

Smart Information and Communication Technology (ICT)

Jayendra Sharma^{1,*}, Jitendra Kumawat², Saurabh Agarwal³

Abstract

Human society is rapidly evolving and has accomplished several successes in improving its standard of living. The civilization has witnessed significant changes connected to its development. Information and communication technology has augmented the modern period. Information and communication technology (ICT) appears to be more readily accepted due to its literary and infrastructure benefits. ICT should act as accelerator for development, enabling education and local business opportunities, and increasing society's health and welfare, according to the underlying purpose behind the concept of a "Smart Village". Information technology and communication aid in the use and maintenance of products and their owners, as well as giving a better experience through what is known as "mass individualization." This is accomplished by combining knowledge gained through automated data gathering—such as usage, failures, maintenance patterns, and customer wishes—with third-party data. This article discusses the role of ICT in the long-term growth of villages & their transformation into smart villages, as well as the role of ICT in industrial development, the issues that arise as a result of this development, and how they can be addressed through the use of ICT. Also, there's a distinction to be made between cities in emerging and developing economies. The local government steps towards with making advancement use of Information and communication technology.

Keywords: Smart village, information, communication, technology, development

INTRODUCTION

According to the former Indian Planning Commission, a village is defined as a settlement with a population of at least 15,000 people [1]. In India, villages are defined as rural areas located outside of towns and cities. Because of a lack of jobs, services, and resources, as well as poverty. The majority of the rural population is migrating to the metropolis. To halt this movement, the government has taken attempts to develop [2].

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Received Date: March 10, 2022

Accepted Date: March 15, 2022

Published Date: March 17, 2022

Citation: Jayendra Sharma, Jitendra Kumawat, Saurabh Agarwal. Smart Information and Communication Technology (ICT). International Journal of Telecommunications & Emerging Technologies. 2021; 7(1): 17–22p.

Internet, cloud, computing, and embedded hardware and software are all examples of smart enabling technology used in ICT [3]. In the villages the problems faced by the locals such as lack of education, lack of money and the basic facilities which must be required for a better life of human being. Smart village program of the government will help the locals to attain the level which they deserve, and they will also live a life in which all basic facilities are there. In the industrial development, smart manufacturing provides a better or more efficient manner of enabling new goods and services. Industrial sector is the one of the sectors which plays

a critical part in economic growth of nation. And the information and communication give a boost to this sector after the development in the technology such as internet cloud, virtual meeting, online transition of money. The industries grow up very fast.

This research also intends to establish a conceptual landscape from which a model for assessing local governance and ICT interference can be derived. It accomplishes this by examining current state of local government and describing a specific ICT endeavor.

SMART VILLAGE CONCEPT WITH ICT

The concept of Smart Villages was established in response to increases in the growth of urban regions and to prevent people from migrating from rural areas. According to the 2011 Census, rural areas account for 68.84 percent of the overall population, while urban areas account for only 31.16 percent [1, 4].

Geoinformatics, for example, is a promising technology that could be beneficial to villages. This technology has the potential to be a major player in the development or deployment of ICT in the "Smart Village." Recent developments in GPS Remote Sensing, Web services, and Location Based Services and technology can help enable creative management governance, and strategic planning methods that are in line with the smart village goal. Future generations will make significant contributions to progress and will be able to enjoy traditional agricultural activities while utilizing contemporary technology [2].

INDUSTRIAL DEVELOPMENT THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY

Industries and businesses are expanding at a faster rate across the world. Most of the internet-based information and communication technology-based sectors and businesses are growing at a rapid pace. This ICT allows for more individualized products and services, as well as more efficient, adaptable, and flexible manufacturing, provisioning, and supply chain processes. Industries are now referred to be smart industries as a result of the revolution in the development of industries through internet-based things.

These services assist in serving items or their owners, as well as assisting in providing a better experience, resulting in what is known as "mass individualization." This is also accomplished by combining third-party information with expertise gained through automatic information collecting, such as usage failures, maintenance patterns, and customer demands. To achieve greater quality and to respond to material condition or consumer demand, more information and communication technology will be used automatically and rapidly in manufacturing plants, which will be connected to each other and to the cloud. In the realm of the role of information and communication technology in the development of industrialization and economic growth, some research and invention has taken place in many countries throughout the world, addressing a wide variety of difficulties (Figures 1 and 3).

Many governance systems are actively working to promote domestic economic growth by assisting in the formation of local enterprises based on information and communication technology, as it is clear that ICTs offer the most opportunities for economic and social advancement. This is unsurprising, given the explosive growth of the ICT business in recent years, which has resulted in the creation of millions of new jobs for nearly every part of the world, this means more jobs and billions in increased tax revenue. Many developing countries see domestic ICT industry. Many developing countries regard domestic. Despite the fact that these and other rising countries have benefited substantially from global ICT industry expansion, their trajectories have been very different. This disparity reflects, in part, the diversity of the ICT industry, which is comprised of many different sectors, each with its unique set of characteristics. Despite the fact that these and other rising countries have benefited substantially from global ICT industry expansion, their trajectories have been very

different [5–7]. This disparity reflects, in part, the diversity of the ICT industry, which is comprised of many different sectors, each with its unique set of characteristics [3].

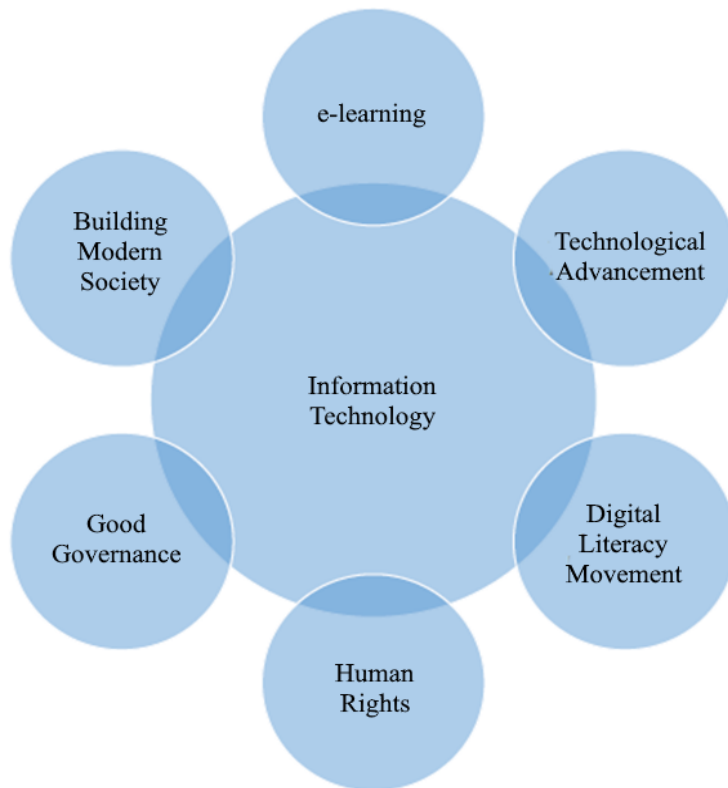


Figure 1. Relation between technology and society.

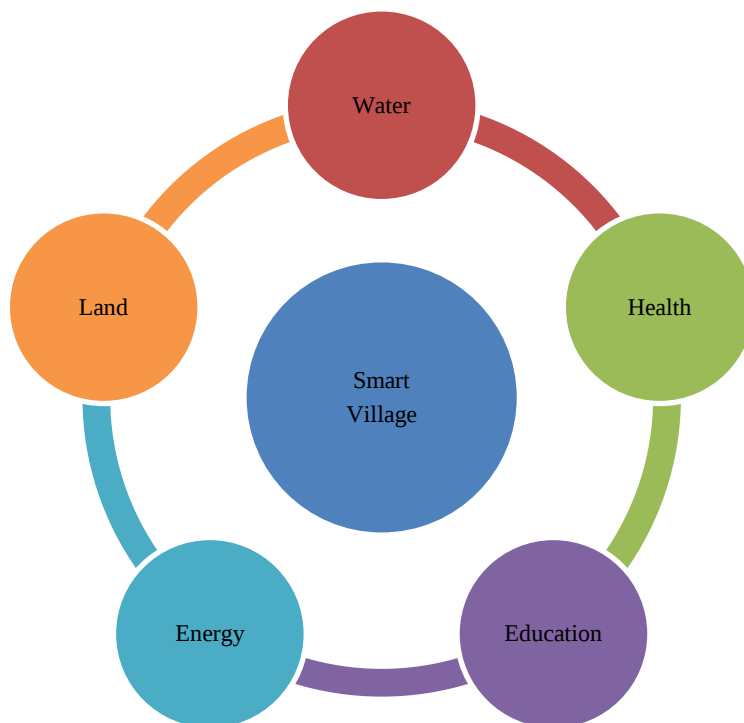


Figure 2. Smart village.



Figure 3. Dependency of industries on ICT.

PROBLEMS IN IMPLEMENTATION OF THE ICT FOR DEVELOPMENT AND THEIR REMEDIES

Information and communication technology (ICT) offers a huge possibility to bring about major and long-lasting beneficial change in underdeveloped countries. In both rural and urban settings, the quick penetration of mobile access has resulted in significant improvements in the lives of the poor. As the availability of information grows and the cost of access decreases, all evidence suggests that this tendency will continue.

The key problems in the implementation are as follows (Figures 3 and 4).

Scale and Sustainability

To date, the use of ICT in development programmes funded by non-governmental organizations' (NGOs) has been irregular, with many examples of small initiatives or pilots but few large, long-term ICT-supported programmes. To fully utilize the promise of ICT in development, a new level of collaboration, both internally and with other organizations, as well as a new means of scaling solutions to create a truly substantial impact, are necessary [8].

Lack of Knowledge

Many non-governmental organizations (NGOs) are ill-equipped to promote and support the effective use of information and communication technologies for development. They simply lack the requisite knowledge, expertise, and organizational skills. When it comes to back-office systems, information technology is generally considered as a complicated and challenging topic. In addition, ICT has a murky reputation as a result of unsuccessful or high-cost projects [9].

Funding

Furthermore, properly planning and funding the use of ICT in development programmes is a major challenge. Due to cyclical donor assistance and pressure to decrease administrative and management costs, it is sometimes difficult for NGOs to properly plan and resource financial and human expenditures in ICT as a key capacity for development programmes [10].

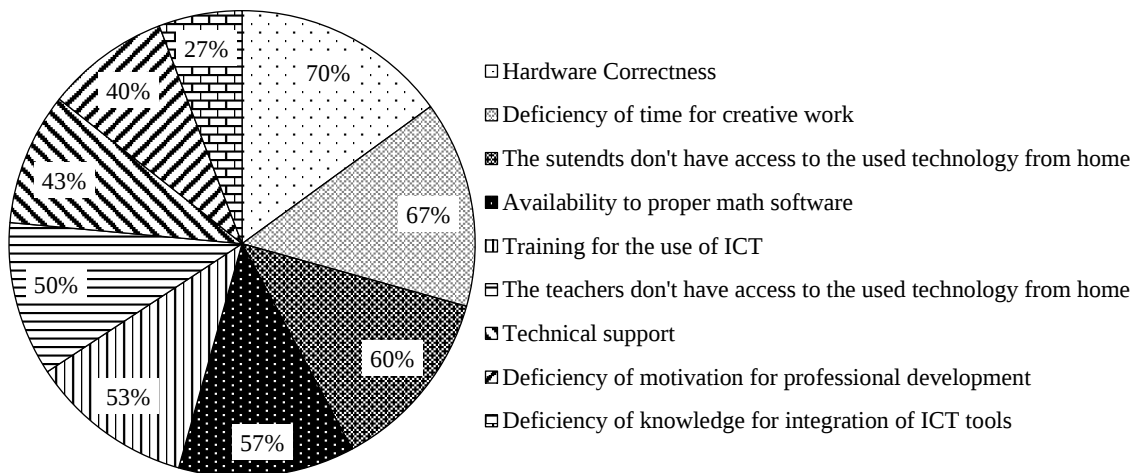


Figure 4. Pie chart of problems in implementation of ICT.

CONCLUSION

We have reviewed the implications of the expanding impact of Information and Communication Technology on many sectors in this study. We've looked at a few key industries and the impact of ICT on them in this review study. As the globe progresses in every sector, including medical, infrastructure, transportation, and smart cities, The rate of development has also accelerated as a result of the contribution of information and communication technology. The working zone of the village population reduces while the comfort zone expands in the smart village scheme with other useful technologies such as GPS, GIP, and sensor.

Smart villages are a necessity of the hour, as is the development of rural areas for the betterment of village residents' livelihoods. As new technology is utilized in agriculture, and small-scale businesses grow to a certain degree, this growth of the villages enhances agriculture production. This also aids in preventing villagers from migrating to cities in search of employment. When the people of a village work in their own village, the income of the village rises, and the country's gross domestic product rises as well. Because about 34% of the country's population lives in villages, it is critical that the villages be developed, and the per capita income of the peoples rise, so that the country can escape poverty and hunger.

ICT also plays an important role in the development of the industries and factories. In the earlier era the product and the productivity of the companies or industries was not enough good in the comparison of the developed countries. Due to increase in the technology the development and growth of the Indian industries and the companies also increases at a good level. By the implementation of the ICT in the industries the use of internet and other technical equipment's increases, and this leads to increase in the supply chain communication selling-purchasing behavior of consumers. Due to the internet, the trend of the online selling buying Online advertising Online payments increases and this leads to grow up the market and the economy of country. For an example before the advancement of this ICT and other technology the Kashmiri apples were only sell in a few reasons but now a days these apples are not only selling across the country but also exports to foreign countries and this leads to earn a good profit for their products (Figures 5 and 6).

The internet has increased the trend of online selling, buying, advertising, and payments, which has resulted in the growth of the country's market and economy.

In the field of smart cities, ICT plays a similar role to that of oxygen in our bodies: it broadens the spirit of cities and aids their transformation and conversion into smart cities.

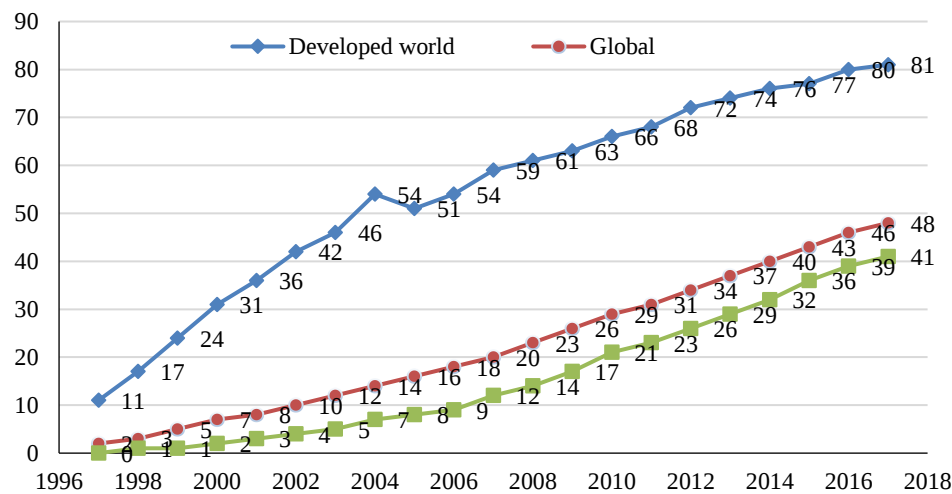


Figure 5. Graphs shows the increment in internet users in world.

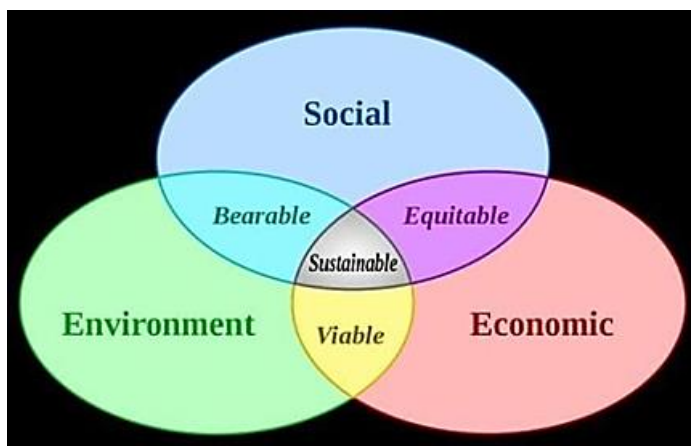


Figure 6. Sustainable development through ICT.

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