Recommendation for Selecting Smart Village in India through Opinion Mining Using Big Data Analytics

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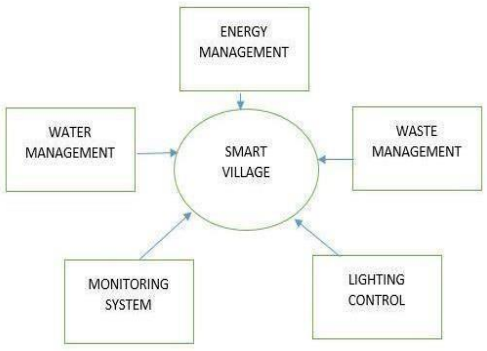
ABSTRACT

In India, most of the people are staying in below poverty line. Nowadays, village people are also most inadequate with mobile phones. To develop this village as smart, we emphasize on different factors like agriculture, employment, nutrition security, environment, natural resource utilization, and conservation, etc. We select smart village based on collection of different opinion from village people in terms of forms, questionnaire, views and surveys, etc. Opinion mining extracts useful knowledge about village from ample of opinions. This mining process gives us a right direction for creating smart village. In this project, we are trying to create digitalized village which is basically an application of Information and Communications Technology to define the major function of Government in order to bring about Small, Moral, Accurate, Reliable and Transparent. To get accurate response, we use big data analytic concept after mining opinions using map reduce approach.

I. INTRODUCTION

In India, maximum people are living below the poverty line. To develop the culture of that village, we should look positively into some parameters such as education, agriculture, environment, road development, natural resource management like water preservation and soil preservation, etc. In spite of India is a developing country, nowadays most of the villagers are using digital devices like mobile phone, computer, calculator, and television, etc. But 40% people in India are extremely poor. Now India Government has declared that 2500 number of smart villages will be developed by 2019 under the Saansad Adarsh Gram Yojana (SAGY) scheme. The main objective of building smart village is to bring benefits to villagers in all fields and to solve migration problem. Develop smart village concept can increase entrepreneurship in the villages. This program can focus on proper resource utilization, empowered local self-governance, access to assured basic amenities, and responsible individual and community behavior to build a vibrant and happy society in villages [1]. In this project we are going to choose the village to be developed as SMART. So, at first, we have to do survey in different villages through opinion mining. Opinion mining is the field of study which helps to collect people's opinion, sentiments, appraisals, attitudes, evaluations, and emotions toward a particular topic by doing questionnaire, forms, discussion panel, etc. [2]. Here opinion mining can be applied on villagers to get their opinions and views. These views collected from people are normally made in an unstructured way. To make it as structured, we need map reduce approach which can be applied on a huge amount of collected data called big data from people in Hadoop environment. Hadoop is an open-source framework

that allows to store and process big data in a distributed environment using map reduce approach. Hadoop Distributed File System (HDFS) is associated with Hadoop which is purely based on Java. Hadoop automatically indexes the file, breaks the file into blocks and stores it in different nodes. After storing in HDFS, it requires map reduce approach for processing [3]. Our job is to easily get valuable people's opinion which corresponds to basic criteria of smart village development for making a digital India.



Block diagram for Smart Village

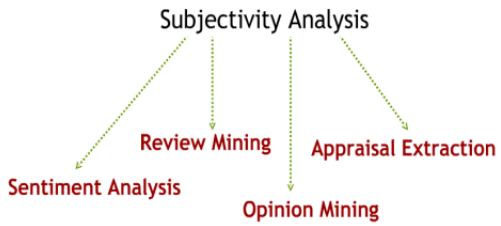
Smartness plays a major role in the global world. Government of India is trying hard for all round for the growth under the leadership of Hon. Narendra Modi. Many schemes are launched like Make in India, Skill India, Start up India, Smart Cities, Smart Village etc., But till today 70 % of our population is staying in villages. It's a need to make our villages smart for effective implementation of all other

schemes. In Smart Villages traditional and new networks and services are enhanced by means of Digital, Telecommunication Technologies, Innovations and the better use of knowledge, for the benefit of inhabitants and business. Digital technologies and innovations may support quality of life, higher standard of living, public services for citizens, better use of resources, less impact on the

chains in terms of products and improved process. The concept of Smart Villages does not propose a one-size- fits-all solution. In recent times, there is an immense interest in the development of Smart Cities. But as we perceive, in Indian context, villages are the heart of the nation.[3][4] Hence, for the development to percolate to the grass root level, focus must be devoted to the progress of village locational and competitive advantages. Rurban-[5]aims to strengthen the rural areas by provisioning physical infrastructure, economic and social facilities. The envisaged components are shown in the figure 1.1.

1.1 OPINION MINING

It is kind of web content mining. If a set of text documents (T) are given, that have opinions on an object, opinion mining intends to identify attributes of the object on which opinion have been given, in each of the document t ϵ T and to find orientation of the comments i.e. whether the comments are positive or negative.



Subjectivity Analysis

1.2 Aim & Objective

1.2.1 Aim : **Recommendation for Selecting Smart Village in India through Opinion Mining Using Big Data Analytics .**

1. Homes with access to toilet, safe drinking water and regular power.
2. Maintain its Identity, cultural and heritage.
3. Functional solid/liquid waste management system.
4. Functional toilet, potable water electricity available in schools, health centers. Interacts with Government, NGO's, Social Entrepreneurs Experts for its needs. Good facilities for domestic animals like dogs and cattle, dispensaries, pond for cattle, veterinary hospitals etc.
5. Awareness on new technologies that can be implemented in villages, farms and nearby places etc.
6. Exploiting the most advanced communication technologies.

1.2.2 Objective :

1) To study the available infrastructural facilities at village.

2) To study investigate energy , waste, waste management system of village.

3) To study the Government programs and scheme for smart village.

4) To find the suitability of village for smart village.

1.3 Need and Importance of Smart Villages:

At present one of the major challenges in India is growing population and rapid urbanization. This urban growth to certain expansion is unavoidable, as the economic pursuits and aspirations of the population do change and expand. This needs to be invert and suitably managed through a balance between rural and urban quality of life. The concept of 'smart village' will address the multiple challenges faced for sustainable development of rural India. A 'smart village' will provide long term social, economic and environmental welfare activity for village community which will capable and empower enhanced involvement in local governance processes, encourage entrepreneurship and build more lively communities. At the same time a 'smart village' will ensure proper sanitation facility, good education, better infrastructure, clean drinking water, health facilities, environment protection, renewable energy, waste management etc. The smart village can achieve SMART in infrastructure, SMART in technology and innovation, SMART institutions along with optimal mobilization and utilization of available resources, leading to faster and more inclusive growth.

Every country has developed a reputation as a global leader in upgrading the city as smart city initiatives in its larger urban areas. The Rural areas are in need of essential infrastructure like roads, drinking water and power. The future development mainly concentrates on improving big metropolises into connected cities but failed to see where most of the population resides. Villages more than cities need to be made smart for the overall improvement and development of the country.

The Development of opportunities for youths in villages, thereby discouraging migration to cities. Farming remunerates occupation, with guidance and mentoring to farmers on how to get the best yield and market at remunerative prices for the future rural development. Proper implementation

which presides over the benefits such as crop insurance, soil health card, and pesticides which can reach the grassroots. The importance should be given to develop an economically viable and culturally sensitive ecosystem in villages. The challenges remain the same, direct access to the global market has been a major challenge largely due to multiple intermediaries and lack of skilled workforce. The large population lives in villages, we always fail to improve economic potential and basic services by creating smart village.

The most villages lack essential infrastructure like proper irrigation system, electricity and water. To overcome this challenge, three strategy can be followed:

1. Provide education on technology that supplements indigenous skills,
2. Ensure digital and IT awareness, and
3. Connect skill oriented programs to market

1.4 Government Programs for Smart Village :

1.4.1 Major Programs in Agriculture

1. National Agricultural Development Program.
2. Bank loans, Free Electricity.
3. Accelerated Irrigation Benefit Program.
4. Fertilizer Subsidy.
5. Plant more densely.

1.4.2 Major Programs to Improve Employment

1. Mahatma Gandhi National Rural Employment Guarantee Scheme.
2. National Food Security Bill.
3. Public Distribution System.

1.4.3 Major Programs and Partnerships to Improve Nutrition Security

1. Mid-Day Meal Scheme.
2. Annapurna Scheme (Ministry of Rural Development) for senior citizens. Integrated Child Development Scheme (ICDS)
3. Emergency feeding program (in eight districts in Orissa)
4. The Nutritional Program for Adolescent Girls.

1.5 CONCEPT

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."

The concept of smart village is defined as below,

S	Social, skilled and simple.	Zero tolerance for caste and creed and no discrimination on gender and religion. Skilled simple living and high thinking.
M	Moral, methodical and modern.	Moral values of Mahatma Gandhi and Swami Vivekananda using modern (latest) methods .
A	Aware, adaptive and adjusting.	Awareness about global, social and economic issues adaptive and adjusting the fast changing environment.
R	Responsive and ready	Ready to generate all resources for self - sufficiency and self-governance. Responsive for co-operative movements and collective wisdom.
T	Techno savvy and transparent	Tecnosavy for IT and transparent mobile usage harmonic relations.

II. LITERATURE SURVEY

2.1 HISTORY

In this project , we present the history of upcoming smart village program. The creation of smart villages in Africa and India has enabled by the study of sustainable energy provision undertaken by Malaysian Commonwealth Studies Center (MCSC), the European Academies Science Advisory. In smart villages, energy access takes a main role as a catalyst for development, enabling education and local business opportunities, improving health and welfare, and enhancing democratic engagement. Electrical Research and Development Association (ERDA) is a cooperative research institution created by the Indian Electrical Industry and Utilities with the support of Governments of India and Gujarat which has taken main role as the smart village product development partner . To choose a better village making to be smart village, we need an important survey on various numbers of villages. Then Government will take care of that village to build as smart village. The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is working with communities to develop "Climate-Smart Villages" .

"An Study and Analysis of Opinion Mining and Sentiment analysis" written by Nayak and Fernandes summarizes as: Opinion mining is a process of extracting the people's views about a particular topic under discussion, organization and product. These views are collected through social media and review sites like blogs, comments, tweets or reviews. Using opinion mining concept, we can extract valuable factors which will be taken as main criteria of smart village from villagers. The reveals about concepts of map reduce approach of Hadoop which is a very efficient distributed processing framework. This framework is very efficient tool for storing and processing unstructured, semi structured and structured data. This concept can be used after

collecting views from people through opinion mining.

2.2 Literature Review

1) Rutuja Somwanshi & et.al. (2016) They study the project report deals with study and development of smart village. Smart village is one of the energy access acts as a catalyst for development in education, health, security, productive enterprise, environment that in turns support further improvement in energy access. This report focuses on improved resource use efficiency, local selfgovernance, access to assure basic amenities and responsible individual and community behavior to build happy society. Smart village by taking smart decisions using smart technologies and services.

2) Dr. C. Grace Indira and V. Anupama (2016) Explain besides smart cities, it is necessary for us to have smart village for, sustainable and inclusive future of emerging India. Smart villages are the need of the hour as development is needed for both rural and urban areas for improved livelihood. The impulsive motive behind the concept 'smart village' is that the technology. Now it's need of the hour is integrated planning, strategy, and above all monitoring and execution of the activities using proper governance models to work property for the real future of emerging India. They focuses on the key areas as vision and need for smart villages, approaches, government programmes, technology used for smart villages, areas of interest in smart village and it outcomes expected.

3) Boda Ramesh (2016) Explains concept of smart village is the development of the village shall be based on the five path that is retrofitting, redevelopment, green fields, E-pan, livelihood, 69% of India lives in villages, if it is ignored, then it will hamper the economic growth of the country. Villages are backbone of our countries economic growth as most of the primary sector aactivities occur in villages. To explore new opportunities and dimensions for the rural population in other sectors will definitely boost the country growth. In that path smart village is an initiation through the concept of Rurbanization.

4) Ankit D. Gangani, Mehulkumar A. Dungrani, Kuldeepsinh Y. Jadeja (2016) They study the planning aspects for betterment of smart Indian village. Smart villages are the need of the hour as development not just for rural areas but for integrated urban growth including smart cities as well for better livelihood. Planning for betterment of smart village is needs smartness in technology, ecofriendly environment, maximizing employment potential of rural youth. Taking education, skill for vocations etc. to villages can well channelize the energies of the youth as a powerful tool for the nation. Most of the overall development of the country can be possible with the development of the villages only.

5) David Freshwater (2000): Sustainable development is generally discussed in terms of environmental considerations, but from a rural community perspective, sustainable development must address how the people of the community generate the income to maintain their rural lifestyle. In those instances where employments considered as part of sustainability discussions, it is too often thought of in static terms jobs that will last. But the reality of both modern rural and urban life is that economic conditions rapidly change, and so a discussion of sustainable employment has to be conducted in a dynamic context where different types of employment evolve as economic conditions change. While market signals alone can, in principle,

provide the information and the conditions for this type of dynamic process, the argument of the paper is that the nature of rural areas makes it unlikely for markets alone to allow sustainable employment.

5) Dr.Milind Kulkarni (2010): In India majority of the population still lives in villages. A lot of work needs to be done in making the villages clean. There are different aspects of clean village such as: water supply, sanitation, indoor air quality, solid waste management and renewable energy etc. All these aspects have different alternatives with the associated merits and demerits. In some aspects such as water supply, considerable work is done whereas in some areas like sanitation lot of work is required to be done. We can learn lot of lessons based on success and failure in adopting different alternatives. Keeping in touch with technology clean village projects should integrate technology and digital design, which will make the village not only clean but also smart. The paper discusses all these aspects with reference to Maharashtra and India. This discussion plans to give important inputs and alternatives to policy makers so that they can redirect and reformulate the policy. Engineering students can design and implement projects of clean and smart village which will help in their skill development. At the end paper gives recommendations for effective making of Clean and Smart Village.

III. PROPOSED WORK

3.1 PROPOSED WORK

Data Science focuses on finding meaningful correlations between large datasets,

Data analytics is a process of analyzing raw datasets in order to derive a conclusion regarding the information they hold. Data analytics processes and techniques may use applications operating on machine learning algorithms, simulation, and automated system.

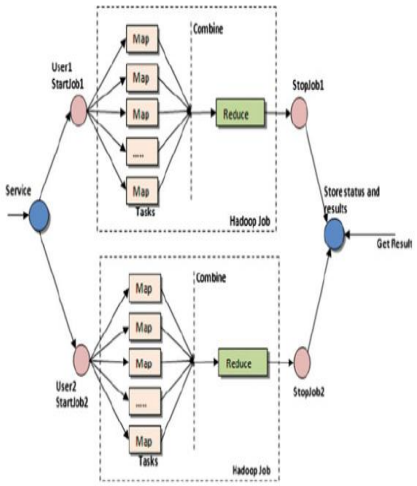
3.2 Data Mining Technologies for Village

In a smart city application, the production of analytics can lead to advanced insights, a better understanding of city phenomena, and supports

the design of evidence-based urban strategies and innovation . Searching for interesting patterns and correlations in the public- service facilities of developed cities using a DM approach has gradually become a significant area of research. The extracted patterns can be used to plan layouts or arrange new facilities in cities . Advancements of big DM technologies can support, explore and discover environmental and societal changes, including how people go about their life,Behavior, and preferences; social trends, and public opinion. DM and ML are vital technologies for data-centric applications for smart cities. DM is a broad field that includes many algorithms and techniques from statistics to ML and information theory to extract information from data . DM aims to build computer programs that extract hidden, previously unknown, and potentially valuable information from data . The process must be automated or, more usually, semi- automated, and the regularities or patterns discovered must be meaningful in a practical sense . Big DM needs to extend the entire process to the front and back end, under the characteristics of big data. This involves processing and analysis of massive and heterogeneous data, automatically discovering and extracting implicit, hidden patterns, rules, and knowledge, and visualizing them in an easily understandable form . ML is the study of how to build computer programs that improve their performance at some tasks through experience to address problems in which human expertise does not exist or when it is difficult to express it . With this technology, the algorithm is training computers to learn from a past experience E regarding task T and some performance measure P, if its performance improves on task T, with experience E, computed by P. Essentially, ML is an application of AI that provides computers with the ability to learn from data and provide relevant insights that increase operational performance from experience from data without being programmed . According to Din et al. , ML is classified into four categories: supervised learning, unsupervised learning, semi-supervised learning, and active learning. Nef et al. propose a typical ML pipeline that starts with the raw data as input, clustering to further preprocess the data before the actual classification is performed. Finally, the computed results are displayed.

3.3 Opinion Mining Concept Using Map Reduce Approach

Opinion mining extracts people's own opinion using different methods such as questionnaire, form, emotions, views, etc. There are mixture of people with literacy and illiteracy staying in villages. To collect different views from different type of villagers, opinion mining uses different methods for them. After collecting views, these are converted into a particular structured format so that it will be very easy for analysis purpose. This job is performed by Hadoop tool which uses map reduces approach. This Hadoop uses distributed file system, i.e., HDFS which supports for storing both structured and unstructured data. Map Reduce is a parallel program-mining model for processing both structured and unstructured data through mapper and reducer class.



Map Reduce Approach

3.4 Opinion Summary

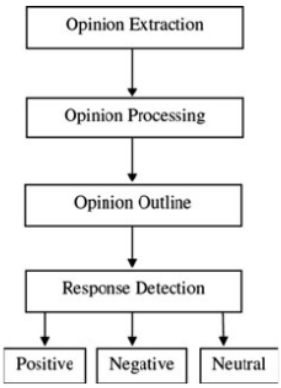
There are several ways to utilize the results of opinion mining. One way is to represent a summary of opinions on features of the objects.

IV. SYSTEM ANALYSIS AND DESIGN

4.1 Proposed Algorithm

We present the detailed Map Reduce implementation of result of opinion mining. After taking different opinions from villagers, then we use this Map Reduce approach on collected unstructured data set to get right conclusion. Following steps are:

1. To get response from villagers through feedback form and oral conversation.
2. Keep all opinions in digital form like notepad or MS Excel sheet.
3.Applying opinion mining concept in digital form as per requirement to find
smart village.
4. After step number 3, to make these required opinions in structured form, we apply map reduce approach.



Opinion mining model

Mapper Implementation

5. The input to the mapper is the unstructured data file. The record-reader reads the

data file by breaking it into blocks of size nearly 50 MB.
6. After reading the blocks, the record-reader calls many mapper as many blocks
read from the data file. The input to each invoked mapper is the block as value
and the opinion data file name as key.
7. Each opinion unit or tokenized item is emitted from the mapper as key and one
(intwritable) as its value
Mapper Implementation

4.1.1 Mapper Implementation

In the mean phase, no combination is required. Every opinion unit data is
emitted to the reducer to count its frequency. So the final output of the mapper is the
opinion unit (key) and integer one (value) (Fig. 3).
Reducer Implementation

8. The reducer receives the key as opinion set and value as numerical one. So the
number of reducers called is equal to the total set of opinion units in the opinion
data file.
9. Then the final frequency table is prepared by summing the values for one key.
The reducer receives the value as iterable so that it can be summed up.
10. After the summation of values for a particular key, it produces output.
The output is written to a file in HDFS (Fig. 4).
11. Then we filter this output of step number 10 using different decisions of vil-
lagers to satisfy the level of smart village

In the mean phase, no combination is required. Every opinion unit data isemitted to the reducer to count its frequency. So the final output of the mapper is the opinion unit (key) and integer one (value) .

4.1.2 Reducer Implementation

8. The reducer receives the key as opinion set and value as numerical one. So the number of reducers called is equal to the total set of opinion units in the opinion data file.

9. Then the final frequency table is prepared by summing the values for one key. The reducer receives the value as inerrable so that it can be summed up.

10. After the summation of values for a particular key, it produces output. The output is written to a file in HDFS .

11. Then we filter this output of step number 10 using different decisions of villagers to satisfy the level of smart village.

4.2 Model of Opinion Mining

As people are free to give their opinions on anything, e.g., they buy a product and then they express their views on products‟ features in various forums. The term „object‟ is used for the entity on which comments have been given.

Model of opinion mining

4.2.1 Definition (object):

An object A is an entity. It is related to a pair, A: (C, R), where C is the components and sub-components of A, and R is the attributes of A. Each component can have its own sub-components and attributes. "Features" can refer to either components or attributes. It is also commonly used for objects. Let us consider a document t, which contains opinions on an object A. Generally, t is composed of sentences t = (s1 , s2 , s3… sn).

4.2.2 Definition (opinion passage on a feature):

Opinion on a particular feature f of an object A, extracted from a document t, is a group of sentences in t that contain some opinion on f. A single sentence may express opinions on several features of a product, e.g., "The picture quality of this camera is good, but the battery life is short".

4.2.3 Definition (opinion holder):

The person giving his/her opinion on something is the holder of the opinion.

4.2.4 Definition (semantic orientation/sentiment classification of an opinion):

The semantic orientation of an opinion on a feature f states whether the opinion is positive, negative or neutral. This classification can be done at sentence level i.e. whether a sentence contains a positive opinion on a feature of an object or it may contain negative opinion on it. shows the opinion mining model Putting things together, a model for an object and a set of opinions on the features of the object can be defined, which is called the feature-based opinion mining model.

4.3 Model of Feature-Based Opinion Mining

An object A can be represented with a set of features, F = {f1 , f2… fn}, which includes the object itself. Each feature fi ϵ F can be expressed with a finite set of words or phrases Wi which are synonyms. That is, there is a set of corresponding synonym sets W = {W1 , W2… Wn} for n features. An opinion holder comments for each feature fi to describe the feature by choosing a word from Wk , and then gives opinion on fi that can be positive, negative or neutral. In a document, Opinion mining is used to extract useful information (sentiments of opinions) from a given document t.

4.4 Mining Output

Given an evaluative document t having opinions on an object A, the result is a set of quadruples. Every Quadruple is represented by (H, A, f, S), where H being the opinion holder, A being the object, f being feature of the object A and S being semantic orientation of the opinion on feature f in document t.

4.5 Experimental Analysis

After getting output from map reduces approach, we get different opinions from villagers on different criteria. A tells about number of opinions by 52 no of villagers on 25 no of criteria for smart village. Shows a graph between acceptance level of villagers and different criteria of the smart village. We can suggest recommending smart village that among 25 criteria, at least 45 criteria should be accepted by villagers. Otherwise, we cannot recommend that village for becoming a smart village.

Criteria	Score
C1	55
C2	30
C3	73
C4	81
C5	65
C6	47
C7	53
C8	39
C9	42
C10	64
C11	56
C12	69
C13	47

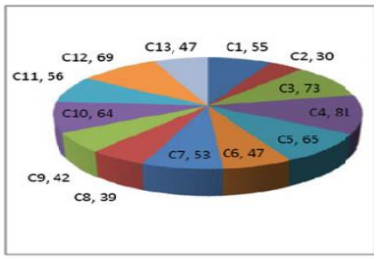
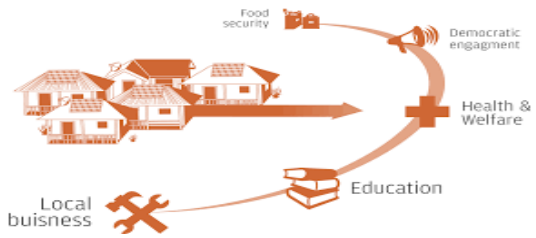


Figure 4.3 Shows acceptance level of different criteria for smart village by villagers

4.6 SERVICES REQUIRED FOR SMART VILLAGE



Services Required for Smart Village

Services required for smart village,

1. Food security.

2. Democratic engagement - 1. Good governance,

2. Social development.

3. Health welfare- 1.Environmental development ,

2. Personal development.

4. Education - Basic knowledge for awareness.

5. Local business - economic development.

4.7 AWARENESS PROGRAMS FOR PEOPLE

4.7.1 GOVERNMENT CONTRIBUTION:

- **Reorienting education towards sustainable development** – Education is critical for promoting sustainable development and improving the capacity of the people to address the environment and development issue.
- Basic education provides underpinning for any environment and development education , the latter needs to be incorporated as essential part of learning .
- It is critical for achieving ethical awareness, values and attitudes, skills and behavior consistent with sustainable development and for effective public participations in decision making.
- To achieve the accessibility of environment education , linked to social education from the primary school age through adulthood to all groups of people.

(b) Increasing public awareness –

- Public awareness should be recognized as a process by which human beings and societies can teach their fullest potential.
- Small scale enterprise promotion through social media.
- Education empowerment and access to information through smartphones .
- By making Motivational Videos.

(c) Promoting training programs –

- Government with the help of non-government authorities can arrange various trainings to aware the people .
- Implement various schemes and projects in accordance with policies.
- Training for all age group people.
- With the help of social media, motivational speeches and videos we can give training to the people. Smart Village Model

V. SYSTEM IMPLEMENTATION

5.1 Setting Environment (Software and Hardware Requirement)

Software Requirement

1. Anaconda Navigator 3.2
2. Python 3.8
3. Jupyter 6.1.4
4. google form sheet

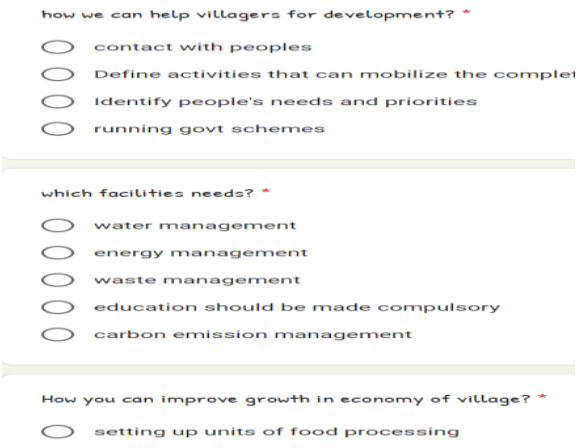
Hardware Requirement

1. RAM: 8.00 GB
2. HDD: 1TB
3. Processor: 11th Gen Intel(R) Core(TM) i5-1135G7 @ 2.40GHz 2.42 GHz
4. System type : 64-bit operating system, x64-based processor.
5. Edition Windows 10 Home Single Language
6. Version 20H2
7. OS build 19042.630
8. Experience Windows Feature Experience Pack 120.2212.

5.2 RESULT & DISCUSSION :

Screenshot 5.1 Opinion Mining Form

Here is the form for opinion Mining for selecting smart village this form is given to villagers to fill the required details.once all the data is filled by the villagers. Its an survey form for the villagers to take survey of village.

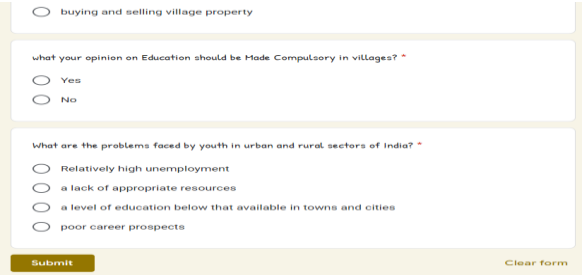


Screenshot 5.2 Survey Questions

Here are some relevant question in survey to get the required output.

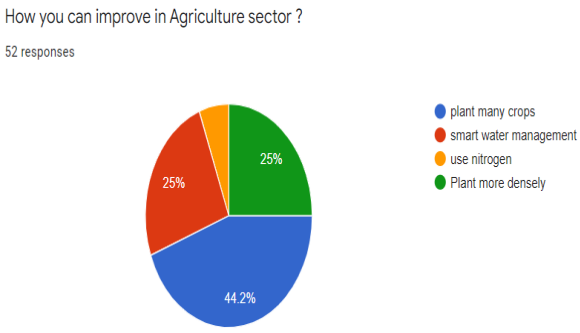
Questions are like ,

- How you can Improve employment in village ?
- Which way use to provide nutrition security ?
- How you can improve environment of village ?
- How you can improve in Natural Resources in village ?
- How we can help villagers for development ?
- Which facilities needs ?
- How you can improve growth in economy of village ?
- What your opinion on Education should be Made Compulsory in villages ?
- What are the problems faced by youth in urban and rural sectors of India ?

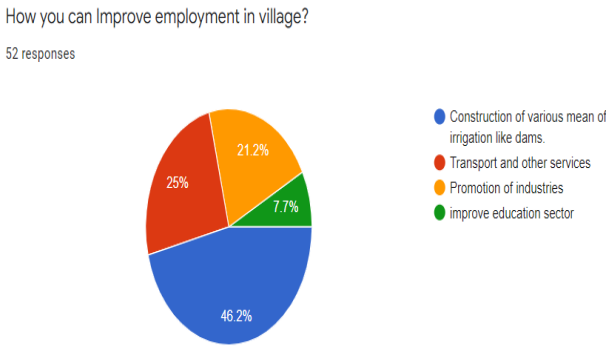


Screenshot 5.3 Submit page of form

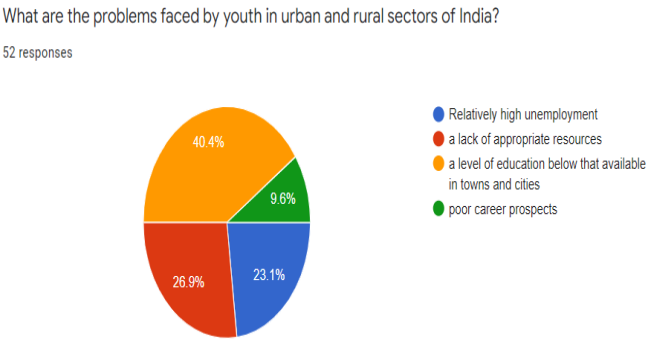
After filling all the answer click on submit button to submit.



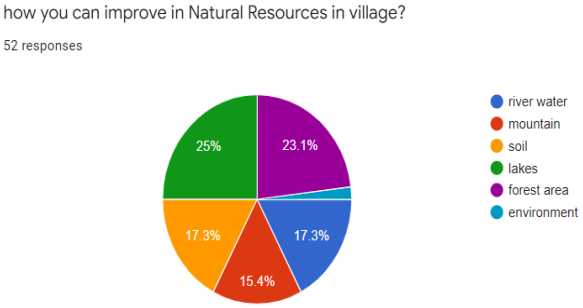
Screenshot 5.4 Agriculture Sector



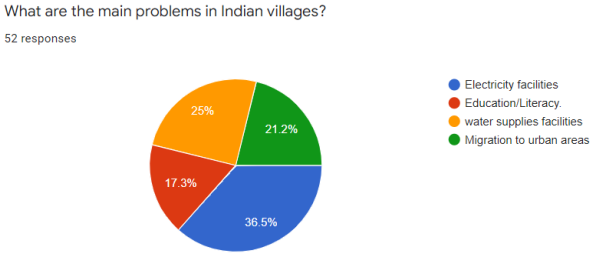
Screenshot 5.5 Employment in village



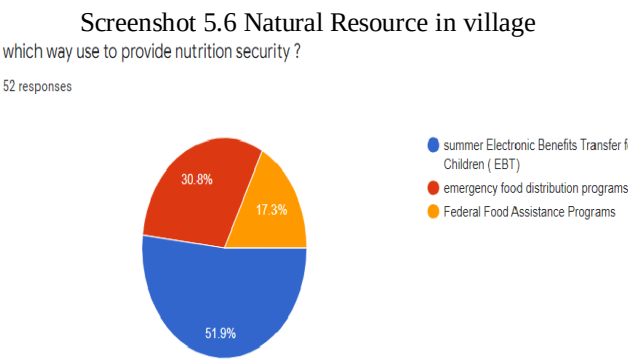
Screenshot 5.9 Problems faced by youth in urban and rural sectors of india



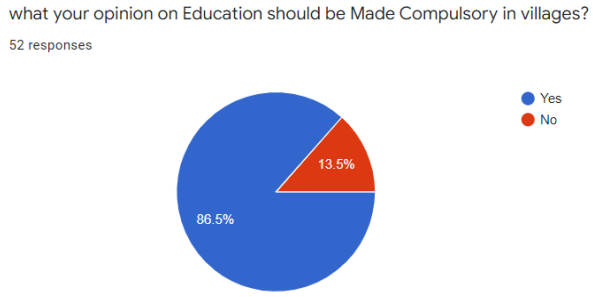
Screenshot 5.6 Natural Resource in village



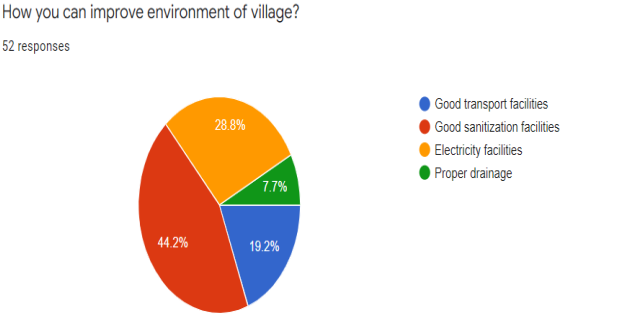
Screenshot 5.10 Problems in village



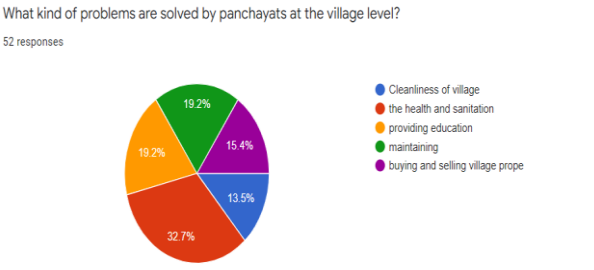
Screenshot 5.7 Provide Nutrition Security



Screenshot 5.11 Opinion on Education in village



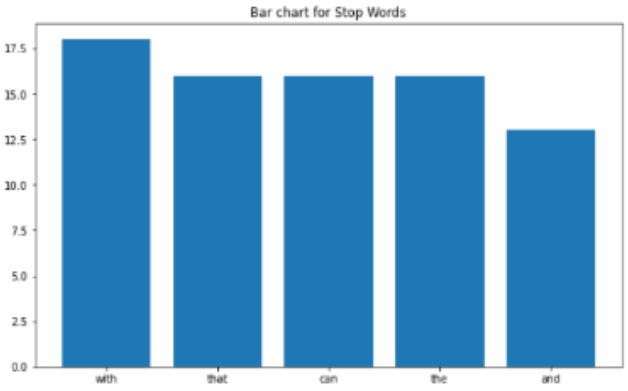
Screenshot 5.8 Improve Environment of village



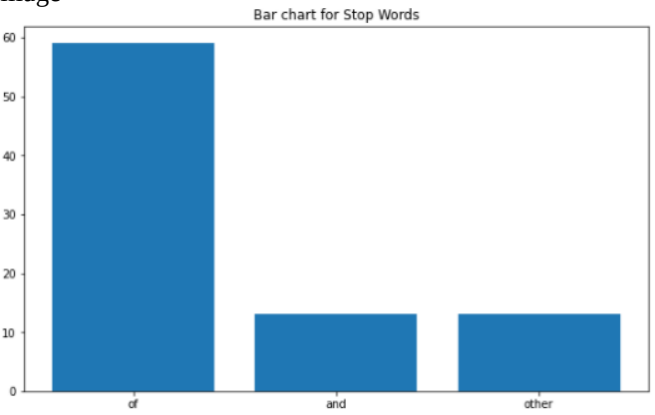
Screenshot 5.12 Problems Solved by Panchayats at village level

tamp	How you can improve in Agriculture sector ?	How you can Improve employment in village?	which way use to provide nutrition security ?	How you can improve environment of village?	how you can improve in Natural Resources in village?	how we can help villagers for development?	which facilities needs?	How you can improve growth in economy of village?	What are the main problems in Indian villages?	of problems are solved by panchayats at the village level?	what your opinion on Education should be Made Compulsory in villages?	What are the problems faced by youth in urban and rural sectors of India?
2022 21:37	smart water management	Construction of various mean of irrigation lik...	summer Electronic Benefits Transfer for Childr...	Electricity facilities	environment	Define activities that can mobilize the comple...	education should be made compulsory	setting up units of food processing	Electricity facilities	providing education	Yes	poor career prospects
2022 30:36	plant many crops	Promotion of industries	emergency food distribution programs	Good sanitization facilities	lakes	Identify people's needs and priorities	education should be made compulsory	Dairy	Electricity facilities	maintaining	Yes	poor career prospects
2022 34:17	smart water management	Construction of various mean of irrigation lik...	summer Electronic Benefits Transfer for Childr...	Good transport facilities	river water	contact with peoples	water management	setting up units of food processing	water supplies facilities	providing education	Yes	Relatively high unemployment
2022 35:24	use nitrogen	improve education sector	Federal Food Assistance Programs	Proper drainage	forest area	running govt schemes	carbon emission management	fisheries	Migration to urban areas	buying and selling village property	No	poor career prospects
2022 36:44	plant many crops	Transport and other services	Federal Food Assistance Programs	Good sanitization facilities	soil	Define activities that can mobilize the comple...	education should be made compulsory	Dairy	water supplies facilities	maintaining	Yes	a lack of appropriate resources

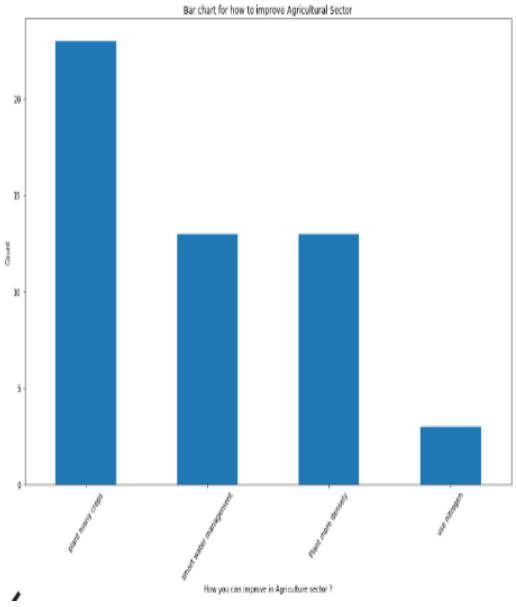
Screenshot 5.13 list of problems face by Villager's



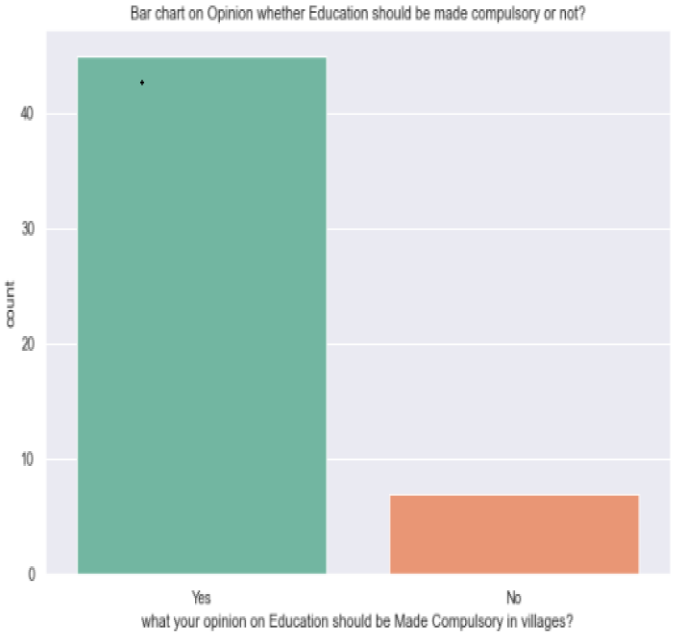
Graph 5.2 Improve in Natural resource in village



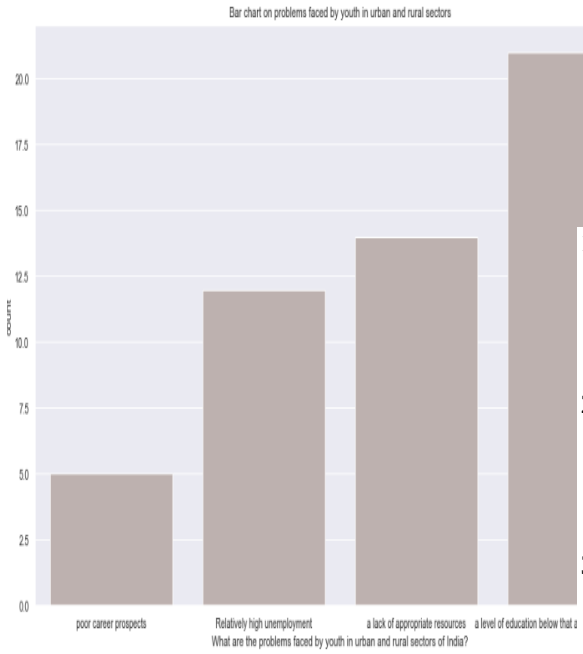
Graph 5.3 Provide Nutrition Security by Govt.



Graph 5.1 Improve in Agriculture Sector



Graph 5.4 Opinion on Education should be Made Compulsory in villages



Graph 5.5 The problems faced by youth in urban and rural sectors of India

VI . APPLICATION AND ADVANTAGES

6.1 APPLICATION

1. Argument mapping software helps organising in a logical way these policy statements, by explicitating the logical links between them. Under the research field of Online Deliberation, tools like Compendium, Debatepedia, Cohere, Debategraph have been developed to give a logical structure to a number of policy statement, and to link arguments with the evidence to back it up.

2. Voting Advise Applications help voters understanding which political party (or other voters) have closer positions to theirs. For instance, SmartVote.ch asks the voter to declare its degree of agreement with a number of policy statements, then matches its position with the political parties.

3. Automated content analysis helps processing large amount of qualitative data. There are today on the market many tools that combine statistical algorythm with semantics and ontologies, as well as machine learning with human supervision. These solutions are able to identify relevant comments and assign positive or negative connotations to it (the so-called sentiment).

6.2 Advantages

- Social media analysis.
- Brand awareness.
- Customer feedback.
- Customer service.
- Market research.
- Evaluating marketing campaigns.

6.3 BENEFITS

1. 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.
2. 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.
3. 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.
4. For farmer e-learning etc. facility that will be able to ask there quarries online.
5. 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.

VII. CONCLUSIONS

7.1 CONCLUSIONS

Smart villages became a necessity in current world development scenario. Smart villages are the need of the hour as development is needed for both rural and urban areas for better livelihood and technology will offer effective solution. Smart villages will not only reduce this migration but also irrigate the population flow from urban to rural area as well. Considering education and skill for vocations etc. to village can well channelize the energies of the youth as a powerful tool for the nation. An educated rural youth will be an asset to the country and at most the overall development of the country can be possible with the development of the villages only.

FUTURE SCOPE

7.2 FUTURE SCOPE

1. Smart Security.
2. Smart & effective emergency response systems.
3. Zero tolerance on crime.
4. Smart policing.

5. Smart Sewage treatment facilities.
6. Smart rain harvesting/rain water drainage system.
7. Smart and efficient public transport system.
8. Adequate & latest firefighting systems.
9. Disaster management trained officials (only Disaster Management
10. trained officials from paramilitary/NCC be deployed).
11. Renewable energy/Solar Energy systems should be installed.
12. No beggars (All beggars should be provided residential areas (boarding/ lodging) by Government and provided vocational training to sustain life independently).
13. Smart garbage collection/recycling system should be put in place.Different color coded dustbins should be promoted.
14. Provision for seniors' citizen homes should be made.
15. Smart E- Governance should be put in place.
16. Smart collection of all kind of bills like electricity, gas, water, fares, tolls, property tax etc. should be put in place.
17. Smart/Automated hazard detection, weather forecast, calamities should be put in place
18. Public address system in any emergencies should be put in place.
19. Smart electricity grids compatible with renewable energy systems should be put in place.
20. Latest and affordable medical facilities should be made available

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