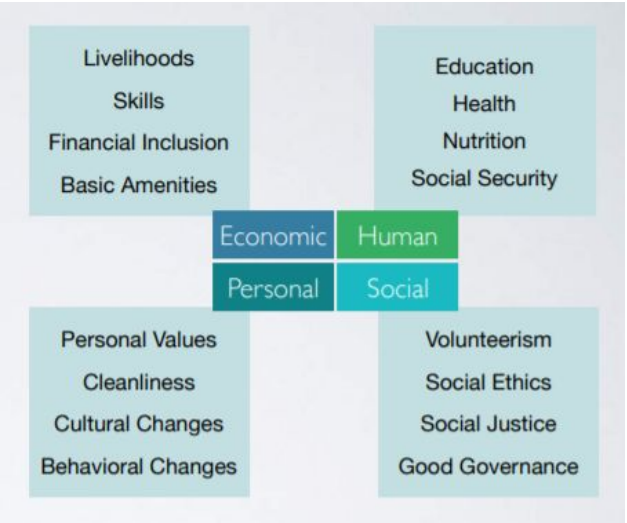
## Resources

For an MP, there are 3 primary resource streams which can be utilized for this purpose:

- Funds under existing schemes across different sectors such as health, education, skill development, livelihood etc could be utilized, and based on the specific demands of the village, resources could be channelized into the development of the village. Some important Centrally Sponsored Schemes (CSS) which could be utilized are NRLM, NHM, SSA, NREGA, BRGF, RKVY and Mid-day Meal Scheme.
- MPLAD funds (Rs 5 crore per year) could be utilized for the construction of high quality, sustainable assets such as school buildings, hospitals, Anganwadi Centres and school kitchens for Mid-Day meals. Funds could also be channelized into road construction, and the construction of toilets in schools and homes, particularly for girls.
- CSR funds, of which a much larger corpus is available after the latest amendment to the Companies Act, could also be used for the purpose of infrastructure development in the constituency.

- Self-help groups, who are eligible for subsidized loans under various Central and State government initiatives
- Gram Panchayats could also raise loans, if legally permitted to do so under the State Panchayati Raj Acts like in the case of Kerala.

# MODEL VILLAGE




## Hiware-Bazaar, Maharashtra

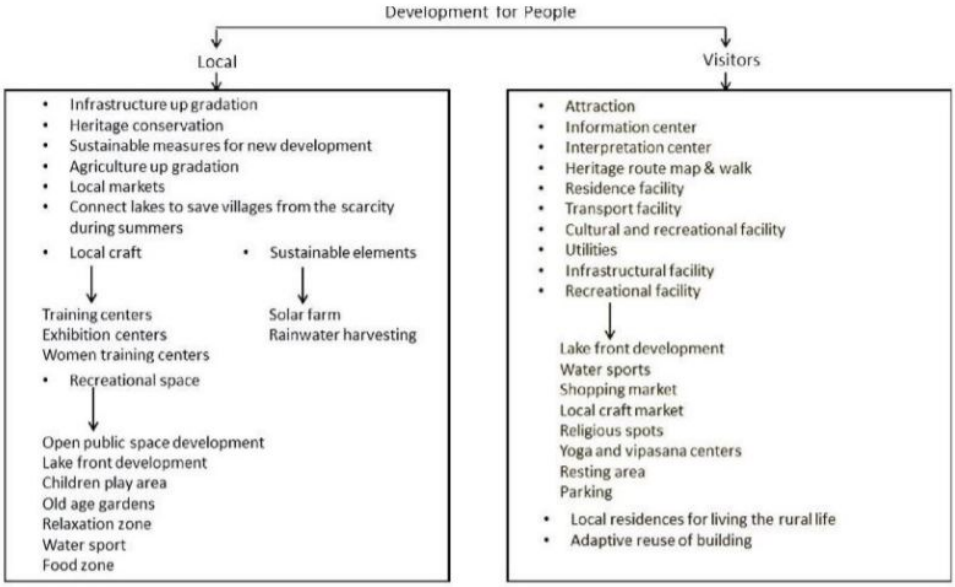
This is a village located in the rain shadow region of the Sahyadri mountain range in Maharashtra's Ahmednagar district. Till the 1980s, farming in the village was largely rainfed, and farmers were forced to migrate seasonally to surrounding areas for work.

From the 1990s onwards, things began to change. The village Panchayat adopted a holistic focus on a variety of activities, with community groups responsible for various aspects of the village economy and social development. Women thrift groups, Milk Dairy Society and Youth Clubs are examples of such community-based organizations. The village Panchayat also focused on family planning and reforestation, for which awareness programmes and drives have frequently been organized in the village. The village Gram Sabha also launched a watershed development programme, and an annual water audit is being conducted in the village since 2004 for more efficient and equitable management of water resources. It has also contributed to greater agricultural productivity. Today, the village is considered a model for community-led, multi-sectoral growth of rural parts of the country.

## CREATING DIFFERENT ECONOMIC OPPORTUNITIES :-

Objective:

- to pull people in this village
- to improve historic significance of the village
- to increase tourism in this village and make it self-sustained
- to increase economic sources for this village
- to improve quality of life by improving the quality of spaces
- to demonstrate this village for future similar villages
- to analyse the present guidelines for the development




## SOLAR POWERING EDUCATION

This program includes lighting for schools, evening tuitions, n-computing systems, powering learning aids and tools for all educational purposes.

Inadequate infrastructure in certain rural areas and constant power outages in grid-connected areas has resulted in many batches of students having to graduate without being able to use a computer or evening. Solar systems are able to reliably power computers, DVD players etc. that can play a crucial role in learning. Impact.

Efficient n-computing systems.

Exposure to interactive education material.

Facilitates understanding of the basics of computer applications.

## SOLAR BACKUP AND GRID TIED SYSTEMS - PANCHAYAT AND COMMUNITY BUILDINGS

Grid tied system with backup is essentially a Rooftop solar PV array along with batteries, where solar power can be used to complement and back up grid electricity. Any additional generation can be fed back into the grid at a per unit price fixed by the local DISCOM.

Impact

• Health Benefits from improved indoor air quality Effective pilot to show viability of solar grid-tied systems with back up

• Reliable power source

• Possible Revenue generation

# LIVELIHOOD OPPORTUNITIES

## SOLAR SEWING MACHINES

In many communities the opportunity for income generation through vocational training or creating a work center could greatly benefit the users. In order for this to happen sustainably there are 2 components to this project-
solar powered machines for-
1. Vocational training and
2. Improving productivity and
3. providing better opportunities.

Motors of existing machines are also replaced by much more efficient motors to enable solar powering and reduce electricity or diesel costs.

Impact

- Increases productivity, quality of work and time taken to finish work
- Gives men/women the opportunity to start their own business
- Provides access to skill training in under- served communities

## SOLAR DRIERS (PAPAD + FRUIT + FISH)

Solar dryers have a number of uses in agricultural and livelihood processes. They can be used as an environmentally sustainable way to dry produce to increase profits for farmers, SHGs, small businesses and community cooperatives. There are a number of different options utilising solar thermal technology in greenhouse models or flat-bed collectors.

Impact

- Increased livelihood opportunities and income
- Reduction in manual labour requirement
- Reduction in the use of less environmentally sustainable methods of processing, such as burning of fossil fuels or biomass

# WATER SUPPLY

## WATER PURIFICATION

SELCO implements solar powered community sized water purification units in villages and slums with over 30-50 households. Existing units can be solar powered. For new systems SELCO works on ground data (quality of water, course of water, community dynamics etc) to design systems appropriate for local conditions.

Impact

- Reduced Cost on availing purified water
- Reduced expenditure on health
- Increased productivity time (due to time saved to access water)
- Entrepreneurship/Operator mode empowers local individual from the community
- Increased well-being of children enables them to learn and have better attendance in school
- Women need not worry about water access, source and type and hence spend time on income generating activities.

## WATER PUMPS

Solar water pumps range from agricultural pumping, domestic and institutional requirements and micro pumping.

Impact

- Reduced maintenance cost of motor by overcoming issues of: Low voltage (starter issues)
- Increased convenience for the farmer: ability to pump water during the day rather than inconvenient times
- Expected increase in crop yield and income
- Reduced diesel costs

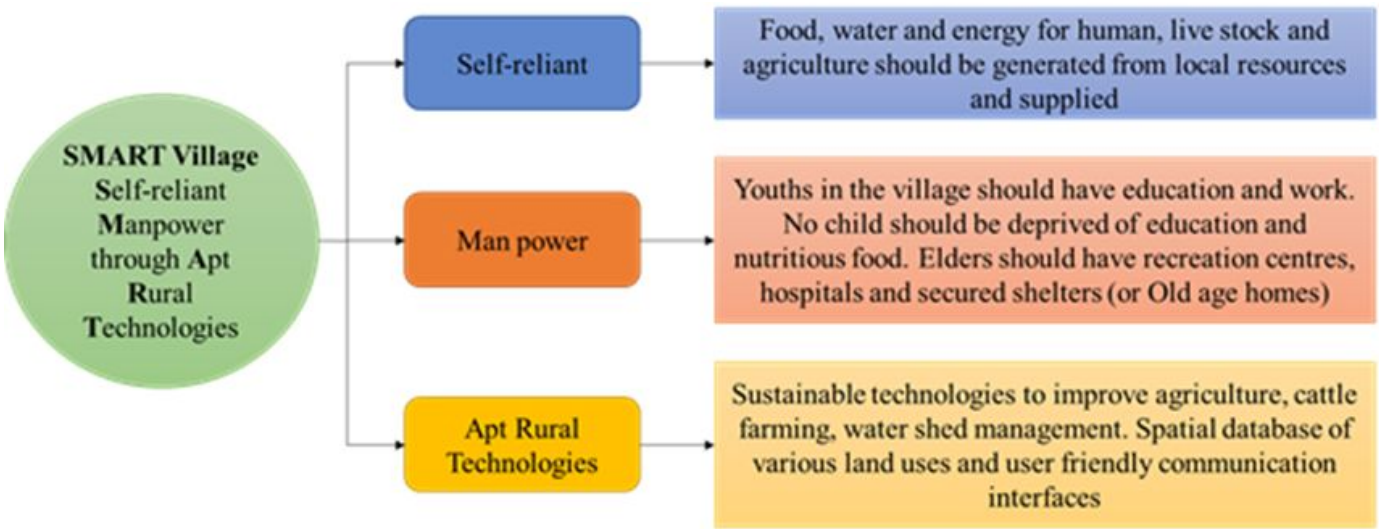
11 | GROUP 11

# SMART VILLAGES AND SUGGESTIONS FOR MARKETING IN RURAL AREAS

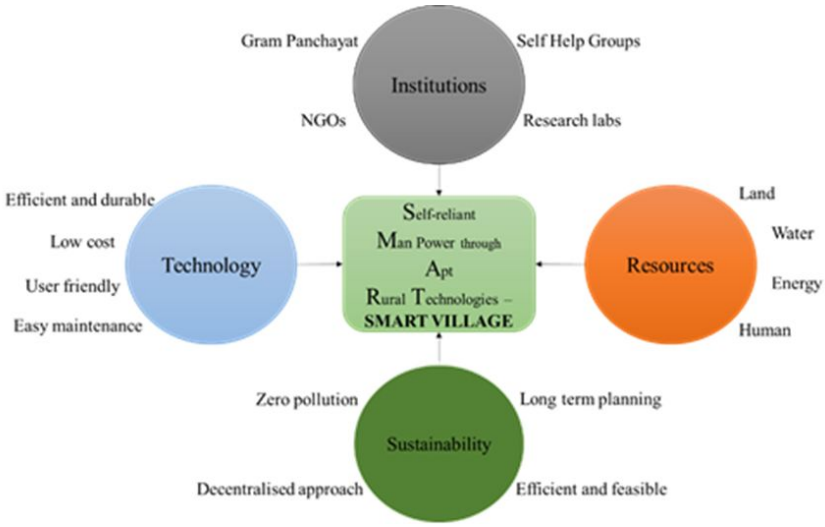
ADITI MANE (SEM 9)
SEJAL UMARE (SEM 3)

# SMART VILLAGE

Mahatma Gandhi envisioned the concept of an ideal village - a complete republic and independent of its neighbours for its vital daily needs. This is to ensure that every village grows enough food, milk and vegetables for villagers. It also has a school and nobody is refrained of basic education. Primary education is mandatory and schools have playground, proper sanitation and drinking water. Village has to maintain its own water resources ensuring clean water to all. As far as possible every activity in the village is conducted in cooperation basis without any discrimination. Smart village also refers to a bundle of services delivered to its residents through community participatory approach in an effective and efficient manner. The services include affordable clean water, basic education, shelter and food, communication and transportation, job for the youths, farms and grazing fields for cattle and a proper market for agriculture produce.




The Smart Village Framework for a region depends on the resource availability, people's occupation, co-operation between the villagers and social acceptance. It is indeed important to understand the dynamics of socio-economic aspects of the village with geographical features and quantifying available resources. Knowledge of current skills and practices with gaps in the agriculture, energy, water resource and livestock management will help in choosing apt technologies for sustainable development. Smart village framework essentially management approach based on the nature's principles with sustainable technical interventions to achieve self-reliance in food, water, energy, education, job and other vital needs. The framework embraces local resources and skilled man power to ensure sustainable intervention of technology which are technically feasible, economically viable, user and environment friendly.




The primary step is to quantify the available natural resources in the region which include land, water, energy and human resource. Status or the quality of the resource is also an important factor to be considered apart from quantity in order to implement technological interventions. However, educated and sensible human power is the most important resource as they constitute ultimate users and stakeholders of the all other natural wealth.

Technology is basically utilisation of resources to achieve required outcome such as agriculture and agro processing, livestock and milk products, oil seed cropping and oil extraction, medicinal plants and herb production etc. On the other hand, technology can also help to improve the resource status and balance the natural system. For example, percolation ponds and check dams across the streams will increase the water percolation and recharges the ground water. Planting grass like lemongrass (***Cymbopogon citratus***) and trees in slopes conserves soil and water. Technological interventions should be aptly chosen for optimum utilisation of resources and the sustainable development of region.

Sustainability is a qualitative as well as quantitative parameter which is tagged with every process. In a village scenario sustainability refers to the revitalising the resources with a feedback process ensuring a closed operating cycle.

Local institutional support plays a major role in achieving sustainable development of any region. *Gram panchayat* plays a key role in the implementation of developmental activities and also to get the feedback of stakeholders. It also coordinates with external institutions and with the other village committees such as Self Help Group (SHG), Village Forest Committee (VFC) etc. Intra village organisations and NGOs help in motivating the villagers and also to spread awareness about new schemes and rights. Research organisations (both government and private) can also impact the rural environment through vocational trainings, scientific technological introduction, CSR initiatives etc.

**Types of Media**

**Affordability:** the marketing should be done at reasonable cost as per the incomes of these small scale rural businesses.

**Availability:** Marketing can be done with the available sources within the village and with the help of right knowledge to use them at appropriate way.

**Acceptability:** the marketing should be done in such a way that will be easily acceptable by the consumers like promotion in local language

**Awareness:** Marketing should create awareness within the customer along with promotion of goods and services.

# INTRODUCTION

Yetgaon is a village situated in Kadegaon taluka in Sangli district, Maharashtra state, west-central India. It is about 14 kilometres north-west of Vita (a taluka place of Kadegaon). The main business of residents is farming. It is in a low rainfall region.

# PROBLEMS FACED IN VILLAGE

•Since this rural area lies in in low rainfall region farming becomes is difficult due to lack of water and other climatic condition.

•Due to this the residents are forced to do other occupations like poultry farming, handicraft items, spices making, etc.

•In this village there are multiple women groups who collectively come together and make spices and masalas on large scale and sell them to the nearest town.

•Also there are few potters in the village who make pottery products and sell them.

•But since the marketing aspect in the village is at poor condition these residents don't get much scope for to advertise their products and hence their sales are at limited amount.

# SOLUTIONS TOWARDS MARKETING

•The major solution for the marketing of a rural area needs to be done is that the format of advertisement should be shifted from hard copies to digital marketing for more coverage of the advertisement.

•Things such as local languages, easy navigation of applications, easy accessibility of internet and network in the rural areas should be taken into consideration.

•Promotion and advertisement of the farm products, poultry products, small scale businesses by the women should be encouraged more by television channels, newspapers and radio stations.

•Having better equipment like handcarts portable weighing machines and e-cycles for these residents for easy travelling within the village which will help to promote about their goods and services and also will boost the sales of door to door products.

•Every city should have some exhibition or campaign once in a week where people from all nearby rural areas can come together and sell their products and services on one single platform.

## CONCLUSION

Increasing marketing with the hep of media and other sources can enhance trade and connection between the small scale rural businesses to the urban population to have a easy money flow within the country rather than importing goods from other countries. Boosting the production of rural goods via marketing can help the economic growth of the rural area leading to blurring the boundaries between the rural and urban economic status. Hence media and marketing can play a vital role in economic growth of the particular rural area leading to better social life for the villagers.

12 | GROUP 12

# PROPOSALS TO CREATE A SMART AND SUSTAINABLE VILLAGE

STUTI BHARGAVA (SEM 9)
HRUTUJA KAPSE (SEM 9)

# ABSTRACT

**The increasing rate of urbanization across the world, there are clear evidences that the present structures and built up in our cities cannot cope with the increasing demand for a quality of life in our immediate living environment. There is therefore a need to develop a framework and a suitable model for our residential areas to fulfill the new requirements for sustainable urban development.**

**This is a serious consideration for this study with a view to improve healthy living in our communities through promoting ecofriendly village environment. This paper reviewed past research works in developing a framework for a green village in our community. Importance of organic compost manure, water and energy in ensuring green village are emphasized with the best practices for construction of the needed facilities. Urban developer, recreation planner and environmental conservationist will find this manuscript to be useful in formulating policy for sustainable residential areas across our communities.**

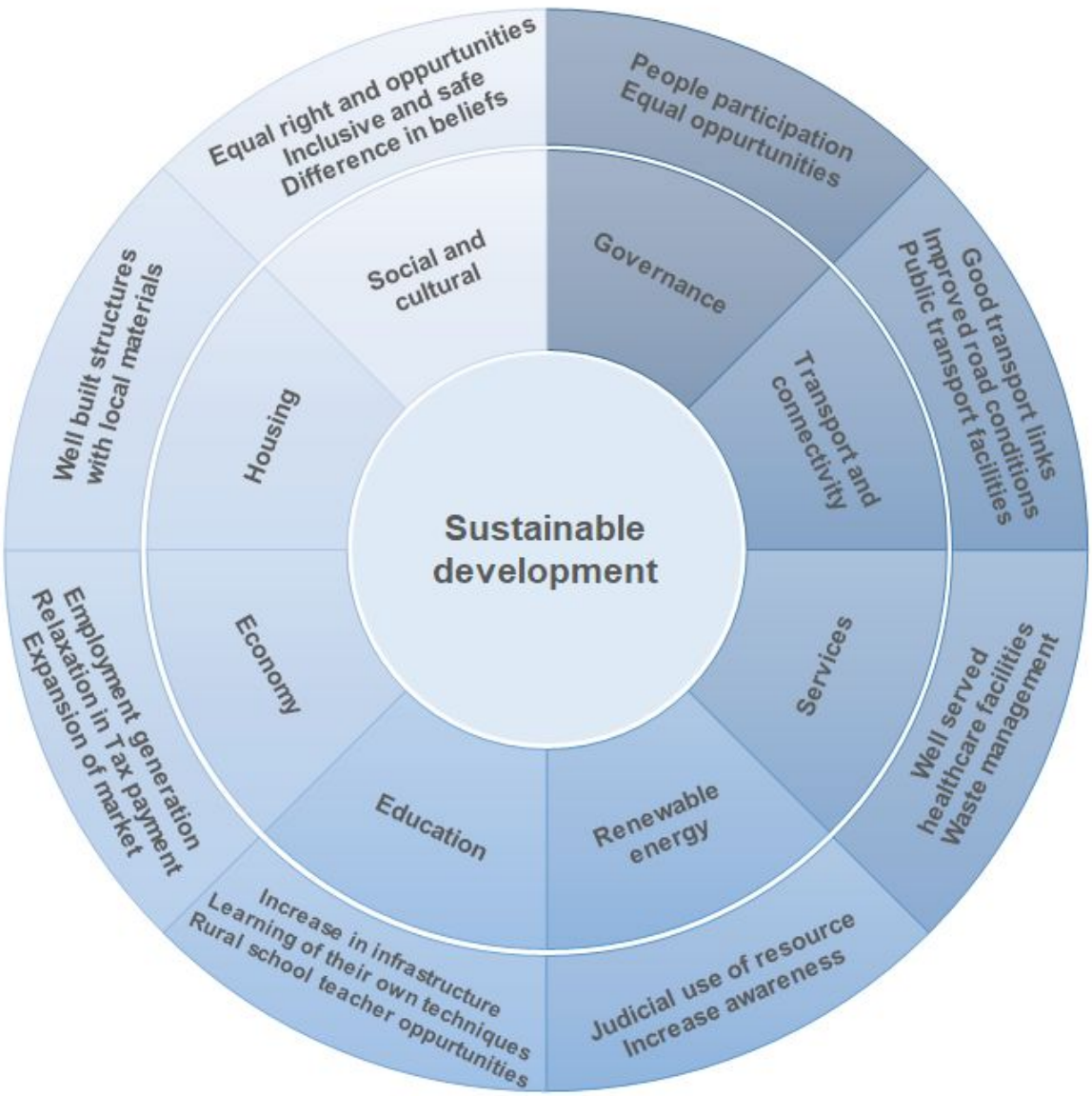
**A "sustainable community" effort consists of a long-term integrated and systems approach to developing and achieving a healthy community by addressing economic, environmental and social issues.**
**A village that have all the necessary conditions to live in community, respecting the environment, traditions, education, respecting the people and its values, and where every person is really involved in the local improvement of the social aspects.**

**The Sustainable Village is empowering the majority, by collaboratively producing the necessities of life, via a network of sustainable villages!**
**The goal of The Sustainable Village is to provide economic, environmental and cultural stability by collaboratively using low cost appropriate technologies such as organic gardening, sustainable energy generation, green building technologies and craftsman's guilds to grow, build, produce, repair, up-cycle and recycle what we need to live well and micro-businesses sufficient to pay for things we are not yet able to produce on site.**
**Sustainable villages become established within a given jurisdictions, the cost to sustain people who are poor or in poverty within those jurisdictions will decline dramatically.**
**Whereas without this network of sustainable villages the cost to sustain an ever increasing numbers of under-employed people will continue to rise with no end in sight.**

# PRINCIPLES OF AN SUSTAINABLE VILLAGE

**The development of eco-villages or rural sustainable development can be classified in seven topics of sustainable living as follows:**

- **Sustainable living**
- **Waste management**
- **Environment improvement**
- **Optimal management of energy resources**
- **Optimal management of water and agriculture**
- **Improvement of health**
- **Cultural, social development**



# SUSTAINABLE DEVELOPMENT
# SYMBIOTIC DEVELOPMENT

**Symbiotic development is a practical framework for integrated sustainable development, based on systems- and design thinking. Symbiotic development guides you and and your team in a step by step process towards long term sustainable organizations, cities, products, and industry,unravels the complexity of sustainability, realizing short term results, and long term positive impacts for the issues of our time and breaches in system.**

**Integration of various processes includes integrating aspects like spatial quality, economical aspects, educational aspects as well upgradation of the village as a whole - developing towards Urban village.**

**The role of villages for making a living is of great importance. Eco-village, ecosystem refers to a system created by interaction between the internal components of a village or between the elements of a village and surrounding environment and eco-villages attempt to achieve to following principles:**

**1- Protection of rural ecosystems**

**2- Encouraging interaction between rural and urban areas**

**Macro goals of an eco-village is different from one place to another one. Generally, most eco-villages are purposeful communities in a field of city or village, they form a group with common interests and they share the existing benefits. One of the goals of eco-village is providing an efficient model. In order to live in a sustainable environment, to form the communities of an eco- village, collaborative approach in planning can be a good tool to achieve the goals**

# SPATIAL ASPECT

**The main idea of present study is that the present villages and cities cannot provide good residential areas for a high quality life. Therefore, we should find a new model of residential area to fulfill with the new community requirements and create sustainable development in urban and village residential areas.**

**Urbanization and village dwelling have been two dominant forms of residency for a long time. These human habitats are evolved gradually and are adapted well with life style, social and environmental limitations of societies as the model of habitat and housing style is a part of culture of society.**

**The analysis of urban and rural residency shows that in transition from traditional society to a modern society, residency model cannot adapt with new life style and social and economic requirements. Thus, this leads to unduly migration of villagers to city and urban problems are increased.**

**We should present solutions to problems of urban and rural communities. In other words,regarding suitable model of residential area to achieve good criteria of high quality life, we should go beyond the common attitudes regarding rural and urban planning and challenge the common methods for localization, knowledge of planning and views.**

**Present models of rural residency cannot fulfill the requirements of current and the pastcommunity.The present models of rural residence cannot guarantee sustainable development ofsociety.As the dominant form of residency in our country is city and village dwelling, by changes in culture of society, living styles are also changed. Also, there is an inconsistency between lifestyle and human habitats. This issue presents the necessity of reviewing for adaptation with the requirements of society and creating sustainable development.**

# CASE STUDY

**GAIA village in Argentina Gaia village is an eco-village in Argentine.**
**In this village, rituals are performed. The main purpose of development of this village is presenting solutions for global crises. This village is not a place to escape from an earthly heaven and it is a small sample of a live lab to fulfill goals for sustainable development to share their activities with them.**
**The main principles of this eco-village are as follows: Shared life Coordination and balance Participation Democracy Gaia village is not a self-reliant one.**
**This village is managed by local community and there is special focus on reduction of strict rules. Also, restoring security in this village is based on unity.**
**In 1996, the first project of this village is consistent with environmental development. In This project, some buildings in village as applied already to establish milk devices and were deserted since 30 years ago and were renovated. In the next step, a comprehensive design of energy management is performed on all buildings of this village.One of the measurements 843 village is tree planting in all areas starting with organic garden plants. Other activities to create alternative living money is producing new economic resources with establishment of some smallenterprises.**

# METHODS ADAPTED IN GAIA VILLAGE

There is only one house to wash clothes in Gaia Eco-village in order to optimize water management and minimize waste

This ecological mud stove is made of stainless steel

The community, which mainly relies on solar and wind energies, covers 50 acres.
This sustainable model of living requires space because houses cannot have more than one floor. Each house has an ecological heater although the natural construction materials enable to keep the heat in during winter. During summer, they keep the houses cool.

**This organic vegetable garden ensures the community's self-sufficiency.**

**“Permaculture belongs to the real solution to save the planet rather than being accomplice to a society that keeps consuming more,”**

**ORGANIC COOKING METHODS PRACTISED.**

# CASE STUDY - DHANORA, RAJASTHAN

**Dhanora is situated in the heartland of Chambal, this tiny village in the Dhaulpur district of Rajasthan has a population of 2,000. Until 2014, it was bereft of sanitation, internal roads, or potable water. It even faced issues like encroachment, power fluctuation, unemployment and crippling poverty. The roads that were once littered with waste and faced rampant open-defecation are clean, and lined with lush trees. The village is lit with solar lights, boasts of *pucca* homes painted in uniform colours, a skill development centre, a meditation centre, and even a public library.**

**ELEMENTS OF DEVELOPMENT -**

**1) Retrofitting or modifying and beautifying existing structures and removing encroachments**

**2) Redevelopment, which involves infrastructure development**

**3) Greenfield, which is environment-related development**

**4) E-Pan which stands for electronic planning, focusing on communication, and e-learning**

**5) Livelihood to provide learning and skills to enable people to earn**

**PROCESS**

- **The first step was to mobilise the community. Organising women's panchayat and constructing toilets.**
- **Through community participation, *shramdaan* and fundraising by the villagers, every household built a toilet. The families that couldn't afford the expense were adopted by the village. One of the biggest outcomes of this was that the State Government declared the village as the first of the district as free from open defecation.**

- **The next step was digitally mapping the village. This helped create a blueprint and a plan of action to lay the water supply lines, sewage lines, construction of roads, etc.**

- **The digital mapping also helped demarcate property lines and remove encroachments on the roads. The villagers cooperated, and some of them even gave away land from their residential properties for new and wide concrete roads. From the previous width of 8-10 feet, the roads were widened to 20-25 feet.**

- **To promote water conservation, they undertook the construction of eight underground percolation tanks and connected them by a 3-km canal, which passed through 80 per cent of farms within the village and recharged groundwater.**

- **Under retrofitting, they dismantled some old and damaged structures. Many structures were restored and elevated. Electric poles that obstructed the street were relocated, and the existing street lights were fitted with solar panels.**

# THANKYOU!