



ISSN: 3049-2017  
IJMH 2025; 2(2): 70-72  
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Received: 10-04-2025  
Accepted: 28-04-2025  
Publish : 30-04-2025

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## USE OF ICT IN RURAL INDIAN CLASS ROOM

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### ABSTRACT

India is a country with most of its population residing in rural areas. The development of the rural economy, therefore, has a crucial role in the overall growth of our nation. ICT involves the use of various digital tools. ICT in education has bridged the gap between traditional teaching methods and modern, technology-driven learning. India has made impressive progress in improving access to education in recent years, but there is still a long way to go, especially in rural areas. The National curriculum framework 2005 has highlighted the importance of ICT in school education on the dimensions of the need for ICT in schools, and also to understand the need for the shift which is necessary because this is the age of information and technology, an age that requires that teachers facilitate the gathering of this information.

### KEYWORDS

ICT , Rural areas, Education, classroom, Govt. scheme

### INTRODUCTION

India is a country with most of its population residing in rural areas. Rural India contributes most to our national income. The development of the rural economy has a crucial role in the overall growth of our nation. When the entire world is moving towards digitalization, it is imperative for the rural areas of our country to adopt this change for sustainable development . The research is based on secondary data collected from various websites, newspapers, magazines, books and journals. ICT in Education indicates to the use of technology to enhance learning processes. ICT involves the use of various digital tools, resources such as computers, tablets, smartphones, the internet, and educational software to support teaching and learning activities. ICT in education has bridged the gap between traditional teaching methods and modern, technology-driven learning. Through the integration of ICT, students can now access a wealth of information and resources online, collaborate with peers and teachers in real-time, and even engage with interactive learning materials. From primary school classrooms to universities, ICT has made learning more dynamic, accessible, and efficient. The role of ICT in education extends far beyond simply replacing traditional tools like chalkboards and textbooks. It has revolutionized both teaching and learning, providing educators and students with endless opportunities to improve their academic experiences. By incorporating technology into the classroom, schools and institutions create an environment that fosters creativity, critical thinking, and collaboration. For students of rural area, the role of ICT in education is equally transformative. Information and Communication technologies refer to technologies that provide access to information through telecommunications.

ICT play a significant role in all the areas of life and education is no exception. Application of ICT in education enhances the teaching learning process and prepares the students to match to the technologies of the present and the future. ICT holds an integrative position in education. Lack of ICT skills among the students will result in digital divide, which refers to the inequality of access to digital technologies in education due to various social and demographic factors. Despite the thoughtful efforts taken by the State and the Central Government of India to promote Information and Communication Technologies in the rural schools, there exists a gap in the access to the technology to the

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government school children. Technology among the rural school children and also the reasons for the same. rural children, their economic affordability, continuous guidance of parents or elders on education at home, teachers at schools, are the challenges to be addressed in bridging this digital divide.

To improve rural classroom there are many GOVT. scheme. They are

- DIKSHA Portal: India's national digital infrastructure for teachers and students. It provides QR-coded textbooks, e-content, and lesson plans mapped to state and CBSE curricula in multiple regional languages.
  - E-Pathshala & SWAYAM: Initiatives by NCERT providing free e-books, audio, and video resources, as well as massive open online courses (MOOCs) for high school students.
  - Broadcast & Audio-Visual Media: Due to power and internet constraints in some remote areas, one-to-many broadcast technologies remain highly effective.
  - Smart Classrooms & Projectors: Offline or online educational videos, animated lessons, and digital content are projected in classrooms to simplify complex subjects.
  - Edusat & Interactive TV: Satellite-based communication allows students in remote villages to attend live, interactive lectures broadcasted by expert educators.
  - Community Radio & Podcasts: Educational broadcasts, such as those used by IGNOU, deliver curriculum-aligned audio lessons directly to students.
  - ICT Labs: Many rural government schools (under state schemes or Rashtriya Madhyamik Shiksha Abhiyan - RMSA) are equipped with a cluster of desktop computers, printers, projectors, and uninterrupted power supply (UPS).
  - Tablets and e-Readers: Handheld devices pre-loaded with interactive, gamified learning modules that do not require continuous internet access.
  - Google Classroom & Moodle: Used by teachers to assign tasks, share reading materials, and track student progress, though highly dependent on internet availability.
  - Gamified Assessment Platforms: Offline and online tools like Kahoot! or local quiz modules are used to improve engagement and test students' understanding in real-time.
5. Mobile Learning (m-Learning) With the widespread penetration of smartphones, teachers use apps like What's App to share notes, homework, and audio/video explanations directly with students and their parents, effectively bypassing the lack of desktop computers at home.

## LITERATURE REVIEW

India has made impressive progress in improving access to education in recent years, but there is still a long way to go, especially in rural areas. Many schools in rural areas lack basic facilities . it difficult for students to learn effectively. this leads to low-quality instruction & high dropout rates. In some rural areas, students speak a

different language than the language of instruction can make it difficult for students to understand the material and participate in class. Many families in rural areas cannot afford to send their children to school, especially if the schools are far away, which can lead to high dropout rates. In addition, often girls in rural areas are discriminated against in education. They may be less likely to be enrolled in school and receive lower-quality education than boys. Rural Indian classrooms are undergoing a digital transformation. While ICT (Information and Communication Technology) integration is bridging the urban-rural education gap, it still faces challenges like unreliable power, poor internet, and a lack of trained educators. Solutions are shifting toward low-cost, localized, and offline-first models. Many problem are arise nowadays in rural areas Frequent power outages and a lack of reliable high-speed broadband limit continuous digital learning. Centralized hardware setups (like desktop labs) frequently fail due to dust, heat, and a lack of on-site IT support. Many rural educators lack digital literacy and struggle to integrate ICT into standard state curricula Most high-quality e-learning software is available primarily in English, causing comprehension issues for vernacular-medium students India is primarily a rural economy. The progress of the rural population is, hence, the key to boost demand and promote sustainable economic growth in the country. A majority of this population is involved in agriculture and allied sectors. In recent times, though, there has been a steady increase in non-agriculture income also in the rural households. This is because the absence of market intelligence system and unregulated markets means the farmers are unaware of the market information and settle for whatever the brokers offer. As a result, agriculture is no longer lucrative for the rural population. However, due to the IT revolution, agricultural marketing is transforming. Access to information has increased thereby enabling agriculture to be a more sustainable occupation. Rural India is predicted to encompass nearly a 50% share of all Indian internet users by 2025. During the process of economic development, information technology is one of the basic infrastructures in the case of rural India. There are many other areas in which digitalization can support rural development for example governance, banking, education, medical, mobile recharge, marketing, transport etc.

The National curriculum framework 2005 has highlighted the importance of ICT in school education on the dimensions of the need for ICT in schools, and also to understand the need for the shift which is necessary because this is the age of information and technology, an age that requires that teachers facilitate the gathering of this information and not merely teach. In a developing nation like India, there is a great need to address the digital divide that exists in the rural schools which can only be addressed by the application of ICT in the rural schools. In

this background the present study aims at understanding the reality perspectives of rural schools in the study area. ICT initiatives in Tamil Nadu Government of India has formulated the National Policy on ICT enabled school education with the aim to prepare the youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to holistic development of the nation and to meet the global competition. In India, Betterment of Rural education there are many department formed by Govt. Rural Development Department (ICT-RDD) This department will get latest information from IT and other related departments and will update the RKM's and will provide training to ICT instructors for the latest updates at rural community center. The purpose and theme of the ICT Rural Development Department is the same with an amendment that it will work only for the development of the 70% population which need more attention and care and can be more productive for the development of country, but its cyclic process and hope it will accelerate rapidly with the passage of time.

A. Rural Community Center Rural Community Centre is the central component which consists of Rural Kiosk Machine (RKM) and ICT-Training Centre (ICT-TC). Rural school building will act as a Rural Community Centre which will hold RKM and facilitate the people for 24 hours. The same building will also work as ICT-TC for discussion and trainings in the evening timings for the rural community. ICT teacher/instructor of that ICT-RDD department will help the people that how to use the RKM and how to get information from that machine directly.

Rural Kiosk Machine Rural Kiosk Machine will contain the information in local languages. Most of the Indian peoples speak Hindi (Devnagari) language as an official language. English is rarely been spoken in rural areas. That's why there is a need for such a kiosk which can present information in Hindi as well as in Regional languages. RKM depicts stored information in textual, audio and video information, live stock, market prices, weather forecast, health etc. This machine will consist of user friendly interface in local language having all the required information needed for the Rural Community. All the related information will updated on hourly basis by using wireless connection by ICT-RDD department which will take information from concerned department. RKM installation will be sponsored by Ministry of IT. These machines are connected directly through wireless connection to the ICT-RDD. All the RKM Machines will be operated centrally through ICT-RDD Department.

ICT- Training Centers(ICT-TC) ICT-RDD department will responsible for providing basic education for use of RKM for each faction of rural area by establishing ICT-Training Centre at each school in every village even though it is very small. If school is not available in the village then RKM should be placed at well known

education through ICTs, especially the computer related technologies. Also provide some suggestions for effective implementation of the national policy for ICT in education in rural areas.

## CONCLUSION

Integrating Information and Communication Technology (ICT) in rural India improves educational quality by bridging resource gaps and localizing content. Key strategies include deploying solar-powered digital labs, using offline AI to translate curricula into regional languages, and providing digital training to help teachers shift from rote memorization to interactive learning. Utilizing AI to translate standard textbooks and generate lesson plans that incorporate rural contexts (like local agriculture or folklore) makes learning much more engaging. Bridging language barriers by translating multimedia resources and educational software into local dialects. Bypassing internet connectivity limits in remote villages through pre-loaded digital libraries, Learning Management Systems (LMS), and educational applications that operate on local intranets. Utilizing off-grid solutions like solar-powered computer labs to ensure consistent device and software availability. Providing ongoing, accessible training to help educators use interactive multimedia devices (like videos and smart TVs) to make foundational skills easier to grasp. Using digital platforms for administrative duties and lesson preparation so teachers can dedicate more time to individualized student. ICT is a set of tools that can act as a springboard for the democratic and sustainable development of rural India. ICT can be used for social, economic and potential development with particular emphasis on helping poor and meaningful people and communities. ICT can be used in e-governance, e-commerce, e-learning, agriculture, capacity building, policy making and decision making.

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