

A SOCIOLOGICAL STUDY ON THE STATUS OF INFRASTRUCTURE IN PAIKA PANCHAYAT, RANCHI DISTRICT, JHARKHAND, INDIA

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INTRODUCTION

Infrastructure is generally defined as the physical framework of facilities through which goods and services are provided to the public. The infrastructure sector covers a wide spectrum of services such as **Transportation** (including roadways, railways, airways and water transportation), **Telecommunication, Water Supply, Sewage Disposal, Irrigation, Medical, Educational** and other primary services. Some of these services have a direct impact on the working of a business enterprise, while others are more important from a societal point of view. It contributes to economic development by increasing productivity and by providing amenities that enhance the quality of life. The availability of adequate infrastructure facilities is imperative for the overall economic development of a country. Infrastructure adequacy helps determine success in diversifying production, expanding trade, coping with population growth, reducing poverty and improving environmental conditions.

The relationship between each of the infrastructure sectors and the environment is complex. Infrastructure has got both the positive and negative effects on the individuals, society, economy and the natural environment. A good infrastructure in the form of improved transport can increase the productivity of worker through better management of time spent by them on nonproductive activities. Improvements in water supply and sanitation also can have positive impact on the health of the workers, thereby increasing their productivity. A better infrastructure in various forms helps the poor earning more for their livelihood and thus leading to reduction in poverty and inequality.

The development of a country's infrastructure is vital to the growth of its sectors and the overall economy. India's infrastructure facilities, including transport, sanitation and electricity, are still

estimated to be inadequate for its population, thereby presenting a challenge for sustainable economic growth in sectors such as heavy manufacturing. *This research paper therefore analyses the Government's focus on infrastructure and key factors that are expected to ensure a strong growth in years to come.* The infrastructure sector primarily comprises of electricity, roads, telecommunications, railways, irrigation, water supply and sanitation, ports and airports, storing facilities, and oil and gas pipelines. Recognizing the adverse implications of poor development in some of these sub-segments, the Indian government has significantly increased its infrastructure spending over the last 10 years.

There have been attempts in the literature to show the significant contribution of infrastructural capital, on national output, growth, productivity and interregional competitiveness. The response to these claims has been cautious. It has been argued that these contributions are overstated while ignoring other factors. That there also lies an inverse causality in the argument and that even if the historical relationships are estimated correctly; they provide no clear direction for future policy. Present paper is not an attempt to answer all these criticisms. It is just an attempt to provide one more brush stroke to the emerging relationship of infrastructure availability and productivity growth. It does so by measuring the impact of availability of different type of infrastructural facilities on growth of total factor productivity in state economies in India.

Infrastructural development has been on the top of priority list for governments all over the world. Policymakers believe that appropriate infrastructural investment holds the key to social and economic development and growth. Economists, however, hold a mixed view about the consequences of infrastructural growth. One of the views about infrastructural investment is that high rate of infrastructure growth raises the level of productivity in the current period, and also leads to a higher potential level of output for the future. Infrastructural development also causes economies of scale, and scope that helps reduce costs. *Thus, better infrastructure leads to better standard of living, healthcare facilities, sanitation, schooling, etc.* Although, there are various definitions for infrastructure, the **Rangarajan Committee** has specified that infrastructure should have features that include high sunk cost, natural monopoly, non-rivalry in consumption and non-tradability of output. Highways, railways, ports, airports, telecom and power are classified as infrastructure.

The argument in opposition is that rapid infrastructural development leads to unbalanced form of development process. Consequently, some areas develop rapidly, whereas other areas remain underdeveloped. Population from underdeveloped areas move to developed areas imposing a burden on resources in these areas. This also leads to disparities in incomes, which in the long run can have a detrimental effect on the economy. Rural development generally refers to the process of improving the quality of life and economic welfare of people living in relatively isolated and sparsely populated areas. Good infrastructure includes proper sanitation facilities, safe drinking water, electricity supply, medical facilities, connectivity through roads, technological advancements and others.

To improve the conditions of rural people, Government of India launched several schemes through the Planning Commission such as *Integrated Rural Development Programme (IRDP)*, *Mini-mum Needs Programme (MNP)*, *Public Distribution System (PDS)*, *Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)*, *Indira Awas Yojana (IAY)*, *Integrated Tribal Development Project (ITDP)*, *Pradhan Mantri Gram Sadak Yojana (PMGSY)*, *Integrated Watershed Management Programme (IWMP)* and many more. These schemes were not only meant to develop the infrastructure and quality of life in the rural areas but also to provide the rural population with a source of income. The projects for rural infrastructural development aimed for the overall development of the villages in India trying to reduce the gap between rural and urban people, which would help reduce imbalances and speed up the development process.

The study attempts to find out the impact of infrastructural development on the socio-economic growth in **Paika village in Jharkhand State, INDIA** and also to analyze the difficulties faced by the rural population due to the lack of proper infrastructure in the village.

There does not seem to be a consensus on the importance of infrastructure investments in the process of economic development. With persistent regional disparities, and increasing regional identities, there is a need to determine the drivers of regional growth. Contribution of infrastructure to regional productivity growth is analyzed in this paper. Empirical analysis using data collected from **Paika village on 11th November, 2016** suggests that composition of infrastructure

investment is important in facilitating economic growth. Empirical results also highlight that investments in economic infrastructure have the closest linkage with regional productivity growth.

The paper consists of four parts. *First part* discusses the main findings in the present literature. Since there is no comprehensive measure of infrastructure availability at the village, the *Second section* presents the construction of such data and describes the regional distribution of these facilities in the village. *Third section* deals with formation of tables and graphs accounting for the data collected from the local villagers. The *Fourth section* then uses these data to empirically study and analyze the status of infrastructure in the village and provides recommendations for its further development.

LITERATURE REVIEW

Das, Kesab, (2012) found that infrastructure development is of utmost urgency, and no time should be wasted over such issues as whether there exists a demand for it, whether class and caste factors prevail upon the decision to possess and use such facilities.

Wanmali and Islam (1995, 1997) and **Nicholas Stern (1989)** argue that limiting infrastructure to hard infrastructure such as roads, telecommunications, electrification and irrigation is too narrow, and that soft infrastructure, also termed social infrastructure, is also very important. Soft infrastructure and hard infrastructure are interlinked and interact with one another, and **Wanmali and Islam (1997)** state that Investments in infrastructure and the associated provision of services are integral to the process of development. The key role of hard infrastructure investments in improving agriculture production and facilitating the growth of “soft” infrastructure in developing countries in particular is emphasized (**Ahmed and Donovan, 1992**).

Infrastructure occupies a very important position in the growth process. A number of papers on infrastructural development and growth exist in economics literature. **Aschauer (1989, 1989)** study focuses on the ‘core’ infrastructure such as streets, highways, airports, mass transit, sewers, and water systems which are the important explanatory factors for the productivity of the economy. **Eberts (1986, 1990)** work at the regional level concludes that there is a positive relationship

between infrastructural growth and economic development. **Duffy-Deno and Eberts (1991)** suggest that the regional infrastructural development has a positive role for the development of the economy. **Eisner (1991)** determined a direct relationship between regional infrastructural development and economic growth. **Feltenstein and Ha (1995)** studied the relationship between infrastructure and private output in 16 sectors for Mexico and found that the availability of better quality infrastructure in electricity and communication generally reduces the cost of production, but that transportation infrastructure tends to increase the costs of production.

In the Indian context, **Jha and Sahni (1992)** examined the efficiency of the most important infrastructure facilities like gas, electricity and railways sectors by estimating trans-log cost functions. **Raghuraman (1995)** observed that the Indian infrastructural sectors are having problems in growing according to the actual need. **Sankaran (1995)** concluded that the development of infrastructure in India faced problems for the last decade. **Nair (1995)** pointed out the problems faced by telecommunication sector in India. In an extensive field survey based study concerning evaluation of an intervention under the Integrated Rural Sanitation Programme conducted in north Gujarat, **Leela, Visaria (1998)** learnt that most beneficiary households reported the use of latrine facility by all members of the household.

Chatterjee, Partha (1997), said that, with the government and bureaucracy coming under severe criticism for their laxity, mismanagement and general distancing from the concerned people, the hitherto inconspicuous so called non-governmental and voluntary organizations (NGOs) were considered to be 'closer' to the people and could deliver effectively.

Similarly **Purkayastha and Ghosh (1997)**, **Ramanathan (1997)** and **Shah (1997)** also highlighted the problems related to various infrastructural sectors in India. **Shalini (2009)** and **Escobal (2001)** promote that infrastructure development, where importance is given to development of roads, suggesting that it helps development by increasing efficiency and reducing poverty. **Sharma (2008)** on the other hand, while analyzing the impact of industrialization on development in Himachal Pradesh observed that industrialization has no significant impact on economic and social development. **Pendley, Charles (1997)**, observed that the supply driven approach has been undermined for its inefficiency, and demand responsiveness and involvement of local community have been underscored as the most effective mechanism for providing drinking

water in rural areas. **Sen, Sidharatha (1999)**, found that with the growing proclivity towards economic liberalization and reforms, the state increasingly expected the NGOs not only to emulate its own agenda and pattern of development, but also to actually assume governmental role in rural development.

Binswanger (1993) in a study of 13 States in India observed that investments in rural infrastructure lowers transportation costs, increases farmers' access to markets and leads to substantial agricultural expansion. **World Bank studies (1994)** showed that the growth of farm productivity and non-farm rural employment is closely linked to infrastructure provision. This has considerable significance since most poor households in developing economies are in rural areas. The effects of infrastructure accentuate the process of commercialization in agriculture and rural sector (**Jaffee and Morton, 1995**). It can also lead to a conversion of latent demand into effective commercial demand. **Fan et al (1998)** showed that rural infrastructure is not only an important driver for total factor productivity [TFP] growth, but also directly contributes to a substantial reduction in rural poverty.

Shah (1970) studies the pattern and level of infrastructural facilities inherited by India on her independence, and the trends during the first fifteen years. He also attempts to relate the level of per capita income of Indian states with their level of infrastructural development and suggests that a strong correlation exists between them. **Tewari (1984)** examines the interrelationship between economic infrastructure and development, and tries to identify the role of the former in the latter through analysis of state level data at two time points, 1970-71, and 1980-81. He obtains a significantly positive relationship between infrastructure and development, and especially economic infrastructure. **Dadibhavi (1991)** surveys levels of social infrastructure in the states of India over the period 1970-71 to 1984-85 using educational and health facilities as indicators.

J. Dean Jansma and Frank M. Goode (1976), Rural Development Research: "Conceptualizing and Measuring Key Concepts" In this research paper the researcher explain the conceptual basis for rural economic development. He said rural economic development is assumed to be reflected by increase in employment and/or income. **Kenneth L. Deavers (1980)**, "Social Science Contributions to Rural Development Policy in the 1980s". In this research paper author said, rural development policy involves deliberate action by federal, state, and local governments and private

institutions and individuals to achieve the goals. **Clark Edwards (1976),**” The Political Economy of Rural Development: Theoretical Perspectives”. In this paper the author said that the rural and urban sectors of the economy are strongly interlinked.

According to **Wharton [1967]** agricultural infrastructures are categorized into [i] capital intensive, like irrigation, roads, bridges [ii] capital extensive, like extension services and [iii] institutional infrastructure, like formal and informal institutions. Infrastructure, such as irrigation, watershed development, rural electrification, roads, markets, in close coordination with institutional infrastructure, such as credit institutions, agricultural research and extension, rural literacy determines the nature and the magnitude of agricultural output in India.

In evaluating the contribution of road infrastructure to economic growth and poverty, **Fan and Chan-Kang (2005)** examine the roles of different classes of roads and conclude that roads of a lower standard have larger impact on rural development and poverty reduction than those with higher standards. **Paul Evans and Georgios Karras (1994)** find fairly strong evidence that government educational services are productive and no evidence that the other government activities considered are productive. **Zhu (1990)** studies the impact of a highway project in different phases and finds that the role of the project in the local economy varies by construction period. Villages with better access were found to be significantly better off in a number of areas including agricultural production, household income, wage income of landless labor, health and participation of women in the economy (**Ahmad and Hossain, 1990**).

Access to all-weather roads in 15 villages in Ethiopia reduced the incidence of poverty by 6.7% (**World Development Report of World Bank, 2008**). According to **Mathur L (2007)**, a system of regular and continuous flow of authoritative information is essential, as opposed to the random reports and studies dependent on the initiative of individuals and groups. To improve implementation, the government needs to solve problems, modify policy directives, and issue operational guidelines for the district, block and village levels.

THEORETICAL FRAMEWORK

The Social Development Theory- Propounded by **Leo Vygotsky**, “*Social Development theory attempts to explain qualitative changes in the structure and framework of society that help the society to better realize aims and objectives.*” Infrastructural development in the villages is necessary for the overall development of the rural society.

The Social Development Theory (SDT) mainly asserts that social interaction has a vital role in the cognitive development process. Through the Social Development Theory, Vygotsky states that the cultural development of a child is firstly on the social level called interpsychological, and secondly on the individual or personal level called intrapsychological. With proper infrastructure, children get proper education and proper cultural exposure through which he learns about the society and adapts to the changes. *Proper roads, school buildings and sanitation facilities play an important role in the all-round development of the children as well as the complete rural society.*

The Functionalist Theory- According to **Emile Durkheim**, “*Functionalism views society as a system composed of social institutions, each of which is designed to fill different needs. All the parts depend on each other.*” Infrastructure is one of the core institutions essential for the proper functioning and development of the society.

Functionalism is a theory that states that societies contain interdependent structure, each of which performs certain functions essential for societal maintenance. *Schools, hospitals, educational institutions, administrative bodies are a good example of structures that perform a defined function essential for the reproduction of society.* Functionalism is associated with ideas of conflict and stability. Applying this theory can help us understand why the status quo is maintained and the effect that infrastructure has on the rural society and rural development. This is important for community development because in many situations the change that community development aims for are harder to achieve than we might think. Structural functionalism has its origins in anthropology where it is still being used for understanding social structures.

The Conflict Theory- **Karl Marx** propounded the “*conflict theory which focused on class conflict between Bourgeois, i e, the elite class and the Proletariat, i e, the working class.*” Infrastructure and

technological advancement in rural areas will help the abridgment of the gap between the rural and the urban population and help reduce migration.

Conflict theory sees social life as a competition, and focuses on the distribution of resources, power, and inequality. According to the conflict perspective, society is made up of individuals competing for limited resources (e.g., money, leisure, power, etc.). Competition over scarce resources is at the heart of all social relationships. Competition, rather than consensus, is characteristic of human relationships. Broader social structures and organizations (e.g., religions, government, etc.) reflect the competition for resources and the inherent inequality competition entails; some people and organizations have more resources (i.e., power and influence), and use those resources to maintain their positions of power in society. In the scenario of scarce resources, it is important to speed up the development processes in village areas. *This can only be achieved through proper infrastructural development. By efficient construction of roads, railways and other transport facilities, medical shops, clinics, hospitals, drainage system, sanitation, drinking water facility and educational buildings, village infrastructure can efficiently be developed.* This way the village society will develop and be able to compete for its resources, the rural society will develop and progress.

The Social Solidarity Theory – In Mechanical solidarity given by Émile Durkheim, social cohesion and integration comes from the homogeneity of individuals, people feel connected through similar work, educational and religious training, and lifestyle. **Organic solidarity** comes from the interdependence that arises from specialization of work and the complementarities between people, a development which occurs in modern and industrial societies. It is social cohesion based upon the dependence individuals have on each other in more advanced societies. Although individuals perform different tasks and often have different values and interests, the order and very solidarity of society depends on their reliance on each other to perform their specified tasks.

Organic here is referring to the interdependence of the component parts. Thus, social solidarity is maintained in more complex societies through the interdependence of its component parts (e.g., farmers produce the food to feed the factory workers who produce the tractors that allow the farmer to produce the food). *This development herein talks about the advanced and modern society.*

Infrastructure development can bring modernization in the village resulting in social cohesion and social solidarity where one part of the society works and supports the other part of the society. Infrastructure development results in the development of the rural society therein propagating social development and solidarity.

1. **Modernization Theory-** Modernization theory is used to explain the process of modernization within societies. Modernization refers to a model of a progressive transition from a 'pre-modern' or 'traditional' to a 'modern' society. Modernization theory has conflated modernization with Westernization. In this model, the modernization of a society required the destruction of the indigenous culture and its replacement by a more Westernized one and this is how it affects the culture and tradition of the society.

Modernization theory has evolved in three waves. The first wave appeared in the 1950s and 1960s. One made the attempt to explain the diffusion of Western styles of living, technological innovations and individualist types of communication (highly selective, addressing only particular persons) as the superiority of secular, materialist, Western, individualist culture and of individual motivation and achievement (**Lerner, 1958, Schramm, 1964**).

Infrastructure development is a major form of bringing up modernization in the village areas. With the advancement in technology, irrigation facilities, communication and transport, rural development can be achieved. A modern society needs a good infrastructure. Thus, it plays an important role in the process of rural development.

2. **Culture Theory-** According to this theory culture exhibits the way that humans interpret their biology and their environment. According to this point of view, culture becomes such an integral part of human existence that it is the human environment, and most cultural change can be attributed to human adaptation to historical events. Moreover, given that culture is seen as the primary adaptive mechanism of humans and takes place much faster than human biological evolution, most cultural change can be viewed as culture adapting to itself according to its environment. This is the reason why culture changes because of the modernization.

There are certain elements of culture-

- Symbols: Anything that carries particular meaning recognized by people who share the same culture.
- Language: A system of symbols that allows people to communicate with one another.
- Values: Culturally defined standards of desirability, goodness, beauty and many other things that serve as broad guidelines for social living.
- Beliefs: Specific statements that people hold to be true.
- Norms: Rules and expectations by which a society guides the behavior of its members. The two types of norms are mores and folkways. Mores are norms that are widely observed and have a great moral significance. Folkways are norms for routine, casual interaction.
- Behavioral patterns: The typical manner in which people perform *production* (e.g., manual, manufactured, automated in various degrees), *communicate* (e.g., language content, technology choices), mark significant events (e.g., rituals of endorsing values and of punctuating steps in personal life), satisfy basic needs (e.g., for dwelling, feeding, security, sex, reproduction, entertainment), and the like.
- Social institutions: Patterns of organization and relationships regarding *governance, production, socializing, education, knowledge creation, arts*, and relating to other cultures.
- Artefacts: Distinct material objects, such as architecture, technologies, and artistic creations

These all are the elements of culture and the culture theory explains that how these elements are dynamic in nature and what are the effects of infrastructure development on these elements. *The following research paper, later will be dealing with the effects of infrastructure on the rural society and its socio- cultural effect on the rural population.*

RELEVANCY OF THE RESEARCH PROBLEM

Infrastructural development provides a higher standard of livelihood which will have an impact on reducing migration, restricting child labor, alleviating poverty, and making villages self-sustaining through productive assets creation such as road construction, cleaning up of water tanks, soil and water conservation work, etc. For which Governmental policies and schemes have been put

forward and considered to be one of the most important programmes in India to enhance the living standard of rural population.

The term rural development is the overall development of rural areas to improve the quality of life of rural people. And it is a process leading to sustainable improvement in the quality of life of rural people, especially the poor. The rural developmental programmes intend to reduce the poverty and unemployment, to improve the health and educational status and to fulfill the basic needs such as food, shelter and clothing of the rural population. But it is important to examine how efficiently the schemes are being implemented and how much benefit has been obtained by it in overall development of the rural society.

OBJECTIVES OF THE RESEARCH

- a) To assess the extent to which Governmental schemes have succeeded in achieving its objectives of making a positive impact on communication, transportation, sanitation, literacy, power supply and health care in rural areas.
- b) To understand and examine the problems faced by the village population due to the lack of proper infrastructure.
- c) Suggestions and recommendations to improve infrastructure in the rural areas.
- d) To assess and acquire new insights on development of Governmental policies as well as overall socioeconomic impact of different rural development programmes on the lives of the rural people.

RESEARCH HYPOTHESIS

- Overall development of rural areas cannot be achieved with inadequate infrastructure.
- Poor infrastructure hampers the proper implementation of various Schemes and Programmes.

- Lack of safe drinking water, power supply, sanitation, medical care and transportation have lead Indian villages in backdrop and hindered the development process.
- Poor infrastructure in villages has promoted migration to urban areas and cities.
- Rural people face difficulties in day-to-day life due to lack of technology and basic human facilities.
- The literacy rate still remains poor due to the lack of educational facilities in villages.
- There is loss in health as a result of inadequate medical facilities in the village area.

RESEARCH METHODOLOGY

This research involves collection of primary data from individuals of rural areas and secondary data from different sources based on the evaluation of data and materials collected from the studies of various social scientists working in the field. The data used is collected by quantitative research methods from the rural population.

- **Research Design:** The research design which is used in this project is Explanatory in nature. Field research and Analysis has been conducted to collect data relating to the topic from the people of village. This will be providing the answer for the impact of infrastructure development on the rural society.
- **Population of Study:** Paika G.P, Angara Block, Ranchi District, Jharkhand formed the population of the study and the data is collected from them. This research is limited to the rural society, means the population of the research study is the rural society.
- **Sample size and Sample design:** Stratified Random Sampling is used in the present research and the sample size being the 15 respondents from the village from whom the data was collected.
- **Method of Data Collection:** Quantitative Method of data collection is used in the present method, that is, the Interview Schedule.

The research is based on the primary data i.e. the data which is collected during the survey through the interview method. The research paper also relied upon previously conducted researches, articles, theories, data uploaded by the Government and the books. The research is also based on

the data which is already there, the main aim of the research study is to organize that data and to use it to find out the objectives of the study. The project is also containing empirical research. The data which is collected through interview method is compared with the previous data available and also it is used to prove and disprove the hypothesis of the research project.

VILLAGE PROFILE: PAIKA



Picture 1:- The beautiful village of Paika

Location: Paika is a beautiful village located in **Angara Block** of **Ranchi district** in **Jharkhand**. Located in rural part of Ranchi district of Jharkhand, it is one among the several villages in Angara Block of Ranchi. It is **10 Kms** from the Angara Block and **45 Kms** from the state capital Ranchi. This village falls in the lap of nature surrounded by hills and yellow paddy fields ready to harvest. Most of the people busy in agricultural activities, this village earns its bread from serving Mother Nature.

Population: As per 2009 statistics, Paika village is also a gram panchayat. Paika G.P has a population of about **4000**. Sex ratio of the village is quite good. Nearly about 80 percent of the total population of the village belongs to the adult and the children group. This village has approximately 276 children in the age bracket of **0-6 years**. Out of this 139 are boys and 137 are

girls. Literacy rate in Paika village is **53%**. In males the literacy rate is **63%** while female literacy ratio is **41%**. The dark portion is that illiteracy ratio of Paika village is **46%**. The village joyfully celebrates of Sarhul, Sarana, Diwali, Durgapuja, Markar Sankranti festivals every year. Local languages are Hindi and Nagpuri.

Major Observations: Paika is an underdeveloped village with most of the people living in mud houses. **Agriculture** is the major source of livelihood. Villagers cultivate food grains as well as vegetables for self-utilization. The remaining is sold in the nearby market. But most of the villagers mentioned that there is rarely any extra productivity for sale. The society is dominated by **Tribal** and **OBC population** and rural migration is common in the village due to the lack of educational and job opportunities. **Hadia** and **Mahua** are major forms for alcohol intake.

Unemployment rate is extremely high and most of the people are in the BPL category. Tube well and wells form the major source of drinking water as well as for the irrigation purposes as there are no modernized and permanent irrigation facilities. **Rural poverty** is one of the important feature of the village. There are three schools in the village where participation of girls is more than that of boys. In this village **women** are more active and participating in socio-economic development of the village. They take care of the kids, cook, do household chores and also manage to work at the field.

This being the harvesting season, most of the houses were found empty and the field filled with both men and women busy slicing the ripe paddy shoots. There is a weak local governance system and the panchayat is not properly functional. The panchayat is implementing **MNREGA** but villagers do not receive wages in time. The government is also trying to implement NRLM, MNREGA and toilet construction project.

FIELD OBSERVATIONS

- **Development:** Situated in the remote part of the Ranchi district in Jharkhand, Paika G.P is devoid of many basic facilities. The infrastructure in the village is very poor. The village consists mostly

Mud House. The only pukka building which is easily traceable is the school building of the village. There is no sanitation system in the village. **Construction** of road is still taking place under MNREGA but the workers do not receive payment in time. There are electric poles in the village, but electricity is not available all the time. Most of the villagers do not have **electricity connection**. Illegal methods are used to fulfill the electricity requirements. Source of Drinking water are **Tube wells** and **wells**. There is no facility provided from the side of government. The village is adopting modern techniques but only few can afford it.

Mobile phones are common but **Television** is available in only few households. There is no **hospital** in the village. There is one hospital located in **Tatisilwai** which is **17 kms** from the village, this centre is fully functional. But for better treatment they have to go to **Ranchi** which is about **45 kms** from the village. The village also lacks in the awareness programs, there is not any such facility.



Picture 2:- Implementation of MNREGA in Paika village

- **Education-** There are **three** schools in the village up to class 10th. Only one Private school. Majority of the elder class of the village is illiterate. But the enrolment rate in the primary school is very high and it was impressive. The thing about the village which attracts the attention was that the participation of girls in school is more than boys. The schools are well equipped with all the necessary instruments required for the standard education level with regular **mid-day meals**

provided to the students. Most of the people migrate to **Tatisilwai** or **Ranchi** for further education and college studies.

- **Employment-** It is one of the major problems from which the village is suffering. MNREGA was implemented for the construction of roads and providing employment to villagers. But this totally failed as most of the workers did not receive payment in time. There is a high level of **unemployment** in the village because of which rural migration is evident. People migrate to **Ranchi** and **Tatisilwai**. Rural Poverty is one of the important features of the village and one of the reasons behind it is the rate of unemployment. The major occupation of the people of the village is agriculture but there are **no irrigation** facilities. Women are more active and participating in socio-economic development of the village but there is a weak Local Governance System in the village. Panchayat is not functional in the village. Poor infrastructure raises difficulties in conveyance and communication.

LIMITATIONS OF THE STUDY

1. To begin with, a sociologist has his/ her prime responsibility towards the sponsor or research organization he belongs to. We had to confine our research within the object and scope of the organization. Such are the **moral obligatory limits** of a researcher.
2. **Time factor** is a major limitation to the data. We were in the village premises for only **4-5 hours**. There was a limitation of time in which all the data was to be gathered. Also, responses varied with time periods. For ex- if the researcher arrives at the primary school on the day when there is a holiday. Or, when a researcher arrives late in the day to the village to seek random respondents, he may find very less number of respondents as most are away on work at their farms.
3. The researcher has to respect the rights of the community i.e., the people who shall be reading the research and also the respondents. We must essentially respect the secrecy, privacy, reputation and respect of the respondents.

4. The **language barrier** at times becomes a major limitation. The rural and tribal language as against the language of a professional researcher rendered the very conduct of the research implausible.
5. **Ignorance** is indeed the mother of all troubles. Majority of the rural population remained in the dark with regards to the Governmental Schemes. They could not answer what they didn't know.
6. **Fore warning effect-** A psychological terminology which means that we devise a defense mechanism when we know someone is coming to convince us for something. After we interviewed a few respondents the rest avoided us for petty reasons as they developed a defense mechanism till then. For example, that they have some other important work.
7. **Staunch and rigid social constructs-** These are the social barriers we experienced at time of collecting information. The respondents sometimes responded as per their own constructs. They made such responses as to direct or control the outcome of the research.

DATA ANALYSIS AND DATA INTERPRETATION

S No	Types of Family	Number	Percentage %
1	Nuclear Family	7	46.7%
2	Joint Family	8	53.3%

Table No.-1 -Distribution of Family of the Respondents [1]

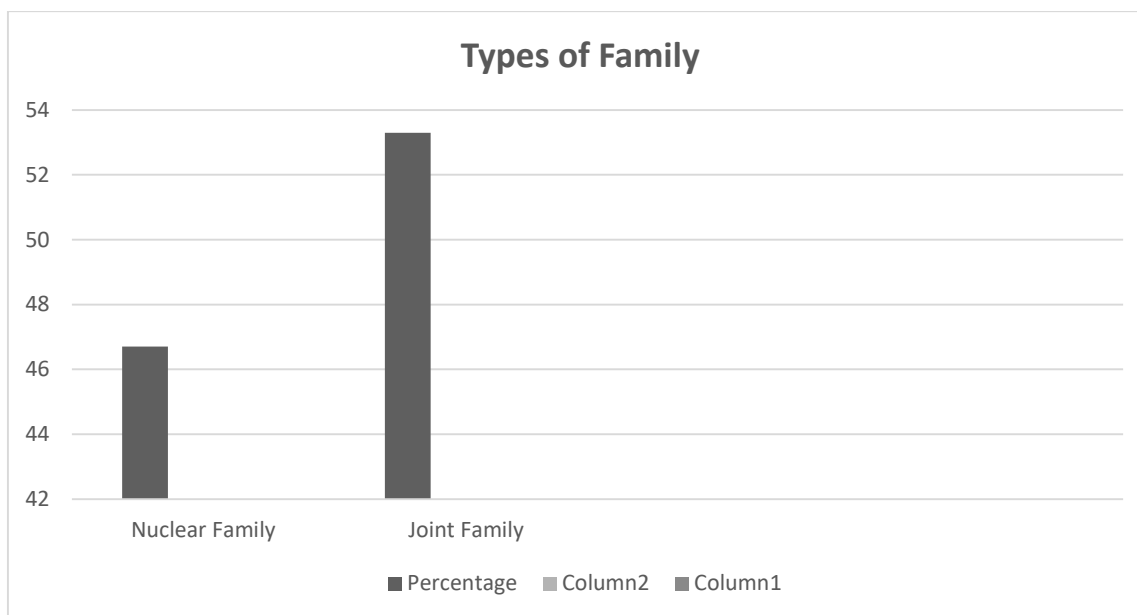


Chart No.-1- Distribution of Family of the Respondent [2]

Most of the Respondents from whom the data was collected lived in a joint family. This is the evidence of social cohesion. Social bonding is more in the rural areas. The respondents are comfortable in living in a joint family due to social security and financial reasons. And they plan to continue living in the same manner. 7 out of 15 individuals lived in nuclear families majorly due to family differences. In some families only parents and the old age people resided as the youngsters have migrated to other cities and towns in search of job opportunities or to continue their further education.

S No	Age (in years)	Number	Percentage %
1.	Below 20	1	6.7%
2.	20-50	11	73.3%
3.	Above 50	3	20%

Table No. 2-Age Group of the Respondents [3]

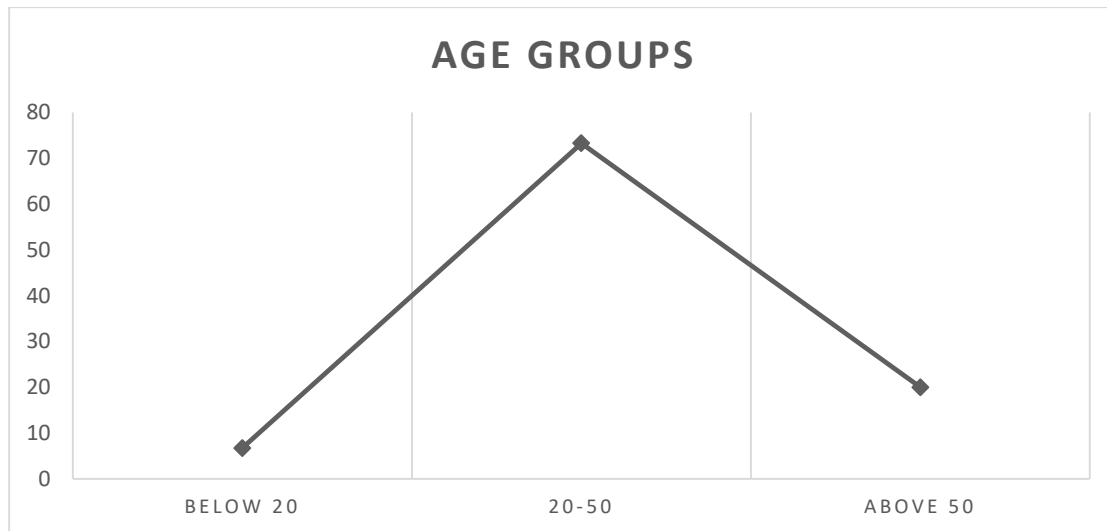


Chart No. 2 -Age Group of the Respondents [4]

Most of the respondents from whom the information was conducted belonged to the age group of 20 to 50 years of age. Only one student of 19 years was available for interview. Most of the youngsters leave the town and migrate to different towns or to cities like Tatisilwai and Ranchi. The interview taken from the people of more than 50 years was a troublesome task as most of them were unaware of many governmental schemes and infrastructure development schemes.

S No	Types of Occupation	Number	Percentage %
1	Agriculture	8	53.3%
2	Laborer	1	6.7%
3	Business	1	6.7%
4	House wife	4	26.6%
5	Other	1	6.7%

Table No. 3- Distribution of Occupation of the Respondents [5]

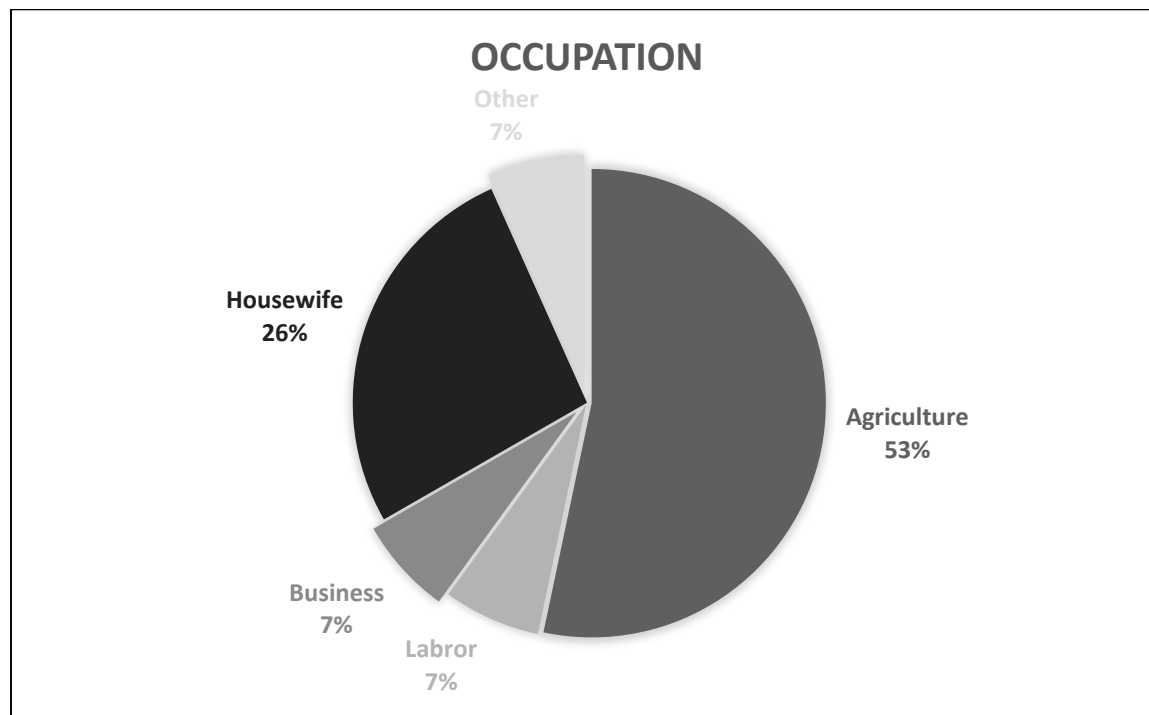
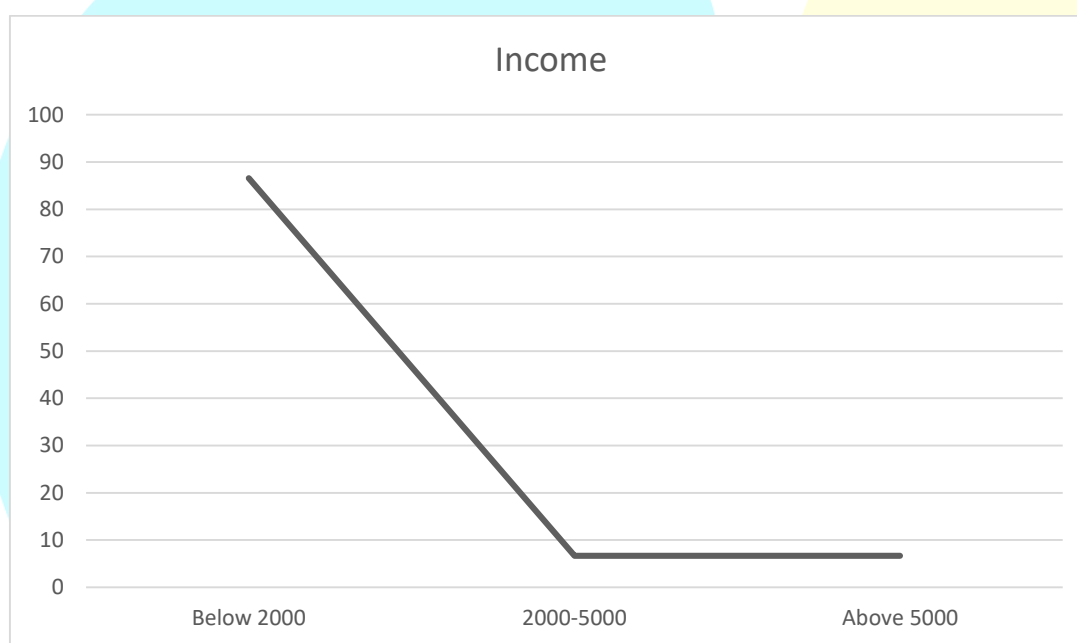


Chart No.3 -Distribution of Occupation of the Respondents [6]

Most of the respondents earned their living from agriculture activities. They cultivate food grains as well as vegetables for self-utilization. The remaining is sold in the nearby market. But most of the villagers mentioned that there is rarely any extra productivity for sale. All the food grains and vegetables are used for self-consumption. Most of the women from whom the interview was taken were housewives unaware of worldly affairs. They take care of kids and do household chores. They help the men in the agriculture seasons. One of the respondent was a labor who did part-time plumbing job. A grocery shop was owned by a respondent who also did agricultural activities. All the items in the shop were brought from Ranchi.

S No	Income (in Rs.)	Number	Percentage %
1.	Below 2000	13	86.6%
2.	2000-5000	1	6.7%
3.	Above 5000	1	6.7%

Table No. 4- Income of the Respondents monthly [7]**Chart No. 4- Income of the Respondents monthly [8]**

Most of the Respondents busy in agricultural activities have an income of less than Rs. 2000 per month. This is the reason they are devoid of many basic facilities such as Television, mobile phones and health care facilities. Saving from such low income is expected to be very low. Only one respondent earned more than Rs. 5000. He was the one with the grocery shop business. He supplied grocery and household items to most of the villagers. But it has to be noticed that most

of the people of the village dependent on agricultural activities have very poor income, insufficient to meet their basic needs.

S No	Educational Background	Number	Percentage %
1	Illiterate	4	26.7%
2	Primary Schooling	5	33.3%
3	Secondary Schooling	6	40%

Table No.5 -Educational Background of the Respondents [9]

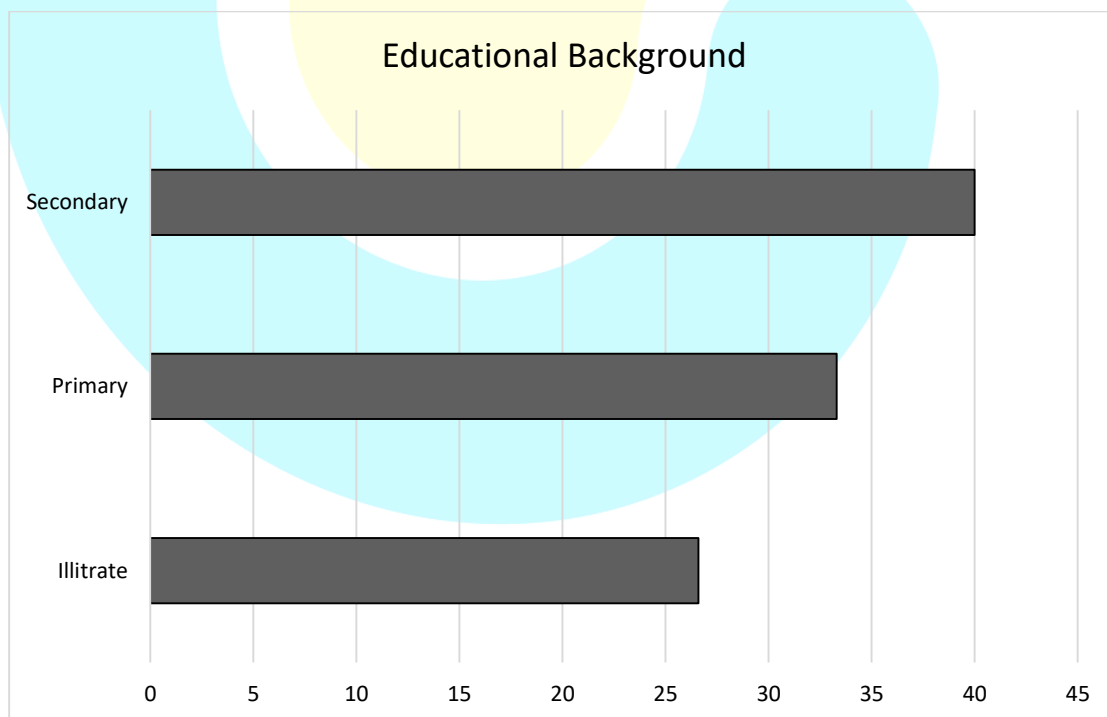


Chart No. 5-Educational Background of the Respondents [10]

Most of the respondents have studied till Metric. The village lacks proper infrastructure due to which students are not able to continue their education. There is no college. Interested students migrate to Ranchi or to Tatisilwai for further studies. There are only three schools in which one of the schools is Private. Most of the respondents complained about lack of teachers in schools. Also that many teachers are absent from school during class hours. For secondary education, there is a Government school or students can migrate to different city or town. Most of the housewives in the village households are illiterate.

S No	Type of technology	Yes	No
1	Mobile	15	0
2	Television	5	10
3	Vehicle	2	13
4	Radio	2	13

Table No. 6- Knowledge and use of Technology by the respondents [11]

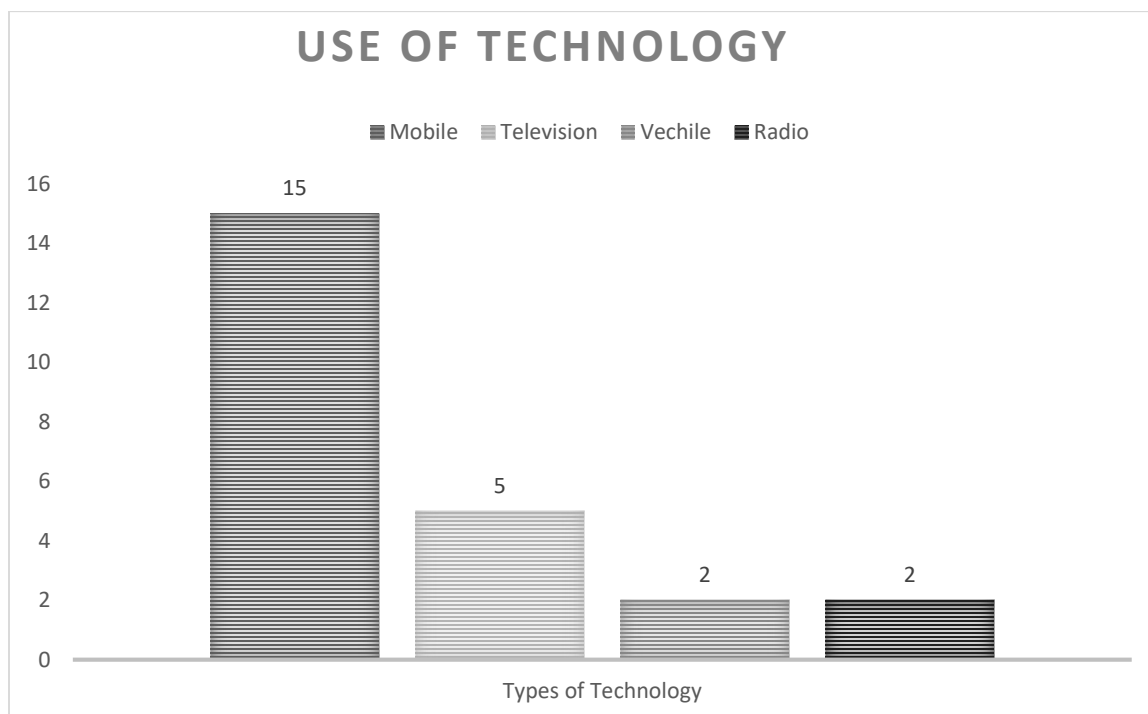


Chart No. 6- Knowledge and use of Technology by the respondents [12]

From the above charts, it is evident that all of the Respondents have Mobile phones. Only 5 out of 15 respondents have Televisions at home. Most of the villagers use television only for important news or programs at neighbor's house. Radio is used by very few people. Only two villagers responded positively. Majority of the village population use public transport and very few of them own private vehicles.

S No	Basic Facilities	Yes	No
1	House (Kutchra)	15	0
2	Bathroom	2	13
3	Electricity	15	0

Table No. 7- Basic facilities in the house [13]

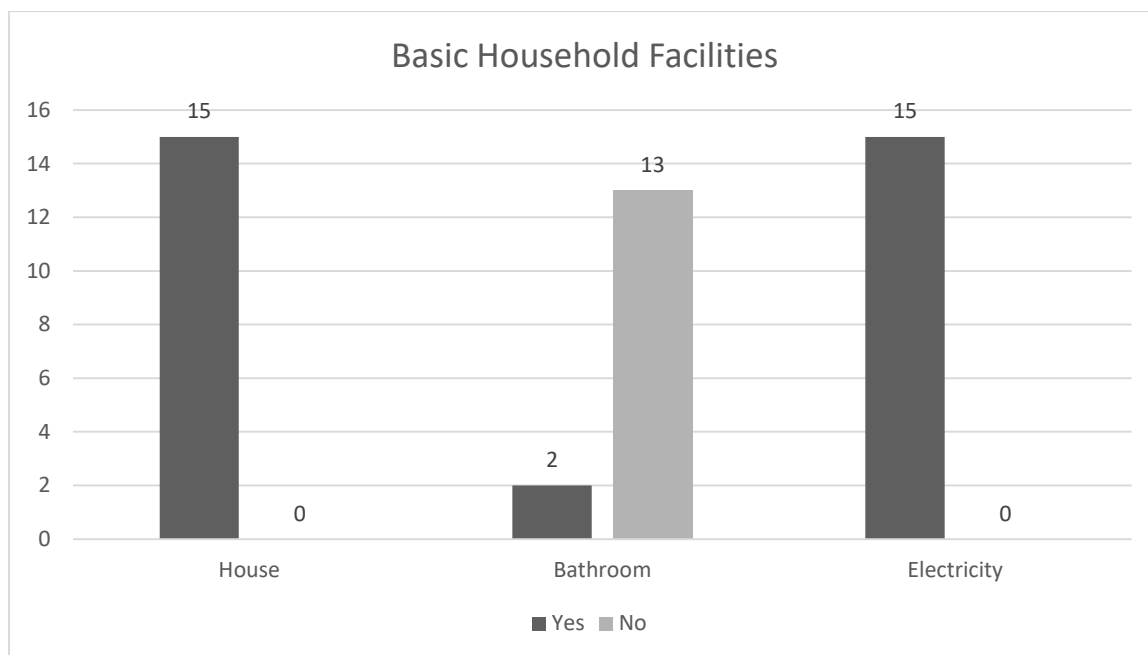


Chart No. 7- Basic facilities in the house [14]

Poverty is prevalent in the Paika G.P. Almost all the respondents resided in Kutchha houses. Poor infrastructure is evident in this village. Most of the respondents, i.e., 13 out of 15 respondents do not have bathrooms in their house. In some of the households, bathrooms are under construction as per the Government Scheme. Almost all the houses have electricity facilities. Some people admitted the fact that they use illegal practices for electricity supply at their homes as most of them cannot afford electricity bills.

S No	Sanitation Facilities	No. of Households	Percentage %
1	Bathroom at home	2	13.3%
2	Under Construction	4	26.7%
3	No Bathrooms	9	60%

Table No. 8- Sanitation Facilities in the households [15]

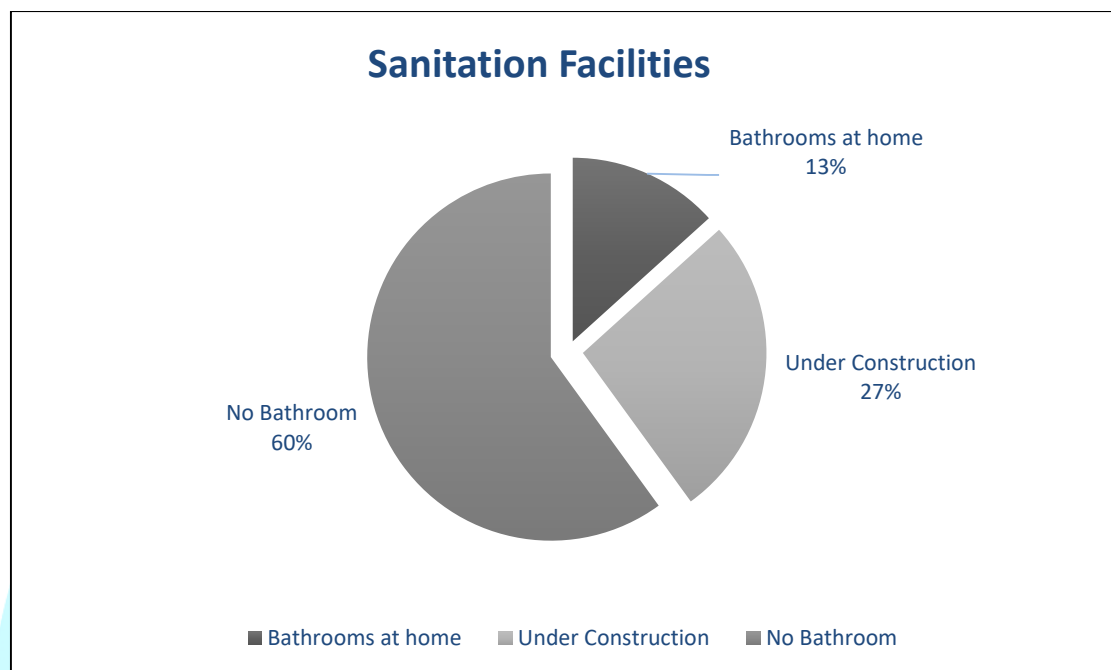
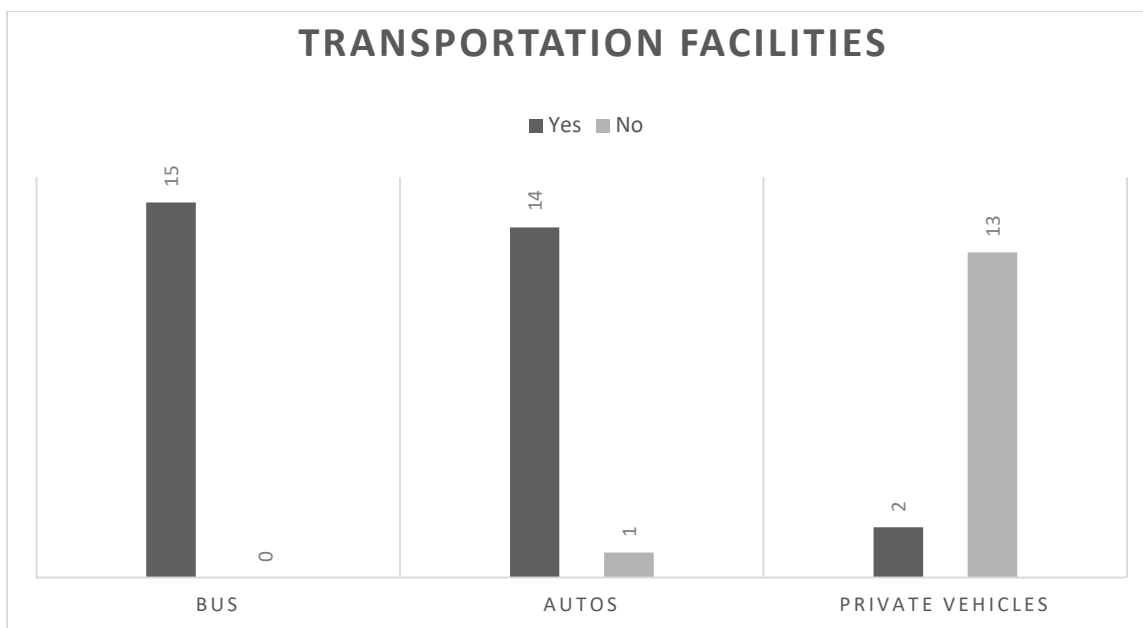


Chart No. 8- Sanitation Facilities in the households [16]

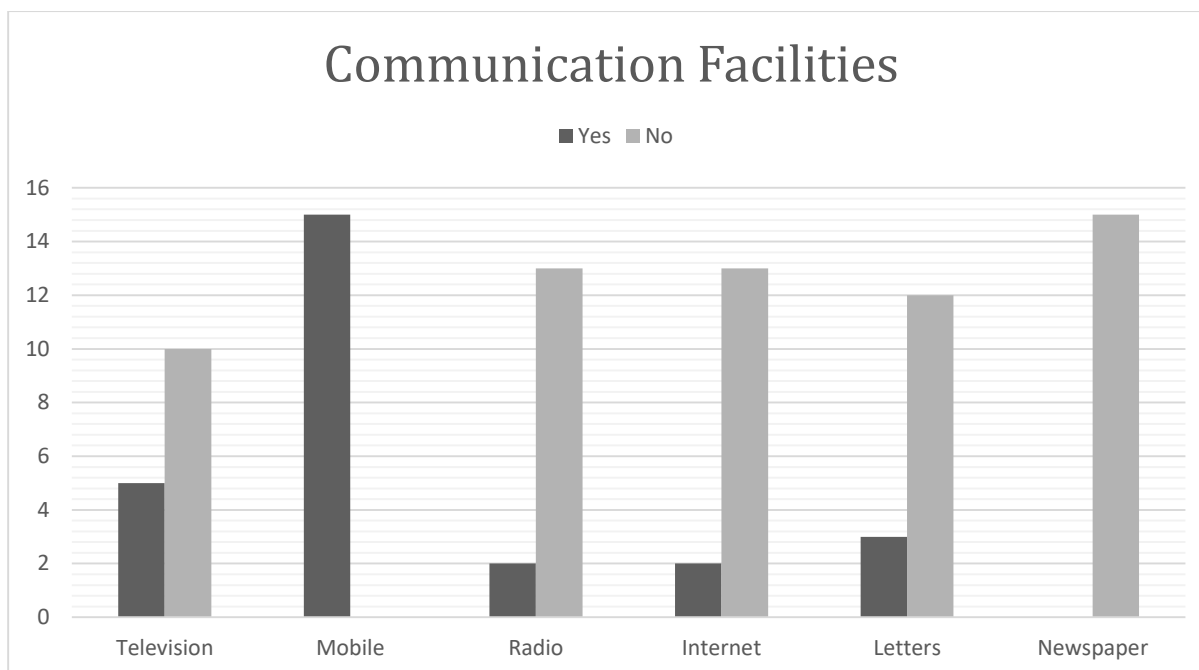
Paika being an underdeveloped village, people are devoid of many basic facilities. People do not even have proper sanitation facilities at homes. 60% of the respondents did not have any bathroom. Only 27% had bathrooms under construction as per the Governmental scheme. Still, 13% of the respondents did not have any bathroom. They go to the fields and forests for sanitation purposes. This is highly unhygienic and results in number of health problems.

S No	Transportation Facilities	Yes	No
1	Bus	15	0
2	Autos	14	1
3	Private Vehicle	2	13

Table No. 9- Transportation Facilities in the village [17]**Chart No. 9- Transportation Facilities in the village [18]**

The village has inadequate transportation facilities. There is only one Bus service which is Private and plies daily from Paika to Tatisilwai at 7.00 a.m. daily. Most of the villagers use Autos as a means of transportation to travel and transport goods and services. Some respondents went daily to Tatisilwai in search of job opportunities by bicycle. Only few of the respondents own private vehicles. Bikes are commonly used to travel within the village. Almost all respondents walked bare foots to the agricultural fields for harvesting the crops.

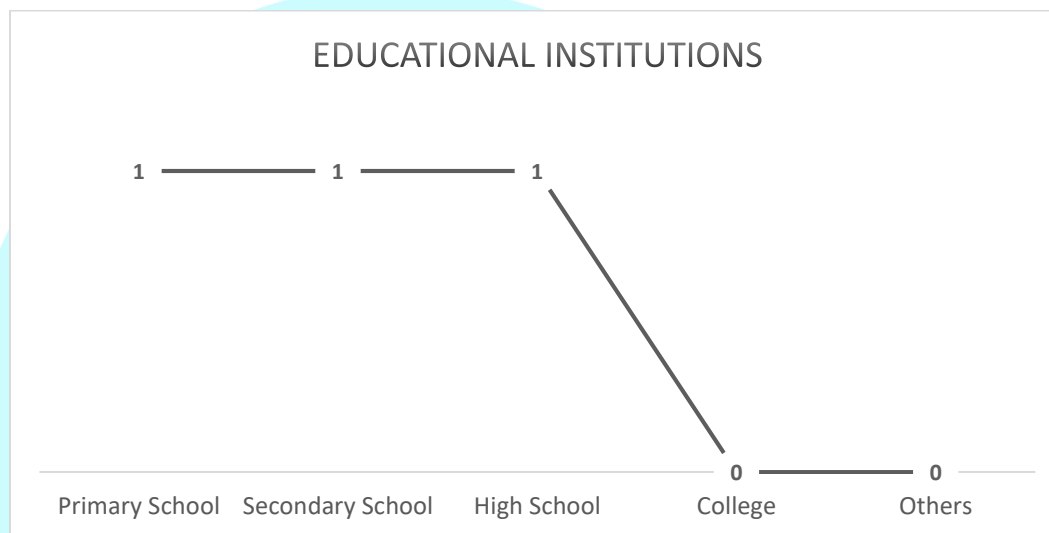
S No	Communication Facility	Yes	No
1	Television	5	10
2	Mobile	15	0
3	Radio	2	13
4	Internet	2	13
5	Letters (Post Office)	3	12
6	Newspaper	0	15

Table No. 10- Communication Facilities in the households [19]**Chart No.10- Communication Facilities in the households [20]**

The village lagging behind in the fields of infrastructure got me in surprise when it was found that all the villagers used mobile phones. Although some of them did not own them but at least one of the family members had mobile phones. Very few households had Television. Most of them went to the nearby shop or neighbor's house to watch television. Radio was used by only 2 respondents out of 15. Very few villagers were aware of internet facilities. The respondents who used internet used it for gaining information or reading news on the mobile phone. The number of respondents sending and receiving letters was very low. Paika G.P. not having a Post Office can be a crucial reason for the same. None of respondents received newspapers at home. This justifies the fact that majority of them are unaware of new governmental development schemes.

S No	Educational Institutions	Number
1	Primary School	1
2	Secondary School	1
3.	High School	1

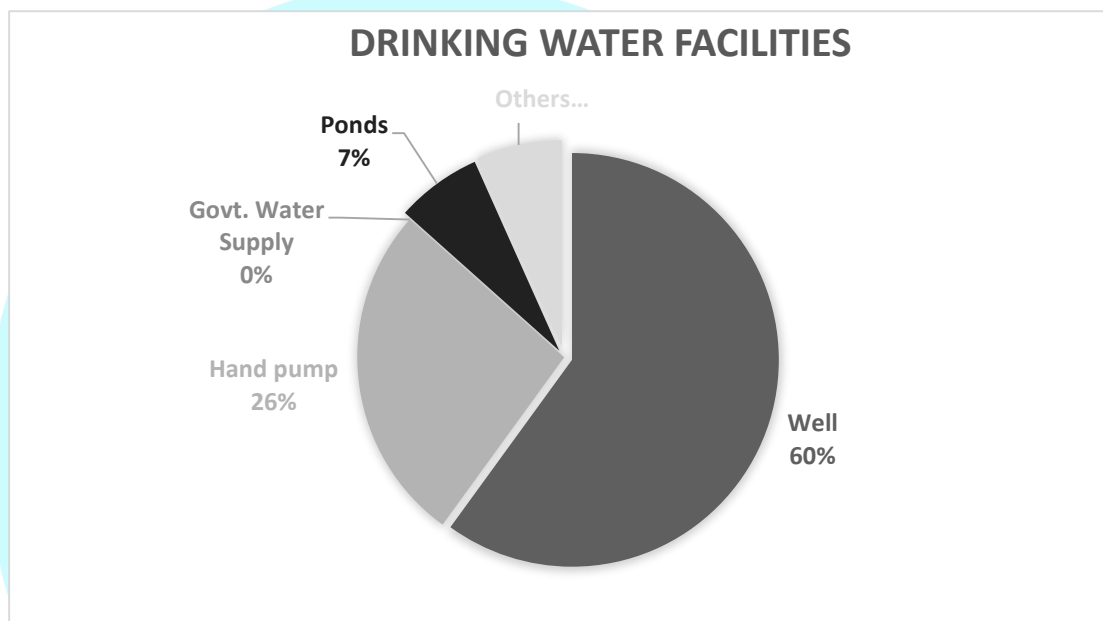
4.	College	0
5.	Other Educational Institutions	0

Table No. 11- Educational Institutions in the Village [21]**Chart No. 11- Educational Institutions in the Village [22]**

There are altogether three schools in the village. One is primary school. The government secondary school is till class 8th. The private school has been built to facilitate students to complete their schooling till metric. The respondents complained that the government school lacked teachers and the teachers are absent during working hours which causes damage to the education of the child. There is no college or any other educational institution in the village. Most of the students move to Tatisilwai or Ranchi to continue their education.

S No	Drinking Water Facility	Number	Percentage %
1	Well	9	60%
2	Hand pump	4	26.6%
3	Govt. Water Supply	0	0

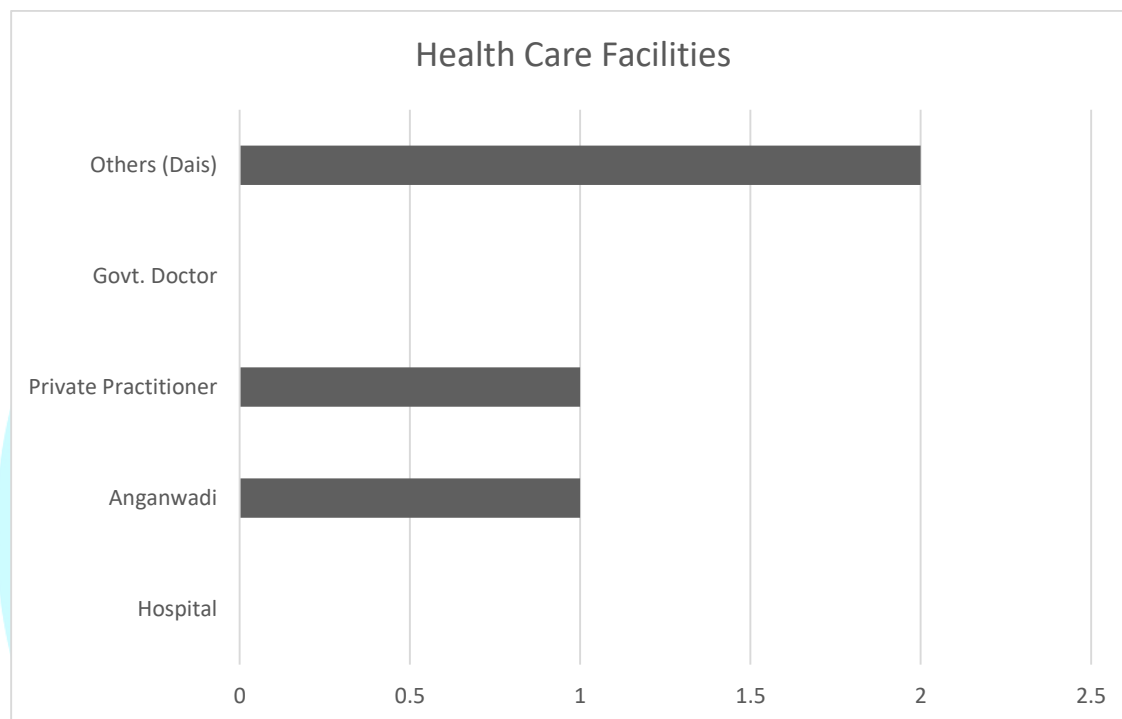
4	Ponds	1	6.7%
5	Others	1	6.7%

Table No. 12- Drinking Water Facilities in the Village [23]**Chart No. 12- Drinking Water Facilities in the Village [24]**

There are no governmental drinking water supply at homes. 60% of the respondents have private wells at home which they use for drinking and irrigation purposes. Next to this 26% of the respondents use private and government owned hand pumps for drinking water. Some respondents have to go to the pond to collect drinking water which is not safe and clean leading to many health problems.

S No	Health Care Facilities	Number
1	Hospital	0
2	Anganwadi	1
3.	Private Practitioner	1

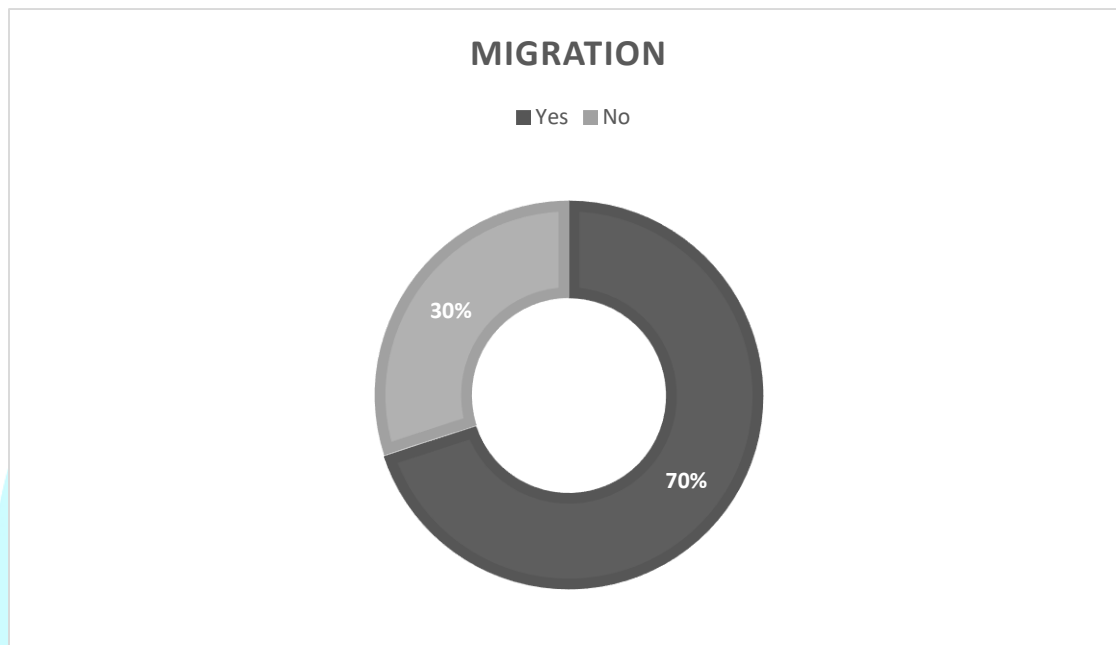
4.	Govt. Doctor	0
5.	Others (Dais)	2

Table No. 13- Health Care Facilities in the Village [25]**Chart No. 13- Health Care Facilities in the Village [26]**

The village has extremely poor medical facilities. There is no Hospital in the village. The nearest hospital is in Tatisilwai and in Gundripokhar which is approximately 15-17 Kms from the village. There are no private or governmental medical practitioners. There is only one Compounder in the entire village. The Anganwadi in the village is dysfunctional. Pregnant women rely upon Dais for health care. In case of emergency, people rush to the nearby town or directly come to Ranchi covering a distance of 45 Kms.

S No	Migration from family	Number	Percentage%
1	Yes	7	70%

2	No	3	30%
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Table No. 14- Has migration taken place in the family of respondent [27]**Chart No. 14-Has migration taken place in the family of respondent [28]**

About 70% of the respondents reacted positively to the question of Migration. Lack of adequate infrastructure, unemployment, backwardness has compelled the village youngsters to leave the village and migrate to other towns and cities in search of job opportunities or to continue their education. Infrastructure development is the dire need of the village otherwise the pace of Migration shall increase in the near future.

SUMMARY OF FINDINGS

- Paika G.P. is an underdeveloped village lacking in proper infrastructure.

- Most of the households live in a joint family. In some families, only parents and the old age people reside as youngsters have migrated to other cities and towns in search of job opportunities or to continue their further education.
- Major source of earning in the village is through agriculture activities. They cultivate food grains as well as vegetables for self-utilization.
- The villagers mentioned that there is rarely any extra productivity for sale. All the food grains and vegetables are used for self-consumption.
- The women take care of kids and do household chores. They help the men in the agriculture seasons.
- Majority of the people busy in agricultural activities have an income of less than Rs. 2000 per month. This is the reason they are devoid of many basic facilities such as Television, mobile phones and health care facilities.
- Large population is illiterate or has only studied till Metric. The village lacks proper infrastructure due to which students are not able to continue their education.
- The village has no college. The interested students migrate to Ranchi or to Tatisilwai for further studies. There are only three schools in which one of the schools is Private.
- There is a lack of teachers in the schools. Many teachers are absent from the school during class hours. Most of the housewives in the village households are illiterate.
- Poverty is prevalent in the Paika G.P. Almost all the respondents resided in Kutcha houses.
- Poor infrastructure is evident in this village. 13 out of 15 respondents do not have bathrooms in their houses.
- In some of the households, bathrooms are under construction as per the Government Scheme.
- Almost all the houses have electricity facilities. People use illegal practices for electricity supply at their homes as most of them cannot afford electricity bills.
- Paika being an underdeveloped village, people are devoid of many basic facilities. People do not even have proper sanitation facilities at homes.
- 60% of the respondents did not have any bathroom. Only 27% had bathrooms under construction as per the Governmental scheme.
- Still 13% of the respondents did not have any bathrooms. They go to the fields and forests for sanitation purposes. This is highly unhygienic and results in number of health problems.

- The village has inadequate transportation facilities. There is only one Bus service which is Private and plies daily from Paika to Tatisilwai at 7.00 a.m. daily.
- Autos are used as a means of transportation to travel and transport goods and services. Some travel daily to Tatisilwai in search of job opportunities by bicycle.
- Only few own private vehicles. Bikes are commonly used to travel within the village.
- All the villagers use mobile phones. Although some of them do not own them but at least one of the family members had mobile phone.
- Very few households have Television. Most of them go to the nearby shop or neighbor's house to watch television.
- Radio is used by only 2 respondents out of 15.
- Very few villagers are aware of internet facilities. The respondents who use internet use it for gaining information or reading news on the mobile phone.
- The number of people sending and receiving letters is very low. Paika G.P. not having a Post Office can be a crucial reason for the same.
- None received newspapers at home. This justifies the fact that majority of them are unaware of new governmental development schemes.
- There are altogether three schools in the village. One is primary school. The government secondary school is till class 8th. The private school has been built to facilitate students to complete their schooling till metric.
- There are no governmental drinking water supply at homes.
- 60% of the respondents have private wells at home which they use for drinking and irrigation purposes.
- Next to this 26% of the respondents use private and government owned hand pumps for drinking water. Some respondents have to go to the pond to collect drinking water which is not safe and clean leading to many health problems.
- The village has extremely poor medical facilities. There is no Hospital in the village. The nearest hospital is in Tatisilwai and in Gundripokhar which is approximately 15-17 Kms from the village.
- There are no private or governmental medical practitioners. There is only one Compounder in the entire village.

- The Anganwadi in the village is dysfunctional. Pregnant women rely upon Dais for health care. In case of emergency, people rush to the nearby town or directly come to Ranchi covering a distance of 45 Kms.
- Lack of adequate infrastructure, unemployment, backwardness has compelled the village youngsters to leave the village and migrate to other towns and cities in search of job opportunities or to continue their education.
- Infrastructure development is the dire need of the village otherwise the pace of Migration shall increase in the near future.

RECOMMENDATIONS

- The most important factor affecting agriculture output is the availability of water. Irrigation facilities need to be improved in the village.
- A number of vegetables, flowers and fruits can be grown under greenhouse shed to get high yield. This could increase productivity and the villagers will be able the extra productivity in the market to earn profits.
- Number of bus facilities should be increased in the village. The government should run buses at cheaper rates.
- The Government authorities should ensure the payments to workers of MNREGA.
- Hospital should be constructed in the village and a government doctor must be made available.
- Ambulance facility should be made available in case of emergency.
- The government should conduct regular checks on Anganwad in the villages.
- The bathrooms and smokeless chullah and proper drainage are required for each house. Bathroom should be constructed in each house.
- Protection of environment can also generate a lot of employment opportunities. The investment in rainwater harvesting structures, community based ponds/johars, etc. should be enhanced.
- The Government should efficiently implement Indira Awaas Yojana (IAY) to provide financial assistance for construction / upgradation of dwelling units to the below poverty line (BPL) rural households belonging to the scheduled castes and scheduled Tribes.

- Schemes such as Rajiv Gandhi Grameen Vidhyutikaran Yojana (RGGVY) in April 2005 need to be implemented in the village at a faster rate.
- Awarding a higher number of projects: This can be achieved through efficiently awarding projects as required in each of infrastructure's sub sectors, especially through the PPP mode, and by easing the selection criteria for private investors.
- Community Televisions and telephones should be propagated for increasing connectivity in the village.
- College should be built in the village so that people do not have to migrate to other towns and cities.
- Other educational institutions should be set up. This could encourage people to learn and specialize in various fields. This could also increase employment opportunities.
- On the other hand government should also arrange for the awareness programmes to teach the rural people the importance of technology and internet in their daily lives.

CONCLUSION

It is time that rural households identify their needs for infrastructure and place demand as a matter of right on elected representatives; Governments must allocate adequate resources in their annual budgets and implementing agencies including banks must have concern, commitment and accountability to put in place infrastructure in each village in a time bound program. Performance of each and every program/scheme should necessarily be available to the public every month through local print and electronic media, as a part of right to information.

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

concept will have potential to uplift the grass-root level of the country, hence adding feather in the overall development of India.

Rural development strategies are a critical component of an inclusive growth strategy. Developing a modern rural development strategy for poverty reduction in the coming decades requires recognition of institutional and technological changes, as well as of the growing role of a broadly defined and diversified agricultural system. Furthermore, the rural poor need to participate in the development and implementation of the relevant policies and programs, which need to ensure • gender equity • inclusion of minorities • participation of the poorest in markets and in the provision of services.

Failure to utilize Information Technology tools for rural development is because of lack of strategy, unfocused planning and above all monitoring and execution of the activities. All these activities need to be addressed based on the varying rural situations. A specially designed suitable framework for rural areas on the grounds of Science, Technology, Engineering, Regulations and Management will play important role to build next generation smart villages. Each village is a unique example and having diverse set of problems and situations. It may be difficult to implement the same model of village development for all the villages. To address this complex problem, Public Private Partnership (PPP) may play key role for developing smart villages. Benefits of the smart village efforts are foreseen to be tremendous. Smart village concept is having high replication potential in other countries of developing world. The concept of smart village may also be extended to small towns and also townships surrounding the big Cities.

REFERENCES

1. Asian Development Bank (2008). *Managing Asian Cities: Sustainable and inclusive urban solutions*, Asian Development Bank Report, Asian Development Bank, 2008, Publication Stock No. 050608, ISBN 978-971-561- 698-0.
2. Census 2011, Govt. of India Publication .

3. Cernea, M. M. (1991). *Putting people first: sociological variables in rural development* (No. Ed. 2). Oxford University Press for the World Bank.
4. Chatterjee, Partha (1997), 'Development Planning and the Indian State', in Terence J. Byres (ed.), 82_103, *The State, Development Planning and Liberalisation in India*, Oxford University Press, Delhi.
5. Dadibhavi, R.V. 1991. *Disparities in Social Infrastructural Development in India: 1970-71 to 1984-85*. Asian Economic Review, 33(1).
6. Das, Keshab (2001), 'Rural Drinking Water Supply in India: Issues and Strategies', 207_277, in Sebastian Morris (ed.), *India Infrastructure Report 2001: Issues in Regulation and Market Structure*, Oxford University Press, New Delhi.
7. Das, Keshab and Leela Visaria (1998), 'Issues in Rural Sanitation: Lessons from Gujarat', Working Paper No. 98, Gujarat Institute of Development Research, Ahmedabad.
8. Dreze, Jean (1990), 'Poverty in India and the IRDP Delusion', *Economic and Political Weekly*, Vol. 25, No. 39, September, A95-A104.
9. H. Chourabi, N. Taewoo, S. Walker, J. R. Gil-Garcia, S. Mellouli, K. Nahon, T.A. Pardo, H. J. Scholl (2012). *Understanding Smart Cities: An Integrative Framework*. System Science (HICSS), 2012 45th Hawaii International Conference, 4-7 Jan. 2012.
10. Hulten C.R., Bennathan E. and S. Srinivasan .2006. *Infrastructure, Externalities, and Economic Development: A Study of Indian Manufacturing Industry*. Mimeo, World Bank.
11. IFPRI, "Agriculture and Rural Development for reducing Poverty and Hunger in Asia", www.adb.org/prcm.
12. Jorgenson, D. W. & M. Nishimizu. 1978. *U.S. and Japanese Economic Growth, 1952–1974: An International Comparison*. Economic Journal, 88(352), p.p. 707–726.
13. M. N. Srinivas and A. M. Shah (1960). *The Myth of Self-Sufficiency of the Indian Village*. The Economic Weekly, 1375- 1378.
14. Mathur, L. (2009). *Silent but successful initiative*. The Hindu, 1st March, 2009.
15. Mera, K. 1975. *Income Distribution and Regional Development*, University of Tokyo Press.
16. Patel, N. 2005. *Evaluating the role of primary health centers in India*. Healthcare Management, 16th -31st August.

17. Pendley, Charles (1997), 'A Demand-based Approach to Rural Water Supply and Sanitation', in K. Pushpangadan (ed.), National Seminar on Rural Water Supply and Sanitation, Centre for Development Studies, Trivandrum.
18. R. Heeks, (2002). *Information Systems and Developing Countries: Failure, Success, and Local Improvisations*. The Information Society, 18 (2) pp 101-112.
19. S. Daniel, M. A. Doran (2013). *Geo Smart City: Geomatics Contribution to the Smart City*, In: The 14th ACM Annual International Conference on Digital Government Research, Pp. 65-71.
20. Sen, Siddhartha (1999b), *Global Consultation on Safe Water and Sanitation for the 1990s: Background Paper*, Government of India, New Delhi.
21. Shah, Narottam. 1970. *Overall Summary: Infrastructure for the Indian Economy*. In Dagli, Vadilal (ed.) *Infrastructure for the Indian Economy*.
22. Sivasubramonian, S. 2004. *The Sources of Economic Growth in India 1950-1 to 1999-2000*. Oxford. New Delhi.
23. Straub, S. 2008. *Infrastructure and Development: A Critical Appraisal of the Macro Level Literature*. World Bank Policy Research Working Paper No. WPS4590.
24. Tewari, R.T.1984. *Economic Infrastructure and Regional Development in India*. Man and Development, 6(4).
25. Visaria, P. 1998. *Workforce and employment in India, 1961-1994*. Mimeo, International Association of Income and wealth, Government of India.