Introduction

Pakistan’s education problems are multilayered. Private sector institutes are providing concentrated opportunities to a specific class, in the meanwhile public sector institutes especially at primary level and secondary level are not equipped to match the international standards. The government and responsible institutes have a complex task ahead in creating a coherence between the public and private sectors so that equal opportunities are created for everyone. Furthermore, there are around 25 million children in Pakistan who are out of school with the overall illiteracy rate is on the rise. Historically, Pakistan has committed to literacy initiatives at international level as reflected in successive national education policies and plans. Pakistan is signatory to Education for All (EFA). The education policies of 1972 and 1979 particularly focused on literacy programs and Non-Formal Education. Literacy and Mass Education Commission was established in 1981 to achieve high literacy rate through NFE, whilst other mentionable policies targeted towards higher literacy rate are; The National Education policy of 1992 and 1998-2010, The Education Sector Reforms (2010-2015) and The National Plan of Action on Education for all (2001-2005). Despite the mentioned commitments and programs, state of Pakistan never achieved the desired results.

Per the Pakistan Economic Survey 2014-2015, the country’s literacy rate stands at 58%. With the mainstream options falling to provide a solution, the situation calls for a sustainable Non-Formal Education (NFE) mechanism and proactive literacy programs for those who are not associated with any formal education system. Non-formal Education system must cater to segments, including functionally illiterate; those who cannot cope with demands of daily life, the physically challenged or disabled because of wars, diseases, accidents and malnutrition (There are around 15 million such people in Asia alone), those who have remained unemployed over a long period, out of school youth, women and girls, refugees, migrants and non-nationals.

It has been observed in countries with similar educational dynamics, use of Information and Communication Technology (ICT) can significantly scale up the productivity of existing NFE centers and at individual level, it can provide employment opportunities and livelihood skills through short courses for those who have passed the age of enrollment. The latter use of ICT directly contributes to poverty alleviation.

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1 Effectiveness of Private, Public and Private-Public Partnership Schools in Pakistan
2 10 alarming statistics about Pakistan’s out-of-school children
3 Sindh Education Sector Plan 2013 – 2016
4 Education woes: Pakistan misses UN target with 58% literacy rate
5 Use of ICTs in Non-Formal Education and Life Long Learning
Non-Formal Education, Innovation and Information and Communication Technology (ICT):

Information technology is continuously altering every sphere of life. It is the basic force behind the rapid globalization and during the last fifteen years it has created a new global economy. While formal institutions are aligning their structures with up-to-date technologies, NFE systems around the developing world are lagging behind in adopting innovative ideas and technological developments.\(^6\)

At broader level, use of ICT will scale up the productivity of existing NFE centers and at individual level, it can provide employment opportunities and livelihood skills through short courses for those who have passed the age of enrollment. The latter use of ICT directly contributes to poverty alleviation.\(^7\)

Teachers play a pivotal role in sustainability of NFE system, their capacity building through use of ICT can fast track positive results. ICT can streamline the process of documentation and information sharing. Through use of visual, print and video documentation, a successful NFE project can become an effective model and source of pride for whole community that can keep them motivated in future. As a result, the process of networking between government and those organizations involved in design and delivery of NFE can be enhanced. Coherence among such networks can maximize available resources and expertise, including ICT equipment. Moreover, ICT tools can improve the overall efficiency of monitoring and evaluation mechanism and more accurate beneficiary feedback can be obtained.\(^8\)

In case of Pakistan, one can observe many programs under different international donors and administrative agencies. Technology is also being used in these programs, but there are hardly any successful models or case studies related with ICT which can be replicated in other parts of the country. Punjab Accelerated Literacy Promotion (PALP) in Punjab and Sindh Reading Program (SRP) in Sindh are current programs committed to provide technical assistance and NFE centers in their respective districts.\(^9\)

Following are the case studies from different parts of the world which present success stories in NFE through use of innovative ideas and technology.

**Multi-Purpose Community Telecentre for Community Development, Sri Lanka:**

A leading NGO, SarvodayaShramandana Movement initiated a project consists of 18 sites equipped with computers across different villages. The main purpose of providing Community Learning Centers (CLCs) with computer technology was to enhance and materialize the entrepreneurship skills of local villagers. They were taught to buy and sell their products for better profit margins. The CLCs were provided with computers, printers, scanners and binding machines for development of community database and effective information sharing system among farmers, fisherman and all those who are involved in small-scale business at grass root level. The NGO before implementation of project conducted a research and identified the issues like poor infrastructure, lack of ICT knowledge and cost of technology related equipment. A single computer was provided to many “heads” and before giving a computer to the community, training of heads in Sarvodaya headquarters was conducted. The beneficiary feedback of villagers was positive as they successfully marketed their products in neighboring communities, whilst also improving their...
literacy and technical skills. An important fact to consider here is that “Sri Lanka’s population has a literacy rate of 92%, higher than that expected for a third world country; it has the highest literacy rate in South Asia and overall, one of the highest literacy rates in Asia”.

**Rural Education and Development (READ), Nepal:**

The program READ was developed in 1991 in NEPAL to battle illiteracy through establishment and promotion of rural reading centers and libraries. By now, READ network has established 65 rural libraries in 29 districts. The libraries are linked with other income generating development initiatives such as front stores, telecentres, fish stores and printing press which ensure sustainability of libraries. Libraries have become community resource centers managed by local people, currently, many resource centers also provide telecommunication facilities. It has practically changed the way of lives of many involved in the program. As a result, around 1.9 million villagers have access to these centers and around 130 sustaining enterprises have been launched.

**Prospering villages through Science and Technology, China:**

The program was launched by the China Association of Agriculture in 1996 with the main focus to link education with poverty alleviation. Before its launch, many social scientists and specialists studied the life of ordinary farmers and, modes as well as conditions of agriculture production. The project intended to provide basic scientific knowledge related to farming. Since its launch, more than one million farmers from 12,500 villages across 22 provinces have benefited from the more than 100 training schools of agriculture and technology that were set up under the program. Around 24,000 experts and educators were involved in training of common farmers and 30% of them stayed with village farmers to equip them with innovative agriculture practices.

**Project in Radio Education for Adult Literacy (PREAL), India:**

PREAL was launched simultaneously in selected 16 districts of Madhya Pradesh, Bihar, Uttar Pradesh and Rajasthan. Weekly Radio programs under the title “NaiPahal” were used as assistive tools to enrich the experience of women learners in adult education centers (AECs). The connection between their non-formal education centers and radio kept them motivated throughout the program. Particular stress was laid on strengthening of reading ability through planned graded reading drill that was inducted into every lesson that was broadcast. The bulk of instructional content was in Hindi but local dialects were also used.

**Academic Credit Banking System (ACBS), South Korea:**

The credit bank system worked as a degree awarding institute where students were allowed to accumulate credit through different sources. It provided a path for students (mostly college drop-outs) to attain university level degree without a post-secondary degree. The system offered Bachelor’s level and Associate level degrees in variety of programs. The major sources through which a student obtained credits were: regular courses at recognized universities, part time and extension programs, courses recognized by National Institute of Lifelong Education (NILIE) and Ministry of Education, through acquiring national and private certificates and having skills or completing training to acquire skills of Important Intangible

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*ICTs For Community Empowerment and Non-Formal Education*
*Ministry of Higher education and Highways*
*READ’s work in Nepal*
*Science and Technology in China*
*Innovations in Non-Formal Education*
*Project in Radio Education for Adult Literacy (PREAL)*
Culture Properties. The system brought a level of flexibility and coherence among the institutions of South Korea. Up to 2012, NILE accredited around 5,000 programs at more than 500 different institutes.16

**Computer Literacy Training Program, Malaysia:**

Ministry of Rural Development Program initiated a nationwide Rural Movement to enhance participation of villagers in process of planning and implantation. The program offered different courses including basic use of computer skills to village development and security committee which enabled them to perform proficient services. About 57 courses were conducted during the three-year period that catered to 1,482 participants, between 15 and 76 years of age with an average age of 38 (61 per cent male and 39 per cent female). The programs addressed variety of issues and comparative age brackets portray that computer programs addressed every section of rural society.17

**Opportunities for Pakistan**

According to National Education Policy 2009, four key issues identified with current literacy and Non-Formal Learning programs are; variable quality of programs, absence of certification and accreditation regimes, programs are not well-linked to employment opportunities and inefficiency of programs. Moreover, there are number of NFE centers running across Pakistan and continuously facing issues like retention of students, quality of teachers, lack of community support and absence of efficient monitoring mechanism. The main factors which hinders the use of ICT in Pakistan are financial constraints, scarcity of trained manpower, lack of technical and maintenance personnel, inadequate number of specialists in use of ICT for literacy, and negative attitude of the educational personnel at various levels and their unwillingness to change."18

In cosmopolitans, the technology is penetrating in education sector but it does not add anything to reflect in the overall stats as in most of rural areas, the conventional style of education is prevailing and dominant. Despite of dismal stats regarding literacy, there is still lot of opportunities that can enhance the use of technology in learning for positive future outcomes.

There are many other innovative initiatives from different organizations and government providing pilot frameworks that can be adopted on large scale for more efficient results especially in education sector. Public Private Partnership for Education is an effective model that aims towards building a bridge between private and public schools so that later can benefit from the corporate models. The concept of private schools taking public schools under their wing can produce results in comparatively short span of time. The Sindh Radiant Organization is working towards girls education in extremely remote areas through community learning centers. Britannica Learning Tools aims to improve the learning outcomes in mathematics of under-privileged students in Lahore, through the provision of an e-learning tool called Smart Math. The Broad Class - Listen to Learn is an radio centric program in Islamabad committed to provide radio instructive lesson on various subjects to both in and out of school primary level students. Ilm on wheels is another creative initiative targeting far flung areas of KPK. A satellite enabled mobile van provides access to online learning with purpose of enhancing learning achievements in Mathematics. This idea can be replicated in other provinces for more diverse purposes and far reaching results. Digital Study Hall (DiSH) uses interactive video lessons that complement both capacity of teachers

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16 The Korean Academic Credit Bank: A Model for Credit Transfer in North America?
17 Adult Computer Literacy Programme in Rural Areas in Peninsular Malaysia
18 Use of ICTs in Non-Formal Education and Life Long Learning
and understanding of students. The students remain motivated when technology intervenes. Rigorous use of video lessons can solve the retention problem of students in rural and 2nd/3rd tier urban areas. The Skills for Employability Program aims to identify and train 300 Education Entrepreneurs from remote areas and to assist them in opening schools and other educational centers in Pakistan’s Khyber Pakhtunkhwa Province.19

The case studies regarding innovative use of technology in learning from other countries can guide the way of Pakistan’s education policy makers. In almost all interventions, respective administrations have targeted their rural areas. Digital libraries in villages of Nepal and Tele centers for community development in Sri Lanka are perfect examples of deep concerns of authorities regarding prosperity of their rural population that is almost impossible without intervention of technology in 21st century. Pakistan’s agriculture sector can learn a lot from China. Dissemination of scientific knowledge to farmers can produce far reaching results for our country’s agriculture production as traditional livelihood of its rural population is largely dependent upon agriculture. Countries like Malaysia and Korea have progressed rapidly because they have focused on innovative ways of dealing with basic problems of their population. Just like Malaysia did, Pakistan must bring the traditional leaders of villages in process of planning and implementation as only they are the one who knows about the exact needs of their people.

Aforementioned innovative initiatives in Pakistan are hopeful but all these technological interventions are sporadic. A strong political will and corporate initiatives (government must mobilize the corporate sector to invest in rural areas for efficient results) are required to create coherence between all these scattered initiatives. Community e-learning centers, satellite enabled vans, video and radio lessons sounds modern and effective but they can only produce results when changes will be done on the policy level.

19Center for education innovations
Non-Formal Education: Innovative Case Studies

Private Public Partnership

Britannica Learning Tools

Broad Class: Listen to Learn

Ilm on Wheels

Digital Study Hall

Skill for Employability

Non Formal Education in Quetta, Baluchistan