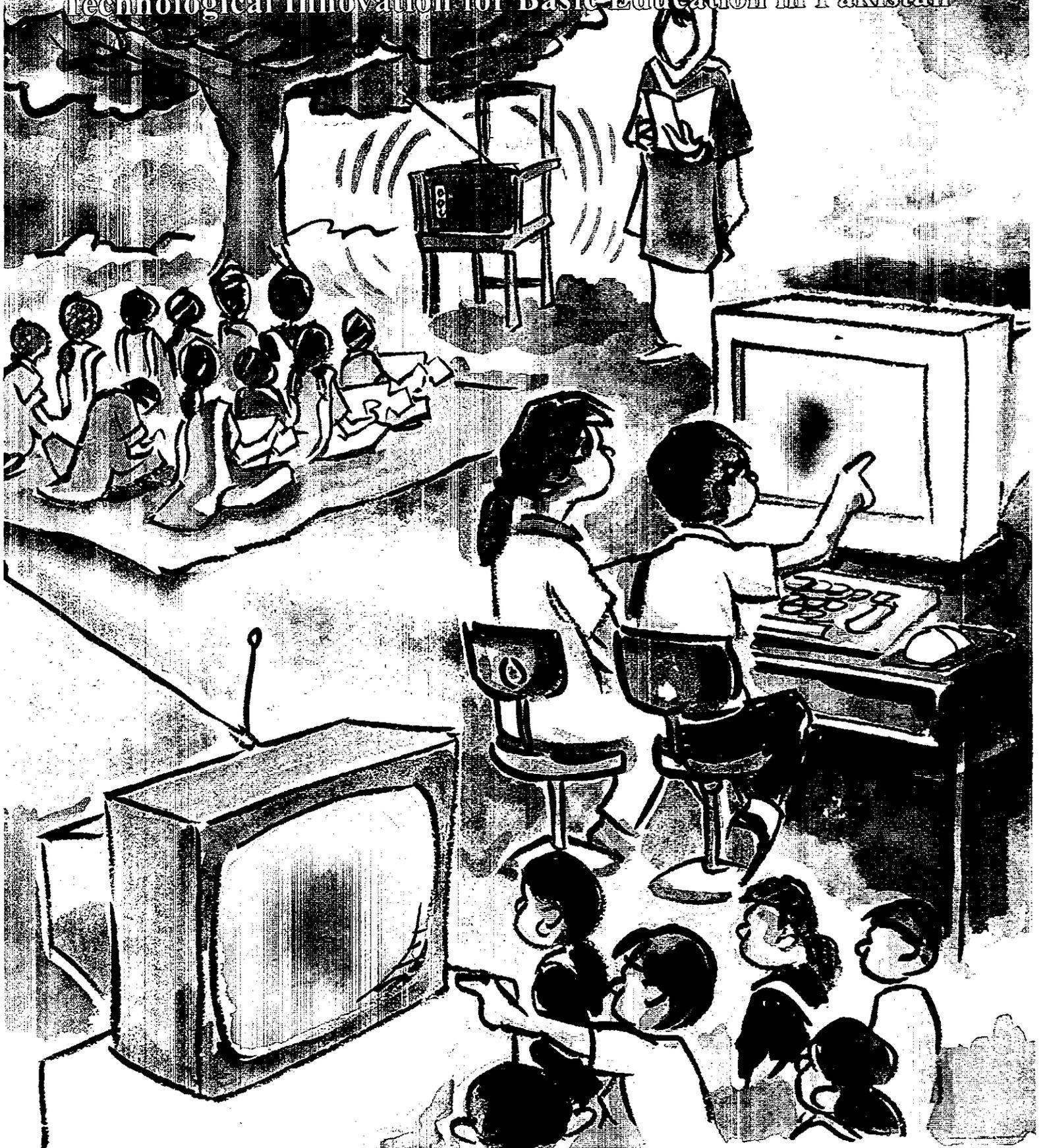


# Connected Learning

Technological Innovation for Basic Education in Pakistan





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Building Bridges Between Research and Practice



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# Exploring Options for Using Technology to Support Basic Education in Pakistan

## WORKSHOP REPORT

June 3-7, 2002  
Islamabad

Organized by

The Pakistan Federal Ministry of Education

and

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through

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Facilitated by

Education Development Center

and

The Asia Foundation

## WORKSHOP FACILITATORS



The Ministry of Education Government of Pakistan under the leadership of Ms. Zobaida Jalal and her team is a revitalized and dynamic public institution. With a vision of quality education enabling all citizens to reach their maximum potential; produce responsible, enlightened citizens; and integrate Pakistan into the global framework of human centered economic development. The Ministry is supportive of all educational initiatives and programmes that will help it to meet its national and international commitments in providing basic education to all men, women and children.



Building Bridges Between Research and Practice

Education Development Center (EDC) is an international non-profit organization committed to promoting education, public health, and sustainable development around the world. Founded in 1958, EDC manages more than 350 projects in 40 countries. EDC has been at the forefront of efforts to make effective use of educational technology, both in the U.S. and in developing countries. It can be reached at [www.edc.org](http://www.edc.org)



The Asia Foundation is a nonprofit, nongovernmental grantmaking organization committed to the development of a peaceful, prosperous, and open Asia-Pacific region. The Foundation supports programs in Asia that help improve governance and law, economic reform and development, women's participation, and international relations. The Foundation gives priority to strengthening leadership and the capacity of local organizations, as well as improving public policy. Foundation grants are given for education and training, technical assistance, exchanges, policy research, and educational materials. Founded in 1954, The Asia Foundation is headquartered in San Francisco, has 15 offices in Asia, and an office in Washington, D.C.

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# Foreword



## MINISTRY OF EDUCATION

The Government of Pakistan welcomes the beginning of a new era of friendship and cooperation with the United States of America in the field of education and technology. The United States Agency for International Development has in the past, extended valuable support to Pakistan for promoting education. A hallmark of all its programs has been making education accessible especially for girls in disadvantaged regions. Education empowers people to improve their quality of life and the rapid changes taking place in the world today require continuous acquisition of information and skills. The economic future for developing nations lies in their ability and capacity to use and transform knowledge through new technologies for their own requirements.

Pakistan has achieved minor success in improving literacy through radio instruction and other distance learning options. Failure to sustain programs over long periods is a major reason for low levels of literacy and education. With the market determining the use of air and viewing time, instruction for basic education will require subsidy and support for a long time.

Technology in its various dimensions has a vital role to play in the process of reaching out to the millions of illiterate and deprived citizens. The Education Sector Reforms agenda of the government rests on building partnerships and finding new strategies to ensure that the dream of education for all is transformed into reality. Experiments and pilot projects in literacy and basic education tested in Pakistan and other countries should become part of mainstream educational programs. The use of technology in support of basic education and teacher training through distance learning and other options needs to be explored so that government is enabled to meet its national and international commitments.

A handwritten signature in black ink, appearing to read 'Zobaida Jalal'.

**ZOBAIDA JALAL**  
Federal Minister for Education



The United States Agency for International Development (USAID) is pleased to have the opportunity to collaborate again with the Government of Pakistan (GOP) and the country's provincial and district governments to help improve the quality, relevance, efficiency and management of education, particularly for children of primary school age. Education and the quality of education are viewed by many Pakistanis and international organizations as the most important single area for development and strengthening in the country. USAID welcomes collaboration with the GOP and Pakistani people as they implement sweeping, historic devolution and decentralization programs. The GOP and Federal Ministry of Education have eloquently stated that improving educational quality, relevance and access will help moderate fertility rates and enhance family health, augment agricultural productivity and environmental management, promote amelioration of differences, and generally prepare citizens for modern life and work.

USAID personnel have consulted with many governmental entities and officials in Pakistan, as well as with non-governmental organizations, and examined our own past successes and shortcomings with educational programming to arrive at our present plans for education in Pakistan. USAID's main objective is to help improve basic education through qualitative reforms and increased participation. We are pleased to support, in varying degrees and to the limit of our resources, five of the seven thrust areas of the GOP's far-reaching, comprehensive Education Sector Reforms (ESR). Included in this is helping to instill inquiry, critical thinking skills, questioning, alternative teaching methodologies and reflection into the primary school and teacher training curricula.

Technology is not the goal or final destination of learning, but it can provide valuable means pedagogically and administratively. This workshop brought together over 50 participants, approximately two-thirds of them women, representing the federal and provincial ministries of education, education-related NGOs and others. I acknowledge here the indispensable strategic, technical and logistical support from the Education Development Center and The Asia Foundation to plan and carry out this workshop.

Exhibiting genuine interest and enthusiasm, workshop participants examined how technologies could support ESR plans for basic education, and provided practitioners with hands-on experience in using interactive programming techniques. Interactive radio instruction was chosen as the demonstration methodology in part because it introduces various components of instructional design and educational technology, can bridge distances physically and between girl-boy and rural-urban learning levels, boosts learning, brings fun and excitement to classrooms, and is relatively inexpensive.

Millions of children, adults and out-of-school youth in Pakistan can directly benefit from effective formal and non-formal educational programs and appropriate technologies.

**JOHN R. SWALLOW, PH.D.**  
 Team Leader Education, Democracy &  
 Governance, Labor and Gender  
 Bureau for Asia and the Near East, USAID

# Iqra Read

In the Name of Allah, the Most Beneficent, the Most Merciful

*Read in the Name of your Lord, Who has created*

*Has created man from a clot.*

*Read! And your Lord is the Most Generous,*

*Who has taught by the pen*

*Has taught man that which he knew not.*

*Nay! Verily, man does transgress all bounds,*

*Because he considers himself self-sufficient.*

Holy Quran  
(Surah: Al-'Alaq)

Presentation by Roots Montessori & High School Girls  
**WE DARE TO DREAM**

*We are the voices of the future generation  
 painting now the picture of tomorrow  
 we commit ourselves to build a better world  
 a world of peace and unity in diversity.*



*Cause we dare to dream tomorrow, today  
 and we hold the future in our hands  
 imagining a world free of fear  
 free of hate, war and disunity.*

*We are the voice for the future generation  
 shouting loud our joyous aspirations  
 let our voices be heard by many  
 for we believe that in our hands the  
 future can be free.*

*Cause we dare to build tomorrow, today  
 and we hold the future in our hands  
 imagining a world free of fear  
 free of hate, war and disunity.*

*We dream of a sustainable future  
 an education accessible to all  
 a government responsive to the people  
 a stable family, raised from poverty  
 a culture respected, enhanced morality.*

*....and we dare to dream*

(This song was presented by the Global Vision Students of 11 countries including Roots, Pakistan at the World Conference at Brisbane, Australia expressing the dreams and hope of the youth around the world.)

## CHAPTER ONE

# Initiating Dialogue

Perceptions, hopes and dreams marked the beginning of the workshop as an appropriate rendering of the Quranic injunction on the value of literacy and the written word followed by a musical presentation of the world as young schoolgirls would like it to be. The workshop was designed to assist Government of Pakistan officials, national and provincial and other stakeholders to identify strategic options involving the use of educational technology to support their plans for the Education Sector Reforms program by sharing experience of interactive programming techniques that have been developed through USAID-assisted projects involving radio and other technologies.

### Context and Purpose

*Mr. Julio A. Andrews, Representative,  
The Asia Foundation in Pakistan*

Mr. Andrews welcomed the Federal Secretary of Education, Mr. Tariq Farook, other guests and participants and introduced Mr. William Monroe who had just arrived in Pakistan as Deputy Chief of Mission of the United States Embassy.

He touched on the significance of the workshop as the first USAID supported in-country training program since the United States government re-established a USAID program in Pakistan. Although USAID has not had a resident program in Pakistan since 1992, USAID funds have supported the Pakistan NGO Initiative (PNI) a highly successful civil society capacity building program working in the areas of health, education and micro finance, administered by The Asia Foundation and the Aga Khan Foundation since 1995.

The workshop was an opportunity for a group of international specialists to share their experience and information on the use of technology to support basic education, with a highly qualified cross section of participants from the government and private education institutions representing

primary, secondary and higher education as well as media organizations. The significance of the workshop was even greater as it had initially been planned last year and was cancelled at the last minute due to the events following September 11. He thanked the many people who worked on the first workshop and this workshop especially Ms. Mehnaz Akber Aziz who had been a key contributor to The Asia Foundation's Pakistan NGO Initiative for facilitating the workshop.

The specific purpose of the workshop was:

- To develop an understanding of technology options for Pakistan, including radio, TV, computers, and others;
- To demonstrate how pedagogy is introduced through technology by using interactive radio instruction as a means for improving educational quality and access for 5-7 year olds; and,
- To provide hands-on experience designing a technology-assisted basic education program.

## U.S. Commitment to Basic Education in Pakistan

*Mr. William Monroe, Deputy Chief of Mission, U.S. Embassy, Islamabad*

Mr. Monroe underscored the critical role of basic education in determining the quality and social infrastructure of any nation. The U.S. Government believed that there was no better investment a government can make in the future of its people than in education. Basic education was a critical challenge for the Government of Pakistan which the U.S. Government was committed to helping it meet. Sustainable economic growth and development were possible only when the general population is literate and provided with the opportunity and the skills to learn. It required financial resources and the dedication, imagination and commitment of trained professionals from both the public and private sectors and hard work and partnership of teachers, parents and students. The United States Government had decided to work in partnership with the Ministry of Education to improve and increase the opportunities for basic education in Pakistan. Mr. Monroe extended support to the Federal Education Minister Jalal and her staff for the Education Sector Reform program and praised their commitment to revitalizing the education system of Pakistan.

In the aftermath of September 11, Pakistan joined the war on terrorism, a courageous decision by President Musharraf that enabled the U.S. Government to revitalize its bilateral relationship and seize this opportunity to demonstrate its commitment to helping the people of Pakistan realize a brighter future. Committed to building a strong partnership, USAID will start with

programs in democracy, health and education.

As President Bush announced when President Musharraf visited Washington in February, the U.S. Government will provide multi-year funding of \$100 million in support of the Pakistani Government's Education Sector Reform program. USAID's efforts will initially focus on:

- Teacher, school administrator and district official training in pedagogy and school management.
- Functional literacy for adults and the development of sound education policies and reforms.
- Support activities which build local community and parental support for quality education.

Experience in the U.S., as well as the developing world, has shown that technology is most beneficial in education when its use is conceived as part of a larger effort to reform the educational system. Technology by itself does not provide a magic solution to the challenges of providing quality education. As Pakistan works to improve its basic education system, it must not overlook appropriate technologies like print and radio. Using what is already at hand more skillfully and in creative combinations can have important benefits for better quality and access to basic education. Newer technologies also have their place, particularly as they enable a country like Pakistan to be part of regional and international networks that explore promising changes in education and the use of technologies. This workshop was the beginning of the USAID education program in Pakistan.

## A New Era of Friendship and Cooperation

*Mr. Tariq Farook*, Federal Education Secretary, Islamic Republic of Pakistan

Mr. Tariq Farook welcomed the team from the Education Development Center in Washington and the local participants on behalf of the Federal Minister of Education Ms. Zobaida Jalal who was unable to participate for reasons of ill health. He stated that using technology for education in Pakistan indicated the beginning of a new era of friendship and cooperation between Pakistan and the U.S.A. The Government of Pakistan was alive to the importance of ICT and mass communication and had taken steps to providing access at all levels.

- Over 3 million internet users in Pakistan with internet access to more than 700 cities
- 100 Internet Service providers
- Dual fiber-optic backbone for high speed

connectivity

- Virtual University
- Allama Iqbal Open University alone has 3 million registered students using different modes of ICT

A cornerstone of the Education Sector Reforms was building public-private partnerships. The private sector had pledged full support to the government and in turn the government had developed a comprehensive incentives package for private sector initiatives in education. The National Education Policy 1998-2010 and the Education Sector Reforms were directed towards modernizing education in Pakistan and popularizing the use of computers and Internet among children and teachers. The potential for use of all technologies including Interactive Radio Instruction (IRI) should be explored to ensure outreach and quality of basic education in Pakistan.

## CHAPTER TWO

# Setting the Framework

The key presentations to elaborate the agenda for the workshop were made by specialists from the Education Development Center in Washington, U.S.A.

### **Building out from Appropriate Technologies for Basic Education**

*Mr. Stephen Anzalone, Education Development Center, Washington*

The rationale behind bringing together development and civil society partners and resource persons was to address two fundamental questions - Why basic education? And, why use technology in basic education at all? The first question can be answered by looking at the span of basic education from early childhood to secondary education inclusive of conventional and non-formal education and literacy programs and teacher education as a necessary adjunct. Appropriate technologies in these areas are those that are practical and effective for increasing access to, or improving the quality of, basic education...for the many rather than the few, and those that play a leading role in the teaching/learning process.

These include:

- Radio and audio
- Television and video
- Printed materials

.....and especially strategies for design of programs and strategies for use.

A discussion on technology can focus on five themes including how the technology is used

rather than the scale of the technology; the growing convergence of technologies is making the "high tech" vs. "low tech" distinction increasingly artificial; making use of multiple technologies and exploiting the respective advantages of each for effective learning; and planning their use so that they are pulling toward the same educational goals; and finally, recognizing that the effective use of technology to assist basic education comes about not with the hardware that is used but rather with the way that learning experiences are designed.

Technology can improve both the access and quality sides in education in terms of outreach and opportunities on the one hand and improving effectiveness and enriching the learning process on the other. Technology also helps standardize and make learning easier. Connecting access and quality through a radio and audio is a low cost option with a wide and powerful outreach. Interactive radio instruction has also tested positively with a variety of audiences, sometimes with evidence of girls and women benefiting more than other groups. On the other hand, instructional television has been less successful to date. However, video, especially in combination with

television, holds greater promise. The supporting role of printed materials is critical in all applications.

International experience shows that appropriate technology has proved to be a welcome visitor to the classroom and other centers for basic education, it is evolving and "upward links" to newer ICT's merit greater exploration. The question before the participants is its future role in Pakistan. Can it serve educational reform goals?

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**Linking the Use of Newer Information Technologies to the Goals of Education Reform**

*Mr. Robert Spielvogel, Education Development Center, Washington*

Global trends in education reform indicate that the newer information technologies result in higher standards, success for all students, redefinition of outcomes, and deployment of technology. Changes due to New Information and Communications Technologies (NICTs), as expected, lead to greater access to information, diverse uses of knowledge and expanded labor markets.

However, does technology improve education and how can it improve education? Again uses of ICT in education reflect changes in student learning opportunities, teacher professional development and improved educational administration. Rapid changes in ICT uses in education are taking place as a richer networked environment, and a more sophisticated definition of interactivity in terms of the programming and the pedagogy. Increasingly, strategies will be shifting from the use of multi-media to the use of multiple media. These changes require different ways of creating, accessing and

using information. An effective leadership for developing a vision for ICT in education should:

- Tie the use of technology to the overall education plan.
- Stress the communication functions of technology.
- Build an infrastructure that supports data-based discussion and decision making at all levels.
- Focus on literacy as the overarching goal.

Turning vision into reality needs planning for outcomes if and when technology implementation lives up to its potential.

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**Sharing Views**

A lively discussion followed the two presentations. Participants raised the issue of an appropriate cultural context when transferring technology to ensure access especially to women. The need to define quality was expressed as being critical for uniformity and for ensuring that the rich-poor gap does not increase. Unlike other countries such as Honduras, Nicaragua, Dominican Republic, and Zambia, radio has not enjoyed the same success when used for school-based teaching in Pakistan. Alternatively, distance learning programs developed by the Allama Iqbal Open University (AIOU) have been duplicated in E9 countries and Africa.

**Recommendations**

It was felt that the introduction of new technologies and programs should be based on evaluation of tried experiments, prioritization of needs, and provision of all components of a program for sustainability.

## CHAPTER THREE

# Dialogue On Use Of Technology To Support Education Sector Reform in Pakistan

## Panel discussions

The major thrusts of the Education Sector Reform program selected for intensive discussions address the concerns of access and quality in basic education. The challenge for the Government is to meet the ESR targets and international goals stated in the Dakar Declaration. How can ICT assist the Government in achieving its ambitious plan?

ESR targets for each sub-sector from 2001-2004:

- Literacy: 47 to 60%
- Gross Enrolment Rate: 89 to 100%
- Net Enrolment Rate: 65 to 75%
- Middle School Enrolment: 47.5 to 55%
- Secondary School Enrolment: 29.5 to 40%
- Higher Education: 2.6 to 5%

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### Panel One

## Primary Education:

### The Real Challenge!

Facilitator: *Mr. Stephen Anzalone*, Education Development Center  
*Mr. Sarfraz Ahmed Syed*, Joint Secretary, Ministry of Education  
*Mr. Najamuddin Mangrio*, Advisor Education for All Wing, Ministry of Education  
*Dr. Fareeha Zafar*, Director, Society for the Advancement of Education  
*Ms. Shahida Jafri*, Chief Executive, Baluchistan Rural Support Program

### The Road Ahead

*Sarfraz Ahmed Syed, Najamuddin Mangrio*

Representatives of the Ministry of Education introduced the Education Sector Reforms highlighting the new direction of programs and initiatives in literacy, the rehabilitation of primary and elementary education and in building public-private partnerships for education. Specific interventions for promoting Information Communication Technologies were also underlined.

New Initiatives in Literacy include:

- Pakistan Literacy Commission restructured and mainstreamed into EFA Wing.
- National Commission on Human Development to undertake NFBE and Literacy initially in 13 districts & then nationally.
- Provincial initiatives launched for women: 2000 UJALA centers in Punjab, & Women Literacy Empowerment Program in Sindh.

Steps for Rehabilitating Elementary Education include:

- Compulsory Primary Education Ordinance finalized in Sindh, Punjab, NWFP and ICT: Phased implementation from April 2002.
- Draft National Plan of Action for EFA prepared to be finalized with districts covering ECE, Primary, Literacy & Technical education in Secondary schools & institutions.
- National & Provincial Education For All Units established.
- Rehabilitation of existing school facilities underway in Pakistan physical and human (50% girls/disadvantaged).
- Capacity building of District and Provincial Governments.
- Launching of Early Childhood Education in government schools.
- Innovative approaches to curb absenteeism in all Provinces.

Building Public-Private Partnerships by:

- Restructuring Education Foundations.
- Initiatives in Public sector institutions.
- Upgrading public sector institutions to second shift in Punjab and NWFP (over 5000 institutions upgraded from primary to middle, middle to secondary and higher secondary and above).
- Formal MoUs: Rent free, Utilities to be paid by private parties, Ceiling on fee levels.
- Adopt-a-School Program.

Specific IT initiatives include:

- IT education in public secondary schools.
- Establishing modern management systems in 41 universities.
- Increased research capacity in science and technology.

---

### Using ICT for Access and Quality

*Fareeha Zafar, Shahida Jafri*

Most non-governmental organizations in Pakistan are working for literacy and primary/elementary education. Primary education is also a major component of the government's Education Sector Reforms program. Improving access and quality at the primary level necessitated using all options including technology for reaching international standards and goals. Key areas where technological interventions are needed include:

- Reconciling different databases such as EMIS, PIHS, PRSP benchmarks etc.
- Developing a reliable database for dependable benchmarks, targets and projections for children of all age groups and participation rates in all education delivery systems in the country (public, private, NGO, non-formal, madrassa).
- Tracking enrolments to ensure retention and completion at the primary level.
- Improving quality of learning through better assessment systems, recording, teacher training and assessing teacher performance.
- Institution and area based management at the level of schools, school clusters, union councils, tehsils and districts.
- Effective partnerships for sharing resources between government, NGOs and private sector

- ensuring government's responsibility and financial commitment towards making primary education universal.

There is need for caution as conditions are not similar in all parts of Pakistan. In many areas/regions basic survival issues have to be addressed for the quality of education to improve. Baluchistan province can be cited as a prime example of education coming first and technology second.

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### Sharing Views

Participants suggested that technology could be used to collect and synthesize data and for sharing information. Devolution requires decentralization of data processing systems and making functional the EFA forums set up by the Government. Mr. Stephen Anzalone summarized the presentations by stating that ICT helps provide data for

education management from which all stakeholders can benefit. Sensitivity to provincial differences in acceptance of technology was necessary to develop an envelop of technological options with special technologies tailored to the needs of different areas. The Government of Pakistan was already familiar with IRI and what was needed was sharing the international experience in interactive use of the radio.

### Recommendations

The success of ICT in teacher education and in creating linkages among educators was an area which Pakistan could benefit from. Yet another communication technology on which discussion was needed was instructional television although few countries had used it for school education.

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## Panel Two

# Teacher Education and Curriculum: A Right to Quality!

Facilitator: *Mr. Robert Spielvogel*, Education Development Center  
*Dr. Mohammad Saleem*, Deputy Education Advisor, Ministry of Education  
*Dr. Haroona Jatoi*, Joint Education Advisor Curriculum, Ministry of Education  
*Ms. Rana Sarfaraz Alam*, Associate Professor, Federal College of Education  
*Dr. Parviez Hoodbhoy*, Professor, Quaid-i-Azam University

### Defining Parameters

*Mohammad Saleem, Haroona Jatoi,  
Rana Sarfaraz Alam*

A major achievement of the Government for improving quality was developing a new Curriculum after a gap of sixteen years. New areas such as environment, health, and human rights have been identified for inclusion and there is a defined focus on Early Childhood Education. Deregulation of textbooks has enabled private publishers to enter the field for quality production. The science and technology section of the Ministry of Education is piloting some video textbooks, and computers and technical subjects are becoming part of teacher education programs. Mathematics, science and computers have been introduced in Madrassas to bring them into the mainstream. At the secondary level, technical subjects are being introduced to increase the relevance of education. These changes are to be supported by a National Evaluation and Testing System.

Under the Education Sector Reforms, teacher education programs are being upgraded by extending the duration of the programs and inclusion of new courses for which technological resources will be required.

### Revolutionizing Science Education

*Parviez Hoodbhoy*

A well thought out and extremely doable proposal for a revolutionary new approach to science teaching in Pakistani schools using curriculum-based video textbooks and an accompanying new system of examinations was presented by Dr. Parviez Hoodbhoy. With very few good teachers of physics, chemistry, biology, and mathematics in schools and no prospect of attracting more in the foreseeable future; lack of crucial laboratory equipment and skills to demonstrate key scientific principles, and robbing science of its dynamic nature; excitement and beauty the production of video text-books seemed to be the only solution to Pakistan's decline in science and technology.

- A video textbook can cover the entire curriculum for each science subject using the best available means of presentation and highest quality of information.
- The video format makes possible:
  - Access to specialist teachers, including

practising scientists, with the proven ability to communicate new ideas.

- Filmed demonstrations of scientific principles in the laboratory and real world settings.
- Extensive computer-animation, cartoons, and special effects to provoke wonder and curiosity in students.
- The video textbook and a companion paper book containing the same topics, with further examples and questions, can be adequate preparation for examinations in that subject.

#### Using Video Textbooks: Who, Where, And How?

- Video textbooks can be designed for collective use in school, and independent study by students at home.
- Chapters from video textbooks could be both publicly broadcast by PTV and played on a video cassette player.
- About 70% of urban households in Pakistan, and 30% of rural, have access to television, a smaller fraction have VCPs, and can make use of video textbooks.
- Each subject (physics, chemistry, biology, mathematics) may require about 40 hours of video time [about 13 VHS video cassettes].

- The initial target group could be all 9<sup>th</sup> and 10<sup>th</sup> class students studying science subjects.

#### Costing the Innovation:

Fixed Cost: Rs.556 million

Annual Recurring Cost: Rs.44 million

Cost over 5 years: Rs.600 million

Expected number of beneficiaries: 10 million

Cost per beneficiary: Rs.60

#### Sharing Views

*Inability of the Allama Iqbal Open University to respond with effective programs for distance learning was an issue raised by a number of participants. The demands of the newer generation for better visual communication and danger of computer education replacing the sciences could be met by creating teams of resource persons, experts and professionals and by setting up systems, strategies and structures for selection and dissemination of educational programs. Mr. Robert Spielvogel shared the example of the 'Schools around the world project' using innovative techniques for teachers to examine their own performance at pre-service and in-service levels for teaching science and mathematics.*

## Panel Three

# Nonformal Education And Literacy Scaling Up

Facilitator: *Ms. Cecilia Crespo*, Education Development Center  
*Mr. Laeeq Ahmad*, Consultant National Reconstruction Bureau  
*Dr. Tahira Shamim*, Deputy Director Literacy Cell  
*Mr. Fawad Usman*, Director, Sudhaar  
*Dr. Mohammad Saleem*, Assistant Education Advisor, Ministry of Education  
*Dr. Baela Jamil*, Coordinator, Idara Taleem-o-Aagahi

### A Tale of Experiments & Pilots

*Laeq Ahmad*

Pakistan has experimented with a number of isolated pilot projects using television and radio technologies. In the 1970s literacy lessons beamed through Pakistan television from Lahore. The lead NGO for this program was the Adult Basic Education Society, 156 literacy lessons were recorded in Australia and Vincent David the anchorperson, became a household name. Despite its success, the program was aired intermittently.

In the eighties programs for middle schools such as the Radio School Broadcast ran for many years. The problem of developing a national timetable led to decentralization of the program with responsibility going to eight regional stations. Middle school teachers were the resource persons and programs were recorded on cassettes. Some radio sets were supplied to schools but the program was not institutionalized and ended in two years.

Yet another effort was the recording of textbooks for Islamiyat on 12 audio-cassettes, used more in UK than in Pakistan. Another effort was to

explain diagrams in Economics and Physics textbooks on videos.

Mainstream educational institutions have yet to accept technology as an integral part of the learning process. None of the programs developed so far have been interactive with the result that private institutions are producing their own audios and videos.

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### Limited Outreach of NFE & Literacy Programs

*Tahira Shamim, Fawad Usman*

The main objective of the government's Non-formal Education Program has been to provide basic education facilities to out of school children and youth and to address the needs of those children who have no access to the formal education for achieving universal primary education. The program has a special focus on girls and women and the current enrolment is 185,391 females out of a total of 264,845. Community mobilization has been ensured by engaging 190 NGOs for the management and supervision of the 7567 Non-formal Basic Education

schools. The success of the program is evident from the low cost of the NFBE school (Rs.15,000 compared to Rs.600,000 the average cost of a government school). But the reality is that:

- About 40 million children are in the 5-14 age group in Pakistan and of these more than 20 million are out of school.
- NFE system is accessing only 2 million children in the 5-14 age group or 5% of all children in this age group and about 10% of out of school children including working children.
- Literacy centers all over the country only have provision for 1 million learners.
- Parents view NFE centers as temporary, their preference is for government schools.
- Quality of NFE is questionable.
- Mainstreaming of NFBE children into government requires a lot of effort.
- Government NFBE costs less, but NGOs NFBE is less economical.

Planned Coverage by Government :

- 104 districts, 124 centers each, 30 learners per

District Ranking of Literacy (UNESCO & GoP Reports)

Ranking	%Age	Punjab	Sindh	NWFP	Baluchistan	Pakistan
Very Low	< 30%	3	6	9	22	40
Low	30 45%	18	9	13	3	43
High	45 60%	9	3	2	-	14
Very High	> 60%	4	3	-	-	7

**Is there an NICT Strategy?**

*Mohammad Saleem, Baela Jamil*

The panelists raised the issue of the need for targets for ICT. For example, would the new technologies target NEMIS, teachers, students, managers, or

center: 386,880 learners per year.

- In 13 years from 2002 to 2015, total learners 5.03 million.
- Currently there are 40 million literates out of 88 million (45%).
- Pakistan is committed to raising the literacy figure to at least 60 million as per the Dakar Declaration.

Clearly new strategies are required to increase the outreach of the program if there is any serious notion of meeting our international commitments.

Issues in Literacy for linking with technology:

- Improved service delivery.
- Supportive government agencies.
- Continuation of literacy centers.
- Planning for continuing learning of neo-literates.
- Creating vocational training alternatives.

Issues in NFE for linking with technology:

- Getting NFE systems to meet the minimum basic standards.
- Creating linkages between NFE systems and formal government schools.
- Improving the quality of NFE teachers.

learners? The possibility to sequence the interventions to achieve quality. There was need for:

- Technical Resources and Know-how.

- Financial Resources and Investment.
  - Exchange of research skills and professional/instructional materials.
  - Media Links: information dissemination and 'positive' images.
  - Promoting IT in Basic Education.
  - Implementing Best Practices in Public Private Partnerships and Quality such as the Sajanagar Public Trust which had developed software for student profiles; and the Adopt-a-School program where teachers were developing lesson plans on computers.
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### **Sharing Views**

The discussion focused on where do we go from here? Ms. Cecilia Crespo gave several examples, such as the AJARI project in Bolivia and how Interactive Radio Instruction technology has been used there especially for Early Childhood Education and the successful use of mobile units in Sri Lanka. In Pakistan videos and radio listening groups focusing on women's concerns have been successful in the local language for remote areas as reported by Baanhn Beli.

### **Recommendations**

Private radio and television channels are needed to create a facilitating environment for the use of NICT in Pakistan.

## Panel Four

# Public-Private Sector Partnerships Reaching Out!

Facilitator: *Mr. Robert Spielvogel*, Education Development Center  
*Mr. T. M. Qureishi*, Ministry of Education  
*Dr. Afzal Haque*, Director General, National Education Foundation  
*Mr. Said Ghulam*, Assistant Education Advisor, Planning Wing, Ministry of Education  
*Dr. Baela Jamil*, Coordinator, Idara Taleem-o-Aagahi  
*Ms. Simi Raheal*, Media Manager, Himmatt Society

In the last three decades private sector education delivery systems have emerged as a preferred option for the majority above the poverty line. The range of private school options defies the notion of private as synonymous with quality, but the general perception is that where English is stated to be the medium of instruction quality must also be present. Recent data on private schooling indicates that about 36,000 institutions are providing education to six million children. In addition, a number of teacher training institutions have been established in the private and NGO sectors. The private sector has also made its mark in the production and publishing of textbooks.

Panelists were of the view that the Government of Pakistan, cognizant of its international commitments and obligations and recognizing that it does not have the resources and capacity to fulfill all the tasks, has begun to create multiple spaces for multiple partners to meet EFA targets addressing Universal Primary Education, Literacy, Life Skills and Early Childhood Education. It is involving other players and exploring a collaborative effort

through National, Provincial and District EFA Forums/Units of consultative and coordination bodies representing the government, civil society, private schools, deeni madaris, media, support organizations and communities have been created.

The EFA Forums/Units have potential for linkages with technology as their functions include:

- Data Collection and Research.
- Developing EFA Plans.
- Overseeing plan implementation.
- Monitoring and Evaluation of EFA activities/programs.
- Resource mobilization.
- Coordination.

Access to latest Government policies and plans has been made available on websites and practitioners having the option to send in information on their activities for inclusion through email.

Government is reaching out to the private sector through:

- Special programs such as the Adopt-a-School

- and community-public partnership for school upgradation in the afternoon shift programs by Civil Society Organizations, Air Force & Navy.
- Introduction of IT courses in schools/colleges through private sector with capped fees.
- Involvement of private sector in the management of underutilized public sector institutions.
- Provision of incentive package including 50% tax relief to teachers, managers and support staff, custom duties exemption on import of education materials, provision of land free or on concessional rates, provision of concessional financing for establishing rural schools.
- Provision of grants and soft loans through restructure Education Foundations.

Mr. Robert Spielvogel referred to a new type of involvement of technological companies in education including provision of equipment and adoption of programs. For example, companies such as INTEL have developed a curriculum adopted by 28 countries. CISCO has produced a two-year technology based curriculum program at the secondary level delivered through networking

academics. There is investment in education reform with software partnerships for new software.

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### Sharing Views

Participants were critical of the project approach adopted by Government in the past which was a major cause of quality initiatives not being sustained. Two areas of concern emerged during the discussions, one relating to which technological options have the greater potential to meet the demand for access and equity, better quality and choices in a situation of resource constraint and increasing poverty; and, secondly on the need to build on and expand successful experiments.

### Recommendations

It was recommended that linkages be created between ministries such as Education, Science and Technology for supporting internships and mentoring programs.

## CHAPTER FOUR

# Use of Technology to Support Education Sector Reform in Pakistan: It Can Work!

### Society for Advancement of Education

#### SAHE : Doing and learning

*Najiba Ali*

Started in 1982 by a group of concerned citizens and educationists, SAHE is one of the first NGOs to raise the issue of quality education as a basic right of all Pakistani children. Improving the quality of education for the mainstream children in Government schools, for the disadvantaged children (especially girls), the disadvantaged, working children and those living in remote communities and ensuring their access to quality education. Today the organization has programs for:

- Teacher Education and training that is center, school and organization based for government, NGOs and private schools and teachers using multiple technologies.
- Multi-sensory approach to education and training teachers to adopt new methodologies, providing the technical and material support whenever required and using technology where possible (E-mail Groups - International & National have been set up).
- Setting up District-based Teacher Education Centers and Language Access Centers and providing materials to assist teachers in improving their own language skills in the absence of a proper language instructor for guidance.
- Establishing Community Based Schools currently 80 (One school= One teacher one class) in District Pakpattan, targeting the poorest of the poor, with preference to girls between the age of 5-10 years in rural areas.
- Gender, Rights, Governance and Social Development education for educators.
- Research, advocacy and networking through the Education Watch program, including assessing the impact of 'Sesame Street' a TV program for ECE (Urdu Version).
- Publications in Urdu, English and regional languages to support all programs and subject based material development (audio cassettes for Language, videos for Science and Language, documentation of local environment).
- Using Participatory Rapid Appraisal (PRA).
- (PRA) Baahn Beli in Tharparkar District, Sindh province with NGO, teachers, students and local community participation and for Social Studies Pack in District Pakpattan.

English Language Pack to provide teachers with audio-video material to supplement the Punjab textbook board books. Specifically designed to

provide teachers with textual and non-textual material for effective language teaching. The teachers' response has been very encouraging:

*"The Audio material is useful as I do not have to wait for the trainers to tell me the correct pronunciations of English words."*

*"I play it for my students to listen to and copy the way it is read in the tapes."*

*"The video gives me ideas to teach."*

*"There are role plays and picture stories that I can show my students when we visit the TEC."*

Effective use of technology in non-formal schools is hampered by lack of accessibility of modern amenities, distances between schools and the Teacher Resource Centers and mobility of A/V equipment to remote areas.

- Improving production and teaching skills of the PTV professionals through trainings at the national and international level and with the PTV training academy.
- A one-hour daily special transmission for women, titled "Khwateen Time", officially inaugurated on March 8, 1999 on International Women's Day, a first of its kind in South Asia.
- A quarterly newsletter Images in Urdu and English.
- Building bridges between civil society and the media through Media Watch Program and creating small partnerships.
- Contributing to awareness and non-formal education through print and audio visual aids including production of videos and audio cassettes and documentaries.

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### **The Himmat Society : Challenging entrenched attitudes!**

*Simi Raheal*

Motivated by the premise that positive change can be achieved a group of dedicated professionals came together to form the Himmat Society in 1986 based in Lahore. It is an effective catalyst towards creating greater public awareness about issues relating to education, health, print and electronic media, literature and human rights.

- Portrayal of Women in Media in collaboration with Pakistan Television, the only public electronic broadcast media in Pakistan and UNDP targeted at writers, producers, TV journalists, print media journalists, educators, cameramen and camerawomen, anchors, compares, engineers, designers, animators, NGOs and senior media managers.

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### **Pakistan Radio : Is anyone listening?**

*Najib Ahmed*

The coverage of Radio Pakistan extends to almost the entire country through 24 broadcasting stations located in each province, the northern areas and in Azad Jammu & Kashmir. It broadcasts in 9 languages. The outreach of F.M 101 is through 8 stations (Karachi, Lahore, Islamabad, Faisalabad) while F.M 100, a private sector initiative broadcasts through 3 stations (Karachi, Lahore, Islamabad).

Radio used to be a very effective medium when there was no TV and few newspapers. However, since the seventies it has worked effectively in the areas of population control and health. Since 1979 Radio Pakistan has reflected and produced a particular mindset, giving maximum time to religious programs. The style of broadcasting changed in 1987, with live informal presentations

without any change in the outlook. A new religious channel was started in 1998. The news and current affairs channel of Radio Pakistan give more airtime to promoting Government policies while projection of citizens views is limited. State monopoly and government control of radio and television are cited as two of the biggest obstacles to the development of a democratic culture in Pakistan. (The Global City by Javed Jabbar) This is incomprehensible given the low literacy levels.

For the last 40 years equipment used at Radio Pakistan for post production has not been changed, replaced or upgraded forcing producers to compromise on their creativity. On the other hand, private sector is using the most modern digital equipment. Although no independent, comprehensive and credible survey of mass media audience has ever been conducted in Pakistan, programs on health, agriculture, livestock management and music are popular. Private sector productions using Radio Pakistan only as an airing station have proved to be very successful in reaching out the target listeners and attracting them.

USAID-supported English Teaching Radio Programs from 1992 to 1995 for 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> grade English Teaching. It was undertaken with the joint collaboration of Radio Pakistan and Primary Education Directorate of NWFP and Baluchistan. There is need to explore the reasons for the poor success of the initiative.

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### **Allama Iqbal Open University : So what's new?**

*Lubna Saif*

Among its many outreach programs, the AIOU

also experimented with a Functional Education for Rural Areas Action Research project during the mid 1990s. The AIOU wanted to test instructional materials and develop an outreach and supervision system, which could be, linked to existing development agencies. An action-oriented combination of audio cassettes, flip charts and illustrated handouts that could be adapted to different regions and language groups and enabling the target audience to relate new information to their circumstances was developed. The materials were designed to be used by group leaders who performed critical pedagogical and leadership functions with the aid of specialized designed unit guides. The courses tested addressed issues concerning the family, women's rights, and health, including first-aid, population and agriculture. Some local extension workers from government line departments were also invited to the experimental sessions for a hands-on demonstration of what was possible in rural areas.

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### **Adult Basic Education Society : Digging in and staying there!**

*Edwin Samson*

ABES goes a long way back to when it first began with adult literacy programs in the early seventies. Until 1993, the organization in collaboration with Pakistan Television Corporation presented literacy programs at the national level from which thousands of people had benefited. 25,000 teachers received literacy training and 200 community viewing centers were set up.

Since 1992, ABES is focusing on primary education and has established a Teacher Empowerment Centre in Rawalpindi. Its motto is 'Education is a right, quality education a necessity'. Its programs

include:

- Training master trainers and teachers of National and Provincial Rural Support Programmes, Government schools, and NGOs.
- Teacher Training Packages and Materials including Multigrade Teaching Manual with a set of 29 charts, package on training of school management committees and village education committees, package for training of head teachers.
- Set of English phonics with audio cassette, flash cards and booklets for teaching.
- Joyful teaching kit for interactive activity-based learning classrooms.
- Resource handbook on child friendly schools quality education with a set of 12 cards, workshop facilitators manual and 10 videos on model lesson of classroom teaching/ learning situations.
- Assist in setting up decentralized resource centers around school clusters.
- Setting up non-formal community primary schools.

For both literacy and primary education, ABES has utilized different technologies to expand its outreach throughout the country.

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**National Education Foundation Islamabad :  
How far can it go?**

*Afzal Haque*

In implementing educational programs, the Federal brief extends to the Islamabad Capital Territory, the Tribal Areas and the Northern Areas. Set up as an autonomous body in 1994 with endowment of Rs.100 million, the NEF provides access to education through mobilizing

communities with institutional capacity building of NGOs/CECs, teacher training programs and setting up resource centers.

The Community School Rural Support Program:

- Number of schools - 200.
- Out of school group of 60 girls (4-9 age group), enrolment - 17,000.
- Formation of CECs - 400 members trained.
- Provision of 2-3 rooms exclusively for the school for 5 years.
- Local teachers mostly female 800, all trained.
- Tri-Partite arrangement (i) NEF: technical and financial assistance (ii) NGO: as facilitator, and (iii) CECs: school charge, management leading to ownership.
- Integrated approach with micro-credit linked with girls' enrolment, elimination of child labor, food package from CRS and participatory monitoring.
- Sustainability - increased savings of the schools (> Rs.100,000 over 4 years), matching grants, assistance for school buildings.

Success factors:

- Over Rs.6 million disbursed annually through 21 NGOs.
- About 20% annual increase in enrolment.
- Dropout between 5-10%.
- 80% success rate in primary exam.
- Sub-regional NEF offices in FATA, FANA and AJK to facilitate.
- Establishment of four Resource Centers.

Constraints:

- Insufficient income from limited Endowment Fund of Rs.104 million.
- NEF is not allowed to mobilize resources by

- alternate investments/IGAs.
- Few NGO partners in rural areas.
- NEF has to follow rules of the Federal Government.
- Failure of program in urban slums.

The program could benefit from innovative technologies in expanding outreach and improving quality of delivery relating to pedagogical and management aspects of the model.

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### **Serendip Productions : Celebrating diversity digitally!**

*Huma Baig*

One needs a great deal of courage to be part of the dynamic *Serendip group*. Started by a husband and wife team, Huma believes that "We need to celebrate diversity, respect differences of opinion and open our minds to why each nation is different". So how are education and technology related? Through films, documentaries, CDs and the written word projecting the work of philanthropic organizations, NGOs, nationally and for the international market *Serendip Productions* knows no bounds. Issues taken up by the organization promote development themes such as mother and child health, HIV/AIDS, child labor, gender issues, racial and economic discrimination, overseas Pakistanis, minorities and ethnic groups, the environment, and education. Equally emphasized is the cultural heritage of Pakistan its land and people for all audiences. For example, animated cartoon films for children provide opportunities for learning with everyday local images such as a tractor, a local rickshaw and

the hand painted Pakistani truck.

Television has immense possibilities and Pakistan needs to invest in it. *Serendip* is now looking at setting up a television channel exclusively for development NGOs as a caring - sharing route to progress. NGOs and practitioners have the potential to emerge as program content designers. But who will pay for it? Do NGOs have the funds? So while technology has immense possibilities, getting the money for professional work is less easy.

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### **Sharing Views**

Participants were concerned about the outreach of Government radio channels as compared to BBC and Radio India and the scope for NGOs in getting private licenses for local radio channels. The issue of collaboration between state media and private/NGO sector remains contentious making the role of partnerships critical. Technology was already being used for producing teaching-learning materials but continuity of work suffers as funding is usually for projects with limited duration. The Government's stress on computers and other equipment must come with teacher/trainer and electricity for them to work, and where there is no electricity, there is a role for community radios.

### **Recommendations**

It was generally agreed that mechanism should be developed to ensure recognition of partnerships as an essential element especially where sophisticated technology could be translated into concrete effective actions.

## CHAPTER FIVE

# Using Interactive Programming Techniques to Develop Materials for Basic Education : Successful Interventions!

### Early Childhood the Formative Years

*Ms. Cecilia Crespo*, Education  
Development Center

Educating young children is an effective strategy for ensuring their participation at the primary level. For reaching the pre-school age group, imaginative communication tools with maximum outreach are essential. One such success story is the application of radio specifically using interactive programming techniques piloted in Latin America and African countries.

Based on her experience with the AJARI/EDC project in Bolivia, Ms. Crespo introduced Interactive Radio Instruction as a communication technology. The difference between IRI and traditional radio education programs is that it is based on sound pedagogical principles, with a strong emphasis on cognitive learning. Students are actively engaged in responding to or working with the radio teacher. The role of the teacher in IRI is that of a facilitator who is usually a young mother with only a few years of schooling. Programs can also be designed for situations where there are no teachers. The target age group is small children but can vary according to the needs of the program and country requirements. IRI can be based on the

national curriculum and thus have a direct relationship with the existing educational system. Some 20 IRI projects around the world have successfully taught a range of subjects including mathematics, language, literacy, health, environment and early child development and are cost effective when used to assist with an identified educational need. Equipment required includes radio receivers for the student group together with a radio station with a good signal.

To make IRI work it was essential to:

- make appropriate use of radio.
  - Creative and critical thinking
- have sound pedagogical principals:
  - Active learning
  - Curriculum design
  - Distributed learning
  - Formative evaluation
  - Interactivity
  - Modeling and structured learning

- Research and pacing
- Positive role models
- Reinforcement
- develop an appropriate radio format suited to audience and subject.
- set up solid and well-structured delivery systems.

The session revolved around the following objectives:

- To share the Bolivian IRI early childhood experience and lessons learned.
- To discuss about the importance of using radio in an appropriate role.
- To discuss about IRI principals and how they are applied in an IRI script.
- To present the video "When learning is Play" that shows how the production of an IRI series follows steps that are closely linked and interrelated to one another.
- To do a practical hands on exercise for IRI radio character development.

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### **The Bolivian IRI early childhood experience and lessons learned (AJARI/EDC)**

AJARI/EDC is an integrated Early Childhood Education program that uses Interactive Radio Instruction (IRI) with children, educators and parents in Bolivia.

#### **Objectives**

- To train educators in early childhood development.
- To stimulate the integrated development of

children under six years of age.

#### **Target population**

- Peri-urban and rural educators, children under six years of age, and parents.

#### **Key elements of the IRI early childhood educational package**

- It is based on educational principals of active participation.
- It is directed at two audiences at the same time (children and their educators).
- It was developed after several cycles of formative evaluation.
- A multidisciplinary team developed it.
- The package becomes permanent educational material.
- The programs can be used on cassette and broadcast over the radio as well.

#### **Lessons learned**

- The importance of dedicating time and energy to the master plan (curriculum).
- The importance of keeping in mind that all the elements of the IRI process are linked and interrelated.
- The importance of group work in order to produce better IRI programs.
- The importance of keeping an open mind and ear when it comes to producing scripts.
- The importance of testing the programs (formative evaluation).

#### **Applying the IRI experience**

Interactive sessions with participants responding enthusiastically indicated possibilities for using

the information in different ways. Creating culturally appropriate role models, using local sounds and characters to make education fun was something new for the participants especially the government schoolteachers. The possibility of using radio as a school-based technology was effectively communicated. Moreover, since everything has to be recorded before it is broadcast, audiocassettes would be available for use in areas where there was no radio coverage and would be available beyond the life of a project/program.

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### **Sharing Views**

Discussion revolved around the benefits of IRI and making the best use of time available. Experience showed that television was best for motivation and not imparting literacy.

### **Recommendations**

The participants felt that radio was one technology, which should be, explored more for education.

## CHAPTER SIX

# Interconnectivity For Progress

Governments, people and programs interacting and connecting were the message at the conclusion of the workshop.

### Defining for Ourselves

#### *Participants*

Facilitated by Mr. Stephen Anzalone, the session highlighted ways of working together, strengthening each other and adding up expertise and resources. The challenge of teaching, need for information sharing and educating children of all ages starting with early childhood were raised as critical issues. Making programs including software programs Pakistan specific and addressing the interests of not just the elite, changing internet cafes into teaching institutions and playing centers, and finding points of access so that there is "something worth bringing to the client." Not forgetting the potential of radio to target districts, rural areas and children of all age groups in view of the new technologies so that all technology was used to achieve the goals of basic education as defined by the Government in its Education Sector Reforms agenda.

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### Making Connections

*Mr. Stephen Anzalone, Education Development Center*

The workshop demonstrated that technology has an important role to play as part of the

Government's ESR program. It stressed the importance of aligning the use of technology with educational goals and not treating technology as an end in itself. It looked at four of the main thrusts of ESR primary, nonformal education and literacy, teacher training, and public/private sector partnerships and found that the use of technology could bring benefits in each of these areas.

The experience of many countries in how they use technology to support education had been noted and participants recognized that there is much to learn from the experience of other countries. The significance of interactivity as an important aspect in the use of technology and in effective education, which can be achieved in different ways, depending on the audience and the technology, was effectively communicated.

The workshop also re-discovered that Pakistan has had a long tradition of using technology in education and much to draw upon for the future as well as to share with other countries. Even applications that did not prove to be successful have generated important capacity and insights to draw upon. And, it provided an opportunity for the Government and NGOs to become better

acquainted with each other's work in education generally and with technology in particular. Public private sector dialogue and partnerships need to be strengthened. Without the combined resources and expertise of both, applications of technology in education are likely to be unsustainable.

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### Strategy

The need for a long-term strategy for the use of technology in education was recognized. Such a strategy should be driven by educational concerns and developed by educators in consultation with technology specialists. The strategy should involve systematic dialogue at the district and community level.

Conceived as an opportunity for the Government, NGOs of Pakistan and USAID to being reacquainted in the area of education after a period of many years. The workshop has provided concrete beginning for the process of mutual understanding and sharing that needs to continue in the future.

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### To Conclude

*Mr. Sarfraz Ahmed Syed, Joint Secretary, Ministry of Education, Government of Pakistan*

Mr. Sarfraz Ahmed reiterated the pervasive and persuasive role of mass communication media such as radio, television, computers, and in particular the internet in the dissemination of knowledge and their unlimited potential for distance education. Means and expertise were required to reach out to the millions of children and young men and women who cannot afford books to utilize and disseminate information. This requires appropriate technology, adequate resources, staff development and effective management and implementation. Information technologies could enable institutions to come out of their present isolation and resource shortage. The advent of Information Superhighway had created new paths for learning and education and the challenge for educators was to develop need based learning programs.

The Ministry of Education looked forward to further cooperation and collaboration from USAID, EDC, and The Asia Foundation in assisting it to move ahead in the area of basic education with the introduction of new technologies.

**We hope this partnership will go a long way!**

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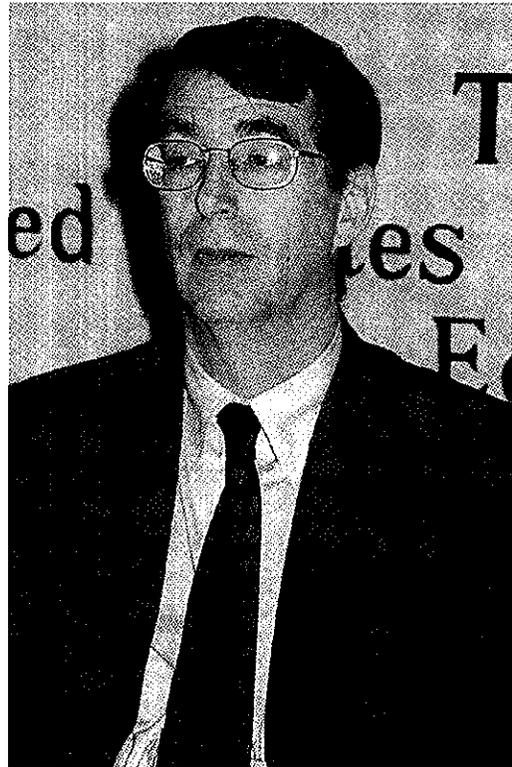
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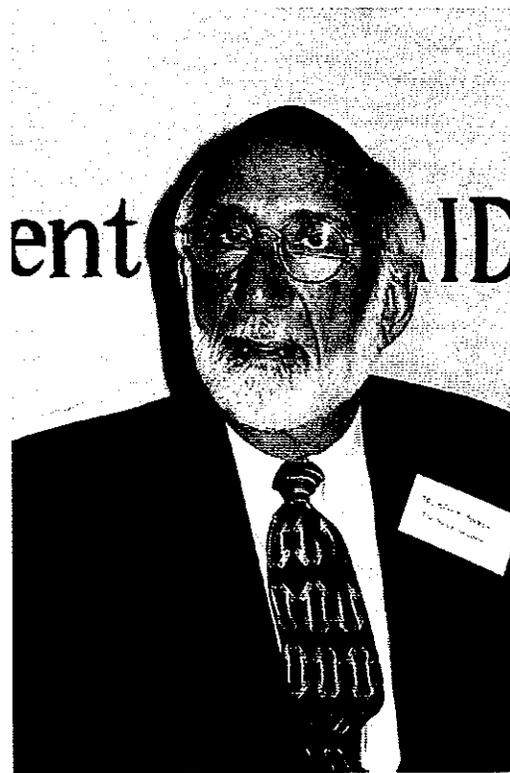
Mr. Tariq Farook,  
Secretary, Ministry of Education



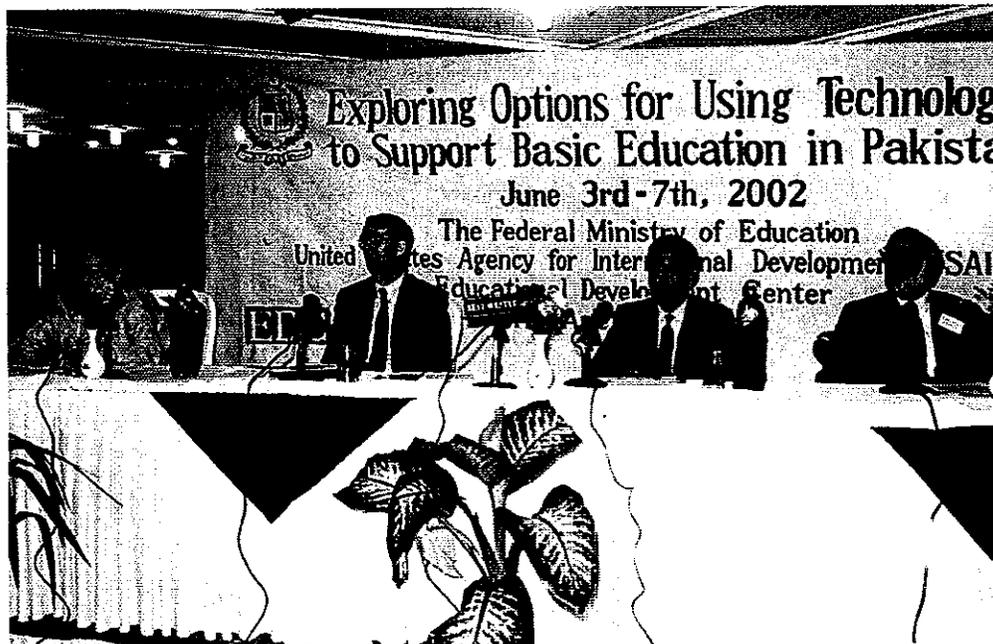
Mr. William Monroe,  
Deputy Chief of Mission, U.S. Embassy



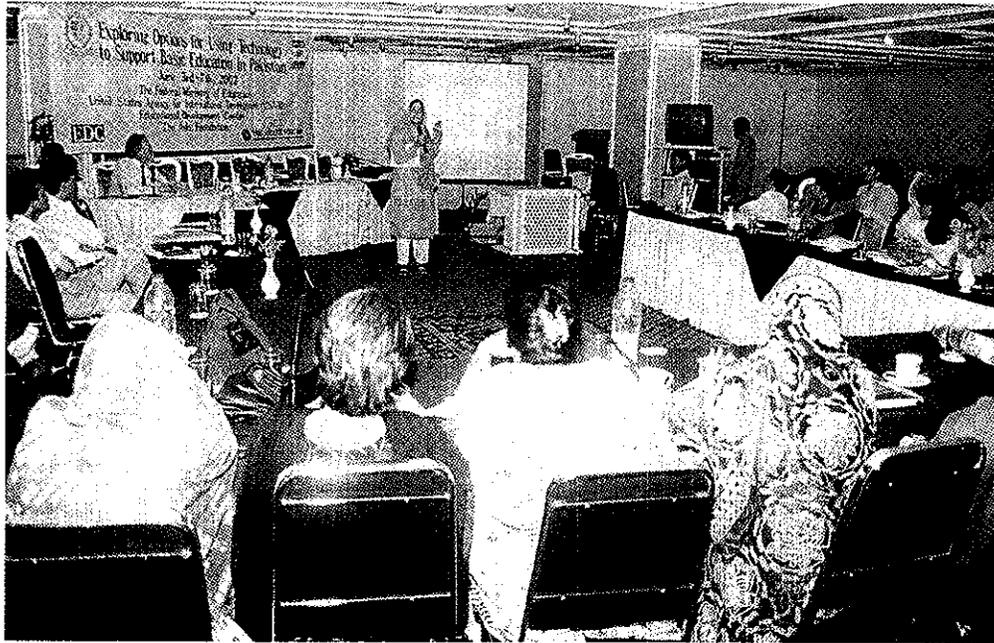
Student reciting the Holy Quran,  
Roots Montessori & School System



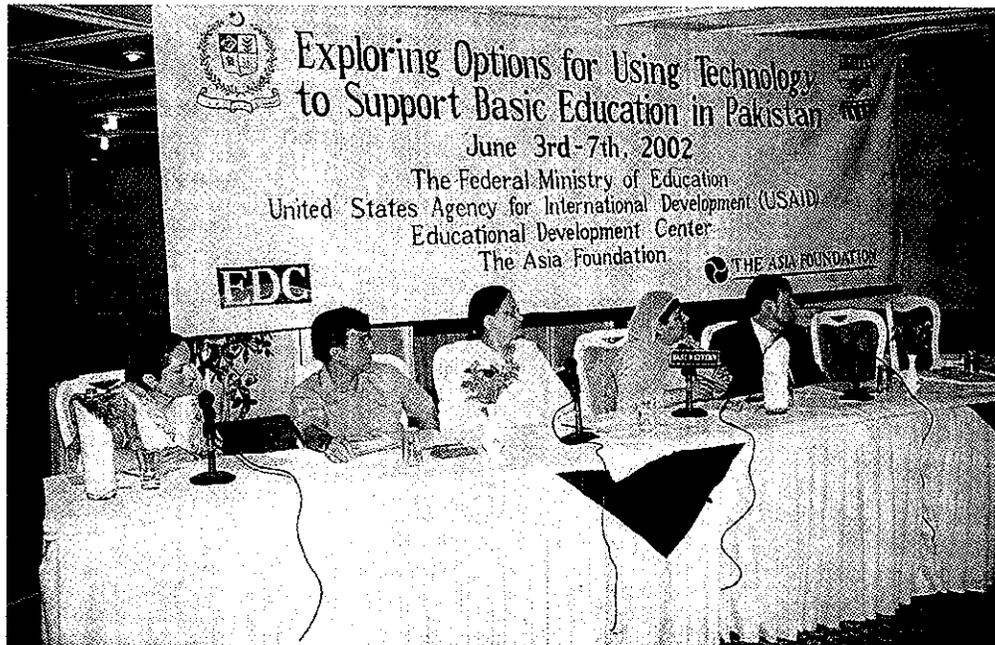
Mr. Julio A. Andrews,  
Representative, The Asia Foundation



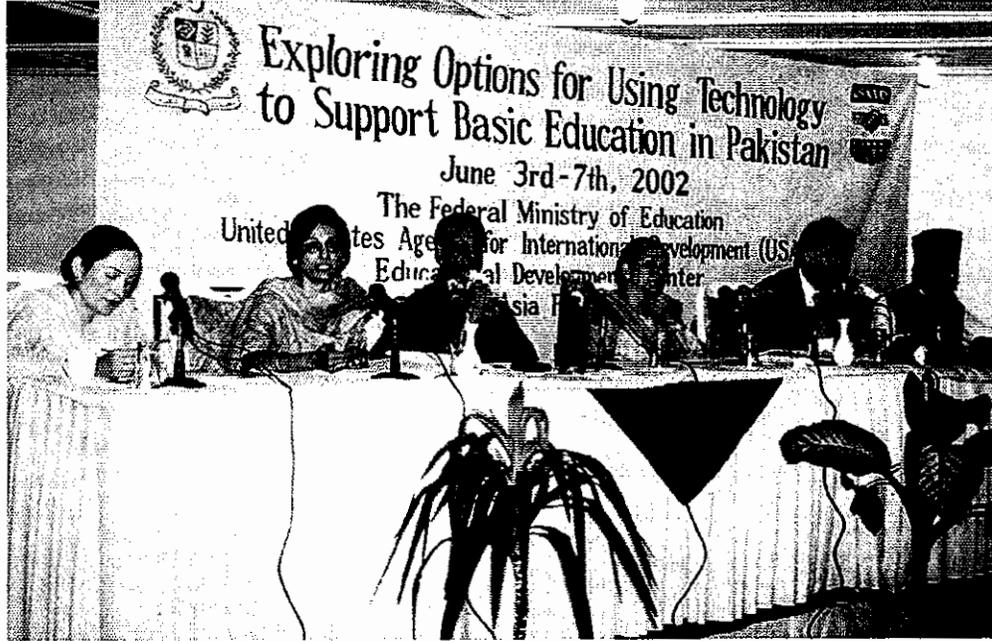
Inaugural Session: Mehnaz Akber Aziz, William Monroe, Tariq Farook,  
Julio A. Andrews



Case study Public Sector Partnership: Huma Beg,  
Serendip Production



Panel on Teacher Education & Curriculum: Mehnaz Akber Aziz; Parviez Hoodbhoy,  
Professor, Quaid-i-Azam University; Haroona Jatoti, Advisor Curriculum, Ministry of Education;  
Rana Sarfraz Alam, Associate Professor, Federal College of Education; Robert Spielvogel, EDC



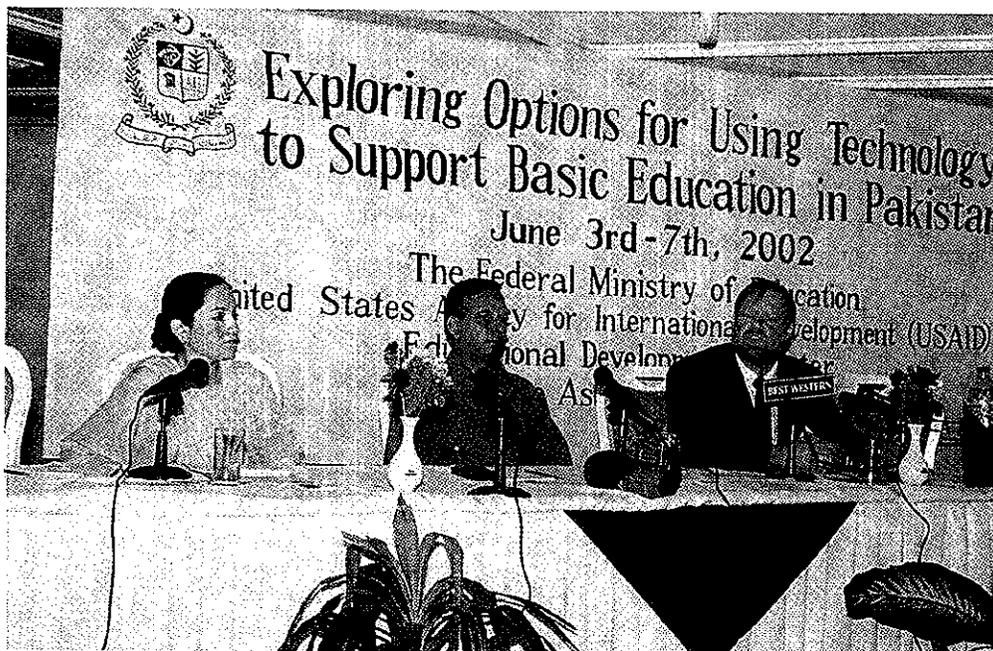
Panel on Primary Education: Mehnaz Akber Aziz; Fareeha Zafar, Society for the Advancement of Higher Education (SAHE); Sarfraz Ahmed Syed, Joint Secretary, Ministry of Education; Shahida Jafri, Executive Director Baluchistan Rural Support Program; Stephan Anzalone, EDC; Najmuddin Mangrio, Advisor Education For All, Ministry of Education.



Group Photo of Participants with Stephen Anzalone, EDC



Panel on Primary Education: Mehnaz Akber Aziz,  
Fareeha Zafar, Sarfraz Ahmed Syed.



Panel on Linking The Use of Newer Information Technologies:  
Mehnaz Akber Aziz; Sarfraz Ahmed Syed; Robert Spielvogel.



Participants of the Workshop



View of the Audience



Panel on Public Private Partnership: Sarfraz Ahmed Syed, Robert Spielvogel



Panel on Dialogue on Use of Technology To Support Education: Case Study on Non-formal Education & Literacy: Nabeela Ali, SAHE; Simi Raheal, Himmat Society; Aneela Qamar, Khwendo Kor; Najib Ahmed, Radio Pakistan.



Panel on Building Appropriate Technologies for Basic Education:  
Mr. Stephen Anzalone, Education Development Center, Washington



Participants from Baahn Beli; District Education Officers,  
Jhelum and Abbottabad



Case Study Teacher Education & Curriculum: Robert Spielvogel;  
Edward Samson, Adult Basic Education Society; Lubna Saif  
Allama Iqbal Open University



Participants of the Workshop



Case Study Public Private Partnership: Afzal Haque,  
National Education Foundation, Stephen Anzalone



Session on Using Interactive Programing Technologies to  
Develop Materials for Basic Education: Cecilia Crespo,  
Education Development Center, Bolivia



Participants Sharing Views





Dialogue on use of Technology to support Education:  
Sector Reforms in Pakistan



Session on Interconnectivity for Progress



Award of Certificates: Sarfraz Ahmed Syed, Joint Secretary  
Ministry of Education  
Malick Shahbaz Ahmed Tahir, SUDHAAR



Award of Certificates: Sarfraz Ahmed Syed, Joint Secretary  
Ministry of Education  
Aneela Qamar, Acting Director, Khwendo kor

## Abbreviations/ Acronyms

ABES	Adult Basic Education Society
AIOU	Allama Iqbal Open University
AJK	Azad Jammu and Kashmir
BBC	British Broadcasting Corporation
CD	Compact Disc
CEC	Community Education Centre
ECE	Early Childhood Education
EDC	Education Development Center
EFA	Education for All
EMIS	Education Management Information System
ESR	Education Sector Reforms
FANA	Federally Administered Northern Areas
FATA	Federally Administered Tribal Areas
GOP	Government of Pakistan
ICT	Information Communication Technology
IRI	Interactive Radio Instruction
IT	Information Technology
MOU	Memorandum of Understanding
NEF	National Education Foundation
NFBE	Non-formal Basic Education
NFE	Non-formal Education
NGO	Non-Government Organization
NICT	New Information Communication Technology
NWFP	North West Frontier Province
PIHS	Pakistan Integrated Household Survey
PNI	Pakistan NGO Initiative
PRSP	Poverty Reduction Strategy Paper
SAHE	Society for the Advancement of Education
PTV	Pakistan Television
TEC	Teacher Education Center
TV	Television
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
USAID	United States Agency for International Development
VCP	Video Cassette Projector
VHS	Video System