



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

IJIRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 11, Issue 8, August 2022

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.118

9940 572 462

6381 907 438

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www.ijirset.com

ICT Education for Rural Women and Girls in Rajasthan State of India

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ABSTRACT: The Department of School, Government of Rajasthan is implementing the following programs ICT to support girls and women learning as overall digital practices in the state:

1. SMILE program- Social Media Interface for Learning Engagement
2. Shikshadarshan – Educational content via TV
3. Shikshavani - Radio broadcasts for students who don't have access to smartphones
4. Hawamahal – Joyful Saturday
5. Conducting live sessions for students on career guidance via YouTube
6. Kala Utsav – Summer Camp
7. DIKSHA content
8. E-content invited via ShalaDarpan

The potential of information and communication technology (ICT) as a tool to reduce gender inequality and strengthen the position of women in a society is increasingly recognized. However, a significant gender digital divide is also observed, which is reflected in women's low level of access and use of ICT as compared to men due to socio-economic, structural, psychological and institutional barriers. We explore the state of Rajasthan girls and women with regard to access, usage and effects of ICT tools. It analyses respondents' perceptions on ICT in relation to betterment of women's conditions and also explores the reasons for poor access and usage of ICT among Rajasthan girls and women.

KEYWORDS: ICT, digital, girls, women, Rajasthan, empowerment, education, computer, mobile, India

I. INTRODUCTION

Information and Communication Technologies are diverse set of technical tools and resources to create, disseminate, store, brings value addition and manages information. The ICT sector consists of segments as diverse as telecommunications, television and radio broadcasting, computer hardware, software and services and electronic media, for example, the internet and electronic mail. We find here the prospects generated by ICT supported networking processes for women's empowerment. It discusses the foremost challenges and a hindrance confronted by women and recommends strategies to address those challenges and means to revamp the situations giving rise to women's empowerment.[1]

Rajasthan is the largest state of all others in the Indian Union. With 10% of the landmass of the country and 5% of its population, it presents huge challenges in development and socioeconomic growth.

Rajasthan authored educational models in the past, ushering in the sweeping changes through innovation and public participation. The now internationally acknowledged "Shiksha Karmi Project" and the "Lok Jumbish" project helped generate interest in far flung areas of the State by utilizing local talent and motivating children to attend the schools. The literacy rate doubled up in the state during the last decade, a clear indication of the impact that these measures have had on the population at large. Education in the state received new impetus with the World Bank assisted District Primary Education Projects in 19 Districts.



Govt of Rajasthan ICT and non-ICT initiatives

ICT based Programme	Non-ICT based Programme
Project GRACE (Girls of Rajasthan and Computers Education	Learning Skills Development
District Computer Education centers	Adoption of Schools
School Computer education programme CALP	Scholarships for Indigent Children
Computerization of department	Mid-Day Meals Programme
EDUSAT	Children with Special Needs
Teacher training Technology Academics	Health and Sanitation

REI(Rajasthan Educational Initiative) Accomplishments at a Glance

- The REI has significantly contributed to the fulfilment of SSA goals and different facets of educational development in Rajasthan, including widening access, promoting efficiency and enhancing quality.
- Approximately 15,000 schools were impacted through various REI interventions; 30,000 teachers received ICT training.
- The REI reached wider geographical areas in the state and addressed the needs of rural and urban underprivileged children, especially girls and children with special needs.
- 26 MoUs have been signed with various organizations under the ICT and non-ICT streams.[2]
- The District Executive Committee of SSA has been delegated the responsibility of coordinating and monitoring the REI partnerships.
- The REI has developed various partnership themes, estimated costs and guidelines for partnership. This will help the potential partners in engaging with the REI in their areas of interest and expertise

The State Government realizes that much ground still remains to be covered and that enlisting the support of stake holders including the private sector, civil society and other voluntary organisations in the critical areas of education will yield results that can be effectively demonstrated and that can help inspire similar activities within the traditional education sector.

The present Rajasthan Education Initiative arises from this thinking. Rajasthan has evolved for the REI its own definition of public – private partnership in the field of education, involving not only technological interventions in schools, but also socially relevant initiatives to help in the holistic development of child.

The REI is enjoying a unique position within the education sector. Under the overarching vision of Millennium Development Goals, and the specific thrust of the “Sarva Shiksha Abhiyaan”, the REI has set an outstanding example of public-private partnership which has brought forward the energy and capacity to transform education and bring about a long term beneficial impact on the development of human resources of the state.[3]

The Govt of Rajasthan did not depend solely on the ICT and non-ICT initiatives to be implemented under the REI banner. Dept of Education, Govt of Rajasthan has launched several programmes covering all 33 districts.

With an aim to empower rural women, the Churu district administration has launched 'Computer Sakhi' to train about 70,000 people for basic programmes and internet. The district administration has also written to the state government to



provide RS-CIT (Rajasthan State Certificate course in Information Technology) on priority so that the trained women could land jobs at the gram panchayat level. Around 6,500 women have already availed the training at government school laboratories and another batch is about to start.

"We have 70,000 women involved with self-help groups. We aim to make them digital and financially literate so that they can play a positive role in society. We are using government school computer labs. We are utilising the existing infrastructure which is not incurring any additional cost," Churu District Collector Siddharth Sihag told PTI.

The digital revolution has changed the way we work, access information and connect with each other. It offers opportunities to those who can use the new technologies, but also presents new challenges for those who are left behind.[4]

Often referred to collectively as Information and Communications Technologies or ICTs, these technologies are any method of electronically sharing or storing data: telephones, mobile broadband, the internet, broadcasting, sensor networks, data storage and analytics, and more. ICTs improve the lives of small farmers in a myriad of ways, from monitoring crops to tracking market prices and from spreading good practices to facilitating access to banking services. The list goes on.

Yet much of this potential remains untapped, particularly in the case of women, who play a fundamental role in agricultural production but also face a triple divide: digital, rural and gender. They often tend to have less access to ICTs, leaving them and their families at a disadvantage. Here are seven critical factors for success when making ICTs available and accessible to rural communities, especially women.

1. Adapt content so that it is meaningful for them.

While ICTs can deliver large amounts of information, this does not imply effective use of it. Adaptation of content to local needs, languages and contexts often remains a challenge. Hence, content should be adapted to local languages and repackaged to suit formats that meet the different information needs.

2. Create a safe environment for them to share and learn.

Illiteracy, and limited skills in using complex devices to search for information and cultural issues, remain barriers to effectively receiving and using information delivered via ICTs. For example, illiterate and older farmers often have less developed digital skills, and are therefore generally less likely to adopt ICTs.[5]

Digital literacy in rural institutions and communities should be developed and enhanced, taking into consideration local needs and constraints by providing appropriate learning opportunities for men, women, youth and people with disabilities, which will enhance individual and collective decision-making skills.

3. Be gender sensitive.

Gender inequalities remain a serious issue in the digital economy, as does the gap between urban and rural populations. Access and opportunities for women, youth, older farmers and people living in the most remote areas is hindered by the price of access to ICTs, and by persistent inequalities.

Many of the factors that constrain male farmers in adopting more sustainable and productive practices restrict women to an even greater extent. Specific gender barriers further limit women farmers' capacity to innovate and become more productive. Gender, youth and diversity should be systematically addressed in the planning phase of project design and during the whole project cycle.

4. Provide them with access and tools for sharing.

Rural women have less access to ICTs – the phones, the laptops, the Wi-Fi – because they are confronted with social norms, because they are living in unconnected areas, and because they are usually poor. The price of access to ICTs can be very high in some countries. Pricing of broadband or mobile services is a significant barrier for most vulnerable groups, such as women, youth, older farmers and people living in the most remote areas. Digital inclusion policies with gender perspectives should be promoted to enable men and women to access and use ICTs equally.[6]

5. Build partnerships.

Small, local private companies, local producer organizations and community-based non-governmental organizations (NGOs) often have the social capital to provide trusted information and good quality services. Diverse advisory and extension services offered by different types of providers are more likely to meet the various needs of farmers, as there is no single type of service that can fit all circumstances.

6. Provide the right blend of technologies

Identifying the right mix of technologies that are suited to local needs and contexts is often a challenge, in spite of – or because of – the rapid increase in mobile telephone penetration in rural areas. Blended approaches, such as a combination of radio and telephone, and locally relevant technologies selected on the basis of in-depth analysis of local needs and existing information systems, should be adopted to increase the efficiency of initiatives for ICT in agriculture, and better serve different users and contexts.

7. Ensure sustainability.

The digital divide is not only concerned with technological infrastructure and connectivity. It is critical that ICT initiatives target both women and men, as well as the larger family unit and the community to ensure long-term sustainability. An inclusive approach to ICT initiatives will help to generate widespread recognition that it is important for women to be able to use ICTs.[7]

ICTs offer valuable opportunities for agricultural and rural development, increasing sustainable output, farm and agribusiness efficiency and revenues for a wide range of players. Access of women to information and education can also increase acceptance for sending both daughters and sons to school, which will have a greater impact, and increase the chances of reducing poverty and achieving a world without hunger.

He said there are 532 schools in Churu district and almost all of them have computer labs and teachers. "By the end of this year, we will have computer labs in all schools. Soon, they will also have internet connectivity," he said.

Mr Sihag said a proposal has been sent to the state government to give priority to these rural women associated with SHGs in RSCIT for proper certification. He said an in-principle approval has been granted. The pilot run for the programme was started in April with 1,000 women.[8]

Nodal Officer for the programme Sanjay Kumar said the training is given for 15 days during which internet, Google search, paint software, typing and UPI transactions are taught. The administration aims to train 25,000 to 30,000 women in the next six months, he said.

Women, who have availed the training, are enthusiastic about the programme as it is helping them learn new skills.



"My son studies in an English medium school and I did not know much about computers. This training has helped me learn the basics. I want to learn more and get a proper certification to land a job at the village level. A certification and guidance will be of great help," Daulat Kanwar (30), a resident of Bidsadar in Churu district, said.

Kamla Devi (33), living in Ratangarh town of Churu, said not many women are familiar with computers. "This programme is not only helpful in basic computer knowledge, but it will also act as a feeder if linked with RS-CIT certification. This will be helpful in getting jobs," she said.

II. DISCUSSION

Information and Communication Technologies are the different set of specialized tools and assets to make, disseminate, store, brings value addition or expansion and management of valuable data/ information. The ICT sector comprises of portions as different as media communications, TV and radio telecom, PC equipment, software, and service benefits and electronic media, for instance, the web and electronic mail. This review takes a gender at the prospects developed by ICT supported systems for women financial strengthening and overall empowerment. Socially the Indian women are still custom bound and are in a disadvantageous position. ICTs are rising as an incredible asset for women strengthening and empowering in a developing nation like India. It talks about the preeminent difficulties and a hindrance stood up to by women and prescribes methodologies to address those difficulties and intends to redo the circumstances offering to ascend to women empowerment. This research work is intended to examine the women's opinion about the role of ICT in empowering their overall capacity and capability pertaining to the concept of empowerment. The research work concluded that ICT role is significant in women empowerment.[9]

United Nations Development Programme (UNDP- 1965) define Information and Communication Technologies [ICTs] are basically information-handling tools – a varied set of goods, applications and services that are used to create, store up, practice, issue and exchange information. The set include the old ICTs such as radio, television and telephone, and then new ICTs of computers, satellite and wireless technology and the Internet. These different tools are now able to work together, and combine to form our networked world. An enormous infrastructure of inter-connected telephone services standardized computing hardware, the internet, radio and television, which reaches into every corner of the globe". at the present time, both traditional and modern ICTs are accessed and used for Various information needs of the people. Self employability and employability through ICT for rural women can enable by developing skills in the ICT areas are Use of online Transactions, Use of consumer and professional websites and apps, Use of Office Management software and Desktop Publishing Tools, Use of Storage Devices Tools, Use of Website Creation Tools, Leadership and Motivational Skills and Entrepreneurial and Employability Skills were highlighted to the surveyed rural women, the level of awareness, skills used to employability and personality level have been assesses in this study

As the technology, particularly Information and Internet technology become cheaper and viable to communicate, access, share, connect and transact. People of different socio economic background habituated to enhance use of ICT for livelihood, employability, business and day-to-day activities. In general, it seems the mobile usage and internet penetration has been increasing considerably and consumption of data also many fold in recent past but a large sect of people including educated and unemployed use the technology for entertainment and other trivial purposes. The study also confirmed that the survey respondents need to aware, familiarize and use the potential of ICT and Internet apps and tools that can be leverage for income generation, employment and career prospectus including personality development and knowledge updation. The study also aimed to faster the ways and means of ICT tools and technologies among the rural women and girls of Rajasthan for employability and rural entrepreneurship and thus attains some extent by making aware and familiarising ICT tools and applications on employability, business and entrepreneurship avenues by personally distributing the questionnaire and interaction. In the perception of rural women towards the make use of ICT to acquire leadership motivational entrepreneurial and employability skills is of encouraging.

Today is the era of Information Communication Technology (ICT). Various ICT tools are used to educate and inform the rural people. For generations, rural girls and women have been living in complete isolation without much access to modern media of communication. The development of a society largely depends on the access to information. Even though we live in the modern era, today, in the rural areas, girls and women are suffering from various problems such as less accessibility to modern information sources.

Community radio has served largely as a vehicle for top-down persuasion or as channel to convey information in the participatory mode. Community radio emphasises that it is not commercial and does not share what it would

call the perspective and paternalistic attitude of public-service broadcasting. The key difference is that community radio aspires to treat its listeners as subjects and participants. Community radio works in the cultural context of the community it serves; it deals with the local issues in the local language(s); it is relevant to local problems and concerns; and its aim is to help the community to develop socially, economically and culturally. The essence of community radio is participation of the community in managing the station, deciding on programming and producing content. Community radio is built around the core idea that communication works when it is grounded in the meaningful experience of the local community, and it harvests the creativity of the groups to serve. The main feature of community media is the active participation of the community in the process of content production in all categories - news, entertainment, information, cultural arts and communication, with an emphasis on local issues and concerns. The community also actively participates in the management of the media and takes part in decisions on the scheduling and content of the programmes. It is essentially a non-profit enterprise owned by the community. Message designing is an important part of the effectiveness of any medium. Message designing is based on the needs of the rural girls and women. For effective message designing through community radio, needs assessment is necessary. The study indicates that girls and women in rural areas of Rajasthan are suffering from various types of problems like illiteracy, health problems and agricultural-related problems.[7,8]

III. RESULTS

Women play a pivotal role in the development of any country. Women's status is the best indicator of progress of any nation. Status and development of women influence the development of country, as they not only constitute half of its population, but also influence growth of the remaining half of its population. The women in rural areas especially in Rajasthan are deprived of minimum facilities of enlightenment and education. The overwhelming majority of the labor that sustains life - growing food, cooking, raising children, caring for the elderly, maintaining a house, hauling water - is done by women, and, universally, this work is accorded low status and no pay.

Studies aptly indicate that women and girls in Rajasthan are suffering from various types of problems due to lack of education and information. Thus, women's empowerment is necessary. Women's empowerment is one of the key factors in determining success of development. Right information given at the right time can empower the rural women and protect them from various problems. Various ICTs, such as radio, television, mobile phone and internet are used for empowering the rural women via awareness, education and information. This is an ICT era, but, until today, half of the women are suffering from various types of problems due to the gap between ICT and its use without needs assessments and participation of rural people. Community radio, a participatory medium of communication, can be used for empowerment of rural women.

Though this article is designed to assess the problems among rural women, it is evident that needs in most villages in Rajasthan can be categorised as: [1] Educational and Employability; [2] Agricultural; [3] Cultural & Social Aspects; [4] Healthcare; [5] Natural Resource Conservation; and [6] Rural Development Concerns.

ICT as applied to these categories could include: [1] Education and Employability - Experts feel that education is not just the process of imparting literacy and numeracy. It is actually a process of socialization that helps children cope with the natural and the social environment. They have, therefore, emphasized the need to develop a school system that builds on the solidarities in societies and tries to learn from the natural environment. This need emerged from the basic concern that irrespective of caste, creed, location or sex, all children must be given access to education of comparable standards. In some of the villages visited, due to lack of education, parents send their children for earning at a very young age. In other villages, large numbers of youngsters are educated but, due to lack of proper information sources and counseling, are still unemployed. So for both situations, as a means for removing child labour and for providing proper information regarding employment opportunities, community radio can be an efficient medium.[6,7]

[2] Agriculture - During visits to the villages of Rajasthan it was found that most of the farmers have small land holdings. They are only twenty kilometers from the agricultural university, but they are not getting timely information related to crops, plant protection, weather, animal health, etc. Nowadays, agricultural input prices increase day by day, so farmers want timely information about crop pests, cropping pattern, market price and

other crop production-related information to enhance crop production efficiency. Farmers said that they want such type of knowledge and skill to minimize cost of cultivation and to maximize the production and productivity.

[3] Cultural & Social Aspects - The rural Rajasthan was a blend of people of different religion, culture and traditions, at modern times, Because of such a diversity of cultures found in the region, various languages are spoken, and wide range of traditions and customs could be observed. During the survey, it was found that elders of the communities are quite anxious about the younger generation moving away from their culture and traditions and adopting the western culture under the influence of media, especially television; they felt that community radio can be a good and effective means to promote our culture and traditions. Community radio will also help in reviving the traditions and languages which are on the verge of extinction. Some of the respondents also felt that many of the customs grew out of superstition and, by promoting logical reasoning with the help of community radio, they can be removed.

[4] Healthcare - Lack of knowledge of nutrition leads to high maternal mortality and infant mortality rates. It was found that rural people have a low level of nutritional education. Low nutrition education explains the poor intake of vitamin-rich food, especially green vegetables among women, even though they are available in plenty in the village. This is further compounded by irregular visits of health and Aanganwadi workers for nutrition education. Their contribution is hindered by lack of communication and other infrastructural facilities. Women, and girls in rural Rajasthan want detail information about the various health problems and prevention, also. Another reason for health problems among the women was gender disparities. Girls are breast-fed less frequently and for shorter durations during infancy and childhood; and, during adulthood, males are fed first and better. Women are interested in knowing the importance of breast feeding during lactation period. In addition, lack of medical amenities for childbirth was the other factor affecting the health of women. There was not any lady doctor in the village for the women. Women have no knowledge about the government hospitals.

[5] Natural Resource Conservation – Communication of the importance of natural resources and their conservation can be done by way of interpersonal communication, but a media with penetration to the grass roots level is required, and this wide reach can be achieved by community radio. Major concerns regarding resource management during visits were: [1] excessive use of chemicals and [2] cultivation of summer rice by farmers which leads to day by day decrease in the water table as well as release of poisonous methane gas.

[6] Rural Development Concerns - The Government has initiated various programmes related to health, employment, education, agriculture and other aspects. The goals of rural development in Rajasthan are considered simply as agricultural and economical growth in the narrow sense, whereas they should include balanced social and economic development, with emphasis on equitable distribution as well as creation of benefits. In the rural area it was found that there are various Government programmes to provide medicine and dietary packages among the women and children. But these packages are not reaching the rural people. The supplies were often irregular, inadequate and do not take into consideration the actual requirement of the population. There is no proper orientation of the functionaries; and, consequently, they are not aware of all the components of the programme. The functionaries do not have proper audiovisual aids to communicate uniform dissemination of messages to the communities. It was found that some parents wanted more children due to lack of awareness. They wanted to earn more money. They thought that more children will earn more money. Children under the age group of 15 were working in various fields to earn the money. They have a lack of awareness about the child labor act. The Government has initiated various programmes for women related to anti-dowry and maternity benefit, but women of these areas have a lack of awareness about the laws and rules. The Government has initiated various policies and laws in agriculture. In the rural area, it was found that Government has initiated various programmes on agribusiness and agriclincs, but these are not reaching the poor farmers. Small farmers have no knowledge about these centers. [5,6]

IV. CONCLUSIONS

Information and Communication technologies (ICT) have a potential for economic growth and social empowerment. Women living in rural areas of Rajasthan have less access to goods and services, social relations, knowledge and use of ICT. It seems the increase accesses to ICT services for rural women in Rajasthan could be effected the social development of them. In other ways by increase the awareness of rural women about the ICT services could be exported the amount of use of them will be improved and finally this parameters could be improved the social development of rural women. Although the rural woman's economic independence is a key parameter to social development of rural women and girls in Rajasthan



The means of e- government is electronic Government using an ICT (information Communication and Technology) by government agencies in order to create the relation citizen, business and other government sectors. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with businesses and industries, citizen empowerment through access of information, or more efficient government management. Such that we have revenue growth, reducing corruption, increasing transparency and profit, greater convenience as result of using. E-government is a powerful tool for human development and essential to the achievement of the internationally agreed development goals including the Millennium Development Goals. "Government's use of technology, particularly web-based Internet applications, to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities. [9]

It is very useful for women are who has not literate and it is access the information of all types like computer, Agriculture, cooking etc... Government launched the many of projects for literacy in rural areas with the help of Information and Communication Technology. It is very useful for rural women's. With the help of ICT government take the many people educated in rural areas. It is very effective for all people in India. [10]

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SJIF Scientific Journal Impact Factor
Impact Factor: 8.118



ISSN INTERNATIONAL
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