International Journal of Applied Social Science *RESEARCH ARTICLE*
Volume 4 (11&12), November & December (2017) : 735-742 ISSN : 2394-1405 (Print)
Received : 26.10.2017; Revised : 23.11.2017; Accepted : 30.11.2017

Facilitating Rural Inclusion through ICT Interventions- A Study of Select Programs

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ABSTRACT

With the passage of the historic Right to Education (RTE) Act, 2009 all children within the age group of 06-14 years age-group have come under the constitutional guarantee. In education as in the economic sector, rural isolation and segregation from the mainstream stunts growth leading to skewed social development. As a consequence inclusive growth is impacted. In a country like India, where more than 70 per cent of its populace remain habited in rural areas, achieving cent percent literacy rate and fulfilling the dream of universal elementary education will remain elusive. Moreover India is a land of myriad geographies along with its multi-cultural population and each distinct with its culture and rituals. This diversity of population lives in diverse geographical locations. Some of these geographical locations remain inaccessible to the global world. Combined with the physical inaccessibility is also the social and economic inaccessibility. Given such a scenario, the RTE for every child in the 06-14 age group will remain a distant challenge. However in a globalized world where communication has made inroads into the deepest of areas, the role of ICT interventions in rural areas needs to be explored. Given the importance of ICT's, in promoting education, it is paramount to focus on interventions of ICT enabled projects in rural India. The paper tries to explore how ICT can address inclusion of the marginalized segment of the society especially in rural areas and help expand the access to education in rural India by reviewing ICT enabled projects in rural India. Against this backdrop, the paper tries to build a case for utilizing ICT effectively in rural areas for inclusion and meaningful education by suggesting measures. ICT can act as leverage for eliminating social hegemonies and children from diverse backgrounds: tribals, minorities as well as children with special needs (CWSN) can fully benefit. The overall aim of ICT in rural education should aim towards empowerment of the rural youth.

Key Words : ICT–enabled interventions, Inclusion, Right to education

INTRODUCTION

AS per the 2011 Census, 72.2 per cent of the population lives in rural areas (Roy, 2012). It is still a matter of concern that ICT has not made tremendous inroads in rural areas.

How to cite this Article: Islam, Quazi Ferdoushi (2017). Facilitating Rural Inclusion through ICT Interventions- A Study of Select Programs. *Internat. J. Appl. Soc. Sci.,* **4** (11 & 12) : 735-742.

Though the policy discourse in India (NCF, 2005, NCFTE, 2009, MHRD ICT Policy 2012) advocates ICT, the implementation scenario is not encouraging enough even in urban areas. A huge segment of India needs to have access to quality education in rural areas. Henceforth the role of ICT becomes paramount. Studies have depicted that ICT's have shown a positive impact on student achievement in all subject areas, across all levels both in regular classrooms as well as with children with special needs. ICTs are a potentially powerful tool for extending educational opportunities, both formal and non-formal, to previously underserved constituencies—scattered and rural populations, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, girls and women, persons with disabilities, and the elderly, as well as all others who for reasons of cost or because of time constraints are unable to enroll on campus (Roy, 2012)

With the passage of the historic Right to Education (RTE) Act, 2009 all children within the age group of 06-14 years age-group have come under the constitutional guarantee. In education as in the economic sector, rural isolation and segregation from the mainstream stunts growth leading to skewed social development. As a consequence inclusive growth is impacted. In a country like India, where more than 70 per cent of its populace remain habited in rural areas, achieving cent per cent literacy rate and fulfilling the dream of universal elementary education will remain elusive. Moreover India is a land of myriad geographies along with its multi-cultural population and each distinct with its culture and rituals. This diversity of population lives in diverse geographical locations. Some of these geographical locations remain inaccessible to the global world. Combined with the physical inaccessibility is also the social and economic inaccessibility. Given such a scenario, the RTE for every child in the 06-14 age group will remain a distant challenge. However in a globalized world where communication has made inroads into the deepest of areas, the role of ICT interventions in rural areas needs to be explored. Given the importance of ICT's, in promoting education, it is paramount to focus on interventions of ICT enabled projects in rural India. Under the Sarva Sikhsha Abhiyan (SSA), several Computer Aided Learning (CAL) Programs have been created by developing multimedia content and the same has been in introduced across many states in India. 27,289 schools with about 503 million students were beneficiaries of this program (http://www.mhrd.gov.in/ict_school).

Significance of the study:

The paper can provide an insight on how to incorporate ICT into our rural classrooms, where the malaise of quality teachers and teacher absenteeism percolate into our rural education structure. As a consequence, it is reflected in the low educational achievements of the rural schools. ICT is a dynamic process in itself. If our rural education can benefit itself by using ICT interventions, India can pat itself on the back on the twin grounds of promoting accessibility to education and enhancing quality education too.

The paper tries to address the question of how ICT can help expand the access to education by looking at some ICT interventions in education in rural India.

ICT Interventions in Rural India:

The National Institute of Rural Development (NIRD) is an apex body in the country for

Research, Training and Action Research in the field of rural development sector. In order to fulfill the objective of widening the reach of coverage of training, NIRD is envisaged to develop a distance learning component in training programmes. The distance learning mode can contain the introductory print material, some components of audio-video materials, two –way conferencing technologies. Such initiatives are in progress using ICT tools for the training and development in the field of rural education.

ICT initiatives in Schools of Rajasthan:

Information and Communication Technologies (ICT) centre in 247 (approx.) schools located in rural areas of Ajmer/ Jaipur in Rajasthan will be established with the objective to deliver state-of-art ICT infrastructure model in schools for future replication. ICT Centres are intended to accelerate socio-economic development in the region and to achieve freedom from distance by linking all parts of the region with the rest of the country through good telecom and internet services. The ICT centre would enhance the learning capabilities of students using technologies and applications like e-learning.

- ICT-Infrastructure will enable students of rural areas to get connected with rest of the world facilitating exposure of computer education and advance technologies.
- The Internet connectivity at these schools will benefit student to access the various kind of service including educational as well as community related websites and will connect rest of the world

Infrastructure will be provided to High school/Secondary and senior secondary schools nominated by state government of Rajasthan. Under the project 05 Desktop PCs in each school along with Printer, Scanning device, LCD screen, Pen Drive, webcam, microphone, Un-interrupted Power Supply, e-learning, e-content creation and sharing software, Computer furnitures with 10 chairs, site preparation for computer lab with marble Flooring, Electrical cabling, Internet / LAN cabling, DG Sets will be provided. It is also proposed to make few schools disabled friendly for physically challenged, blind and deaf students, so that integrated education may be facilitated in these schools.

Content delivered:

- Student will be able to access the e-contents and webcast of various lectures, can chat with teachers and students, and can collaborate among themselves for knowledge sharing and problem resolution.
- Exposure of student to education through ICT will develop inquisitiveness among them and set free from rigidities of highly ritualized, bland and indifferent teaching that they have so far experienced.
- It is also proposed to upload digital book contents and course curriculum in of Rajasthan education Board, which may be made available by the state government.
- A software facility will be available for teachers/students for developing their own lectures/ presentation for sharing themselves (www. Eis.ernet.in).

Intel Learn: a pace setting program for rural students

The Intel® Learn Program is helping youth from underserved communities develop

their problem-solving, collaboration, and technology skills—and giving them the tools to build connections to a brighter future.

"Intel Learn made us all think about the problems faced by our village, and we all got together as a team to come up with workable and long-term solutions."

—Aneesha, Intel® Learn Program participant, Rosemala, India

Affordable Rural Education Centres:

Grameen Koota, in partnership with Hippocampus learning centres, open, new, affordable rural education centres seeking improved school results for very low income children. Since June 2011, Grameen Koota, piloted 18 education centres in rural Karnataka (Bangalore), India with learning programs for pre-school, primary and high school children. Grameen Koota's field staff identify villages with low access to quality affordable education, adequate households to meet enrollment targets, and cultural acceptance for children from different backgrounds to study together. Within the first month and a half over 600 children enrolled across the three program in 18 centres. The pilot showcased that quality education can be offered for as low as $2.50 per month, by using technology, video-based coaching and low cost education materials. However, several challenges such as competition with government Anganwadi programs, low-availability of quality teachers, and timing of centre roll outs led the team to fall short of enrolment targets by 50 per cent. The centres are expected to achieve operational breakeven within the second year and break even of subsequent centres should be achieved within a shorter time frame.

Grameen Koota has shared a detailed business plan showcasing learnings and challenges from this pilot, allowing other organizations to assess the viability of rolling out a similar program on their own.

Education for rural India initiative, MITSOT, Pune:

At MITSOT, Pune, Maharashtra, in its Education for rural India initiative, the project has envisoned to offer a perfect knowledge delivery mechanism suitable for enriching the lives of rural masses with features of access Anywhere, Anytime, Anybody through mobile technology which in turn will overcome urban and rural digital gap. The project implementation area chosen were backward villages of Latur district from Marathwada region and of Buldhana district from Vidharba region, Maharashtra.

During the survey, team of MITSOT found that the problems faced by the villagers were related to agriculture, health and education. Villagers were ready to have the training on mobile phones and make use of various services available on mobile phones. Now the idea is to implement real time ICT based systems to develop and deliver mobile based applications for education , healthcare and agriculture.

Goal of this project is to fulfill the basic amenities of rural population through mobile based application. They have formulated an "Idea Action Plan".

In the Idea's 30 day plan, the project involves :

Finalizing the network infrastructure, power devices, solar panels, mobile devices selection, content framework.

In the Idea's 60 day plan, the focus would be on:

Collaboration with companies for infrastructure help and content development in local language

In the 120 Day plan, focus would be on:

Mobile Application Development for the content prepared in local language. This is followed by the Network System Deployment and Functionality test. The site of the program was at Latur and Pune, Maharashtra.

Gramdoot Project :

The Gramdoot project covers the entire district of Jaipur in Rajasthan and provides Broad Band Services to 400+ Gram Panchayats. A kiosk equipped with a computer, printer, web camera and two fibres used for LAN and CATV services are managed by a computer literate villager. The objective of the project is to empower girls and women in rural India. The ICT intervention is aimed to provide Broadband Services to the villagers at affordable cost so that the disadvantaged community can have access to education at an affordable price.

Gyandoot: Dhar, Madhya Pradesh:

Gyandoot is an Intranet based Government to Citizen (G2C) service delivery portal commissioned in Dhar district of Madhya Pradesh (a state in central India) in January 2000. Gyandoot aims to create a cost-effective, replicable, economically self-reliant and financially viable model for taking the benefits of Information and Communication Technology (ICT) to the rural masses. This is expected to lead to enhanced participation by citizens/government in community affairs through creative uses of ICT and also ensure equal access to emerging technologies for the oppressed and exploited segments of the society (Rajesh Rajora, "Bridging the Digital Divide" Tata- McGraw Hill, 2002, pp 66-67). The overall aim of ICT in rural education should aim towards empowerment of the rural youth.

Discussion:

ICT's can serve as instruments of awareness for the rural populace. The crucial role of ICT and the potential it has to transform the lives of people through providing quality education cannot be undermined. However, caution needs to be addressed that ICT's should not just be a cosmetic application. It is not merely sufficient that ICT is available and affordable in our rural areas. The access of ICT should be functional. ICT should enable delivery of meaningful relevant content which can cater to the learning needs of a diverse group of learners. In this case the target audience must be benefitted through its intervention. Our diverse learners with different entry –level behaviours must be able to access, adapt to the ICT to make sense of the content or the learning that is taking place.

Our stakeholders must make an essential realization that mere connectivity will just not ensure ICT-enabled benefits to percolate into our rural education. It must primarily be facilitated by meaningful content delivery which is just not easily accessible, available but acceptable and adaptable to the diverse segment of learners. This will also ensure that ICT can work in tandem with the 4A's Framework -availability, accessibility, acceptability and

adaptability (Tomasevski, 2004).

Though the government has achieved tremendous increase in rural tele-density and the government's focus is on rural broadband, certain challenges must be overcome for effective ICT-penetration in rural India.

Some of the measures which can facilitate rural inclusion using ICT interventions are suggested:

1. Development of Infrastructural facilities:

Infrastructural base at the rural stations need to be fully equipped and expanded to enable requisite ICT penetration. Availability and accessibility of the 4A's Framework needs have to be addressed so that all learners from diverse backgrounds can avail of the benefit of ICT education. Focus should be based on developing ICT backed educational model to support indigenous local context and not just on setting up ICT labs.

2. Meaningful content delivery:

Focus must be on delivering meaningful content in local language or multi-media accessible format as per the needs of the target segment. Also capacity building of various stakeholders in ICT is essential for effective utilization of ICT. Nowadays, it has become imperative to use the print and broadcast media effectively in order not only to communicate messages of relevance and importance in the context of rural development but also to motivate and encourage the people of rural India to participate in the development process (Hazra, 2012).

3. Creating awareness and generating interest:

Creating awareness about the benefits of ICT in the minds of the young impressionistic learners is a vital factor. This will create the much –needed learner "readiness" so vital to the teaching-learning process. The learner "phobia" related to ICT that it is alien, difficult to grasp, not suitable to our need. Such phobias have to be addressed in a meaningful way by creating the much needed awareness and breaking the "glass-ceiling".

4. Motivating the students about sustained utility:

Motivating the rural students about sustained utility and benefit of ICT will create opportunities for building in-roads into rural education. Accordingly ICT should be user-friendly of ease of access. It should not only be accessible or available to the learners but adapted to suit the learning needs of every learner.

5. Need-based ICT programs:

For success of any ICT based programs, it should be need based in order to be meaningful to the target group. The local needs of the learners have to be identified, the program content has to be developed as per the context (rural) in which the learner is familiar and can build upon.

Rural people have a tendency to think that ICT access is difficult as it engages in the English language as a medium of its transaction. So need-based content in vernacular language

should be aimed at.

6. Building Partnerships:

Partnering with the community and NGO's for facilitating e-learning, to enhance mobilization, create awareness and a sense of unison in rural areas towards contributing for a greater and a larger cause of social inclusion of a diversity of people.

7. Linking ICT with vocational education:

ICT should be integrated with national rural employment schemes to link education to economic development. ICT –enabled vocational courses should be focused upon as part of the learner's vocational training. This will enable the utility of ICT and lead to meaningful penetration of ICT in rural education.

Conclusion:

Education should be linked with life. Focus should be on the local / rural economy. How can it be strengthened? This should be the focus question in all deliberations both at the macro, mezzo and micro levels. Be it policy- making or regarding any programs, schemes or initiatives planned and undertaken for rural India. Focus should be based on developing ICT backed educational model to support indigenous local context and not just on setting up ICT labs.

Enabling ICT-enabled education as part of inclusion in rural areas is a challenge. The challenge redoubles itself because even after spending several decades in facilitating universal elementary education to every child in 06-14 years age-group, still primary schools in rural areas lack basic infrastructural facilities. The overall aim of ICT in rural education should aim towards empowerment of the rural youth. ICT's if facilitated with careful meticulous planning can be both a potential cost effective strategy to the government, as well as cater to a wide group of learners. Technologies like video- conferencing, tele-conferencing can enable content to be delivered to a multiple group scattered over diverse geographical locations.

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