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**SCIENCE & EDUCATION**

**UNESCO-PACADE  
NEWS LETTER**



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Director UNESCO with a group meeting of participants



Asia Pacific Bureau of  
Adult Education



International Council of  
Adult Education

**PAKISTAN ASSOCIATION FOR CONTINUING & ADULT EDUCATION**

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# A Word about PACADE

PACADE is the national NGO for Literacy and Continuing Education in Pakistan. It was established in 1984. It is a registered society and has its head office at Lahore with representation in Peshawar, Karachi, Quetta and Islamabad. It is affiliated with ASPBAE (Asia and Pacific Bureau of Adult Education) and ICAE (International Council of Adult Education). It is a member of LANGOS (Lahore Association of NGOs) and has been linked to CIVICUS (The World Alliance for Citizens).

PACADE has held a number of conferences, seminars and workshops for the promotion of adult and continuing education in Pakistan. Mention may in particular be made of the South Asian Conference held in 1987 on the subject of Continuing Education - Key to Effective Living. It has held meetings on law and the citizen, health, education, environment issues and networking. Seminars and workshops on literacy methodologies, functional literacy, community involvement, monitoring, post-literacy and joy of learning have also been held in Lahore, Peshawar, Karachi and Islamabad. PACADE has made more than 6000 village women literate. It has run Female Literacy Centres in villages near Lahore primarily to test literacy methodologies. PACADE has been particularly keen to highlight and propagate the cause of Female Literacy. It also has had a programme for research on literacy and continuing education including a Journal published for a number of years, another magazine of and for newly literate women as also a number of books. PACADE has of late been working in the field of Gender and has organized a number of workshops to sensitise elementary teachers in 36 districts of the Punjab. More such workshops are on the cards.

One of PACADE's major roles has been to lobby with the government, international organizations and NGOs for the promotion of EFA. In this connection it remains in touch with the central and provincial governments in Pakistan, National commission for Human Development, education foundations, universities and international agencies including UNESCO, UNDP, Asian Development Bank, UNICEF and NGOs.

As a partner organisation with UNESCO, it has besides other tasks, helped prepare the national strategy for the Implementation of EFA National Plan of Action in Pakistan. Some of PACADE's significant contributions include helping organize Media Forums for EFA as well as the start of a Parliamentary Forum for Literacy. Mention may be made of The Literacy Forum consisting of leading literacy NGOs - an idea pioneered by PACADE and organising the first ever National Literacy Review Roundtables in collaboration with UNESCO and NCHD.

PACADE President was the first Chairman of the National Commission for Literacy and Mass Education. He also held the offices of Federal Secretary and Ambassador. He has been involved with environment education and was invited by the World Bank (EDI) to participate in a number of environment related workshops in India and Nepal. He has been actively participating in the UNESCO, ICAE, ASPBAE and CIVICUS conferences held in Beijing, Hamburg, Melbourne, Dacca, Buenos Aries, Cairo, Beirut, Delhi, Colombo, Bangkok and other places. He was invited to the UN World Conference of NGOs in New York where the proposals for the following UN Millennium Summit were formulated in the year 2000. In his capacity as a newspaper columnist, he has been writing for the promotion of literacy and education helping UNESCO Islamabad to involve the media and the parliamentarians in literacy. He has contributed more than two dozen articles on the state of literacy in Pakistan. He was chosen to write the Research paper on Adult Literacy in Asia and Pacific for the prestigious. International Handbook (A publication of the Asia-Pacific Educational Research Association). He has also edited the first ever publication on Continuing Education in Pakistan.

PACADE has its own websites ([www.pacade.org](http://www.pacade.org) & [www.pacadelrc.org](http://www.pacadelrc.org))

## FROM PACADE PRESIDENT'S DESK

The theme of this issue of the Newspaper is Science and Education. Promotion of Science and technology is one of the mandated missions of UNESCO. To pursue this task, UNESCO has taken many initiatives and supported numerous programmes.

Syed Arsalan Zaidi has contributed a note to spell out various UNESCO activities under the broad objective of Mobilising Scientific Knowledge and Policy for Sustainable Development. This includes the development of a proficient ST & I system and country's disaster preparedness programme.

One may here refer to the formation of a global Scientific Advisory Board set up to follow up the science related recommendations of the Global Sustainability Report. This Board has been set up by the UN Secretary General in consultation with the UNESCO Director General. UNESCO will be taking the lead in setting it up and providing the secretariat for it.

The Newsletter also contains information about Pakistan UNESCO's contribution towards strengthening Pakistan governments' capacity to produce and disseminate flood forecasting and hazard mapping.

Useful information about "Science Education" has been provided in the Newsletter. Noteworthy is Dr. Hoodbhoy's article which dilates on reasons for poor science teaching and the need for providing better text books. He rightly points out that the essence of science is problem - solving and much needs to be done to improve the quality of our pedagogy in this field.

My own perception of science education hinges on the making of a scientific mindset. It is not enough to know about the various wonders and products of science. More than knowledge it is the attitude and a dedicated approach to uncover reality and put the discoveries and new information to good use that really matters. It is sad that very little is being done in our schools to encourage students to do critical thinking to satisfy their curiosity by developing a passion for experimentations which could lead to invention and new ways of doing things.

Other UNESCO - PACADE activities mentioned in the Newsletter relate to World Press Day meetings at Islamabad and Lahore as well as meetings held at Peshawar and Karachi to boost the cause of Education For All. Highly commendable are the personal efforts of Dr. Kozue Kay Nagata, UNESCO Director in Pakistan to boost the drive for the promulgation of legislation to enforce the provision of Right To education in terms of Article 25-A of the Constitution. The Senate Bill prepared and introduced by SM Zafar had the strong backing of UNESCO. Also noteworthy are endeavours of ITA's Chairperson, Ms Baela Raza Jamil to organise a country-wide Assessment of School Education (ASER) in Pakistan and for launching a one-million signature campaign for legislation for the enforcement of Right To Education Article 25-A of the Constitution.

### What is Science Education?

Science education is the field concerned with sharing science content and process with individuals not traditionally considered part of the scientific community. The target individuals may be children, college students, or adults within the general public. The field of science education comprises science content, some social science, and teaching pedagogy. The standards for science education provide expectations for the development of understanding for students through the entire course of their K-12 education. The traditional subjects included in the standards are physical, life, earth, and space sciences.



# FROM UNESCO'S DESK

## UNESCO Natural Science

### Project Officer: Syed Arslan Zaidi

Science and Technology makes two of the critical elements of all the endeavors aimed at promoting sustainable growth and socioeconomic development of any nation. The very concept of sustainable development has been the linchpin and overarching goal of international community since the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992. It emphasizes a holistic, equitable and far-sighted approach to decision-making, alongside a balanced consideration of social, economic and environmental objectives as the cornerstone of "low-carbon green growth" strategies. It is in this context that the concept of green economy in the ambit of sustainable development and poverty eradication has gained pertinence. It can be seen as a lens for focusing on and seizing opportunities to advance economic and environmental goals simultaneously, while shrinking the adulterous footprints of enhanced economic activity on critical life-support system.



For any country 'and particularly Pakistan', regional and international scientific cooperation is crucial to addressing interrelated, complex and growing national problems. UNESCO in this context, is pursuing its efforts to strengthen the internal science system, while paving way for international cooperation, in particular South-South cooperation. This science dimension of diplomacy had been one of the reasons for placing science at the center of UNESCO's efforts, to eradicate extreme poverty, foster social inclusion, and promote sustainable development.

UNESCO's Natural Sciences global objective of "Mobilizing scientific knowledge and policy for sustainable development", has seen an impressive transition to UNESCO Islamabad's national activity rung. Over the years, the organization has promoted the development & institutionalization of a dynamic ST&I system with the creation of Knowledge-Network, while leveraging science for benefit of local environment and the management of natural resources. UNESCO with its partners, helped strengthen science policies at national level, and build capacity in ST&I through education and promotion, while contributing to country's disaster preparedness and mitigation.

UNESCO has strengthened Pakistan's early warning capacity for natural disasters such as floods and tsunamis, by integrating the system, building institutional capacities, and educating the people at community level. Likewise the Man and Biosphere program for preserving Juniper Forest Ecosystem of Ziarat, and the abiotic baseline study of adjacent biosphere sites, is an example highlighting UNESCO's effort in institutionalizing the mechanism, and coordination of activity for the preservation of Pakistan's national treasure. Likewise establishing water research center on Arid Zones with PCRWR, is an attempt to build up knowledge sharing and research platform on water management, conservation and mapping for safeguarding of this vital resource.

Through such interventions UNESCO attempts to look into Pakistan's longterm future of science and technology, with an aim to identify areas of strategic research and collaboration, which are likely to yield greatest dividends in the country's institutional strengthening, strategy formulation, poverty alleviation and sustainable development. Through such policy-process-institutional coherence, UNESCO believes in eliciting a multiplier effect for better life and sustainable future.

## Research in Science Education

The practice of science education has been increasingly informed by research into science teaching and learning. Research in science education relies on a wide variety of methodologies, borrowed from many branches of science and engineering such as computer science, cognitive science, cognitive psychology and anthropology. Science education research aims to define or characterize what constitutes learning in science and how it is brought about. John D. Bransford, et al., summarized massive research into student thinking as having three key findings:

### Preconceptions

Prior ideas about how things work are remarkably tenacious and an educator must explicitly address a students' specific misconceptions if the student is to reconfigure his misconception in favour of another explanation. Therefore, it is essential that educators know how to learn about student preconceptions and make this a regular part of their planning.

### Knowledge Organization

In order to become truly literate in an area of science, students must, "(a) have a deep foundation of factual knowledge, (b) understand facts and ideas in the context of a conceptual framework, and (c) organize knowledge in ways that facilitate retrieval and application."

### Metacognition

Students will benefit from thinking about their thinking and their learning. They must be taught ways of evaluating their knowledge and what they don't know, evaluating their methods of thinking, and evaluating their conclusions.

Educational technologies are being refined to meet the specific needs of science teachers. One research study examining how cell phones are being used in post-secondary science teaching settings showed that mobile technologies can increase student engagement and motivation in the science classroom.



# UNESCO Natural Science

## Flood Early Warning System

Floods of 2010 affected more than 18 million people, damaged or destroyed 1.6 million homes, and caused an estimated \$10 billion damage to the economy. It was followed by heavy monsoon rains in September 2011, which affected another 5.1 million people in Sindh and Baluchistan. These successive disasters disproportionately affected the weak and vulnerable across the river basins. Damage to villages, loss of livelihood, trauma of displacement and infrastructure losses worsened the already stressed economic environment. Food vulnerability in the country increased manifold - a situation strained by 48.6 percent of the country's 180 million people already food insecure. Life-saving, recovery and rehabilitation efforts of the government and humanitarian agencies played an enormous role in bringing situation to normalcy, but over the long term it had been mired by a greater challenge of strengthening the country's readiness mechanism to embark the flood beforehand, then rely on post-disaster response and recovery.

Changing monsoon patterns, excessive deforestation, accelerated glacial meltdown, and lack of dams have made the country's major upstream artery highly volatile and unpredictable. To reduce the human and socioeconomic impacts of flooding in Pakistan, and to improve the social, economic and ecological benefits of floods, requires strengthening of country's ability to predict, insulate and respond to such cataclysm in timely manner. This is where UNESCO and its Government of Pakistan stepped in to help Pakistan augment its Flood Forecasting and Hazard Mapping capacity, and build the Knowledge Platform sharing mechanisms. Since May 2011 UNESCO has lead the initiative in enabling Pakistan's capacity to deal with floods and watershed management in a holistic manner while providing for (a) strategic strengthening of the country's Flood Early Warning System (FEWS) to ensure safe recovery and return to livelihoods of the affected population (b) development and implementation of flood hazard maps at the community level, and (c) establishing both international and local platforms for timely sharing of hydro-meteorological observations across the country's major river streams.

In the first pillar UNESCO is enhancing the flood forecasting capability of the Pakistan Meteorological Department (PMD) by updating and augmenting the existing flood early warning system, operated at Islamabad and Lahore, and the flood management responses at district level. A diagnostic hydrological analysis of floods in the Indus basin is being carried out by UNESCO in cooperation with PMD and International Centre for Water Hazard and Risk Management (ICHARM), to clearly outline the flood forecasting modeling needs. This will prepare a detailed database comprising of relevant spatial and temporal information of the upper Indus - above Tarbela dam and Kabul river catchments - which are currently not covered by PMD Flood Forecasting capabilities. The second element this initiative focuses on developing updated inundation maps and flood hazard maps using existing river bathymetric, remote sensing data, historic and recent flood inundation-extent data, and digital elevation maps. As the critical data gaps are identified, they are augmented by acquiring new information following 2010 floods. Such mapping activities covers lower Indus downstream of Punjab, where failure of a number of flood protection works caused wide spread flooding in Sindh and Baluchistan.

Thus the first pillar of UNESCO's intervention would augment the diagnostic analysis of the concerned departments to understand the hydrological cycle, and its links with floods, which would strengthen the country's ability to forecast floods in vulnerable Indus catchments and its floodplains. It would also improve the sustainability factor of resettlements through risk reduction, timely evacuation, and safe rebuilding, enabled by access to updated flood risk information obtained from Flood Hazard Maps.

In the second pillar of Early Warning strengthening, UNESCO is developing a web based data sharing tool, with targeted international workshops to foster regional dialogue. This would strengthen Pakistan government's capacity to conduct accurate early simulation of flood waves propagations in the trans-boundary rivers by building a platform for timely data sharing, using international sharing networks.

For the dissemination of flood related information at national and provincial levels, UNESCO is strengthening the service delivery capacity at different tiers of government through the provision of necessary hardware and systems support, and through additional human resource capacity.

For local capacity building, UNESCO focuses on empowering the local communities through the awareness and sensitization of political leadership, and elected representatives on flood related damages. A and by improving the training curricula and advocacy to understand the needs of vulnerable groups and women to cope with extreme floods.

In the third pillar UNESCO strengthens Pakistan government's capacity to produce, and disseminate flood forecasting and hazard mapping, through training courses at ICHARM and in cooperation with the Institute for Water Education (IHE)-UNESCO. It would enhance the long-lasting capacity for flood forecasting and hazard mapping within the broader framework of Integrated Flood Management at multiple scales, apart from strengthening resilience of the country for floods, and improving the odds for social stability and sustainable development

# UN Secretary-General calls on UNESCO to play leading role in the implementation of the science recommendations of the Global Sustainability Panel Report

22.06.2012 - Natural Sciences Sector

On 21 June at the UN Conference on Sustainable Development (Rio+20) in Rio de Janeiro in Brazil, representatives of the UN Secretary-General's High-level Panel on Global Sustainability (GSP) presented the GSP report. The report, entitled "Resilient People, Resilient Planet: A Future Worth Choosing", presents a vision for a sustainable future for the planet.

The vision aims to eradicate poverty, reduce inequality, make growth inclusive, and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries.

The report contains numerous recommendations aimed at putting sustainable development into practice. The Secretary-General tasked Ms Irina Bokova, Director-General of UNESCO, the UN specialized agency with a mandate for science, to take the lead on following up on the science-related recommendations of the report.

As a first step in this process, Ms Bokova assembled an ad hoc group of UN agencies with substantive science activities in their portfolios and leaders of major international scientific bodies. The Ad Hoc Group was charged with addressing the science-related recommendations of the report.

As a result of the advice provided to him, the Secretary-General decided to set up a Scientific Advisory Board, bringing together eminent specialists from natural sciences, social and human sciences, and engineering, and from diverse backgrounds and regions. Through this mechanism, the Secretary-General and UN agencies will be provided with comprehensive advice on all of the dimensions of science, technology and innovation for sustainable development, as well as on how to promote cooperation among various UN agencies and with the international scientific community.

*It is important that advice to the Secretary-General on science recommendations of the GSP report span a broad spectrum, from the basic sciences, through engineering and technology, incorporating also health sciences, agricultural sciences, human and social sciences, in addition to environmental sciences" - said Ms. Bokova.* The Scientific Advisory Board will draw on the wealth of expertise from the UN system and from major international scientific organizations.

The Secretary-General requested UNESCO to take the lead in setting up, and in providing the secretariat for this Scientific Advisory Board.

UNESCO commits itself to be fully engaged, in collaboration with other partners, in taking forward the recommendations of the GSP, in service to our member states and to the broader society.

## World Press Freedom Day Celebrations, 3 May 2012 at Islamabad

UNESCO Islamabad with United Nations Information Center (UNIC) organized commemoration events to highlight World Press Freedom Day on 3rd May 2012. The day was officially launched with Qamar Uz-Zaman Kaira, Minister of Information and Broadcast, along with Dr. Kay Nagata, Director UNESCO, Mr. Timo Pakkala, Resident Coordinator UN system in Pakistan and Mr. Kazue Tase, Director UNIC at a high level stakeholder's seminar. Eminent journalists, media practitioners, media development organizations, press club presidents attended the commemorative seminar, followed by a candle light vigil in front of Islamabad Press Club, to pay tribute to the journalists who lost their lives in the line of duty. Various journalists attended the seminar from conflict areas, which specially flew in to share their experiences and challenges faced to "Freedom of Expression" especially in conflict areas.

UNESCO and UNIC hosted this event specially to appreciate the courage and professionalism of the journalists in Pakistan, in these hostile times where security and protection of Journalist is a serious issue.

In Pakistan, at least 118 journalists have been killed in Pakistan since 1947, no less than 80 since 2000 and at least 15 in the last 15 months. The staggering average for the last 12 years comes to a journalist killed every 50 days.

Many; no less than 44 of the 80 killed since 2000, lost their lives reporting conflict from places with the greatest militancy - largely Federally Administered Tribal Areas, Khyber Pakhtunkhwa and Balochistan - where both sharing and concealing information came to be a deadly vocation in varying measures. The number of journalists not killed but who were nonetheless attacked, injured, kidnapped, arrested and threatened over their work is over a thousand.

Of the 80 killed since 2000, at least 32 journalists were shot dead in target killings, eight were kidnapped by militants of which three were tortured to death, their bodies badly mutilated while three were beheaded, including Daniel Pearl - the case even non-journalists in Pakistan and abroad know about. No less than a dozen died in suicide attacks that were probably not meant to target them specifically but in which they nonetheless died while on official duty covering public events like rallies, processions and funerals.

At part of United Nations family and the only mandated agency for the promotion and safeguarding of freedom of expression and Press, UNESCO dedicated this day to ensure that the access to information as a global public resource, to which all have access and where all voices are heard. For UNESCO this day underlines the importance of quality content. This calls for action to defend the integrity and safety of reporters. All principles of freedom of expression must be brought forth all over the world. And they must be protected.



# Seminar on "Science Education in Pakistan-Perspective and Challenges held at Islamic University Islamabad"

A Seminar on "Science Education in Pakistan-Perspective and Challenges" was held at International Islamic University Islamabad. A seminar on "Science & Engineering Education in Pakistan - Perspective and Challenges" was also held at the International Islamic University (IIU), Islamabad. The basic objective of holding the seminar was to see the current state of affairs in education of Science and Engineering in Pakistan with special emphasis on looking into various challenges and the problems presently being faced in this area and the efforts of the government of Pakistan to resolve them. Leading experts including, Dr Qasim Sheikh CEO ICT R&D Fund, Ministry of Information Technology and Dr Inam-ur-Rehman Former DG PIAES delivered talks on this important issue related to education. Mrs Rukhsana Zuberi, Chairperson Pakistan Engineering Council (PEC) was represented by Engr. Zia Muhammad Paracha, Secretary Pakistan Engineering Council. Academicians, professionals and experts from AIOU, MAJU, NUST CIIT, AU, FUI, PIEAS, HEC, PEC, MoST, Margalla Electronics, AERO, Gilani Software, Digital Prodigy, ZTE, Micronet Broadband, NUTES, Techlogix. Nokia, Siemens, Streaming Networks, Digitania, Telenor Pakistan Ltd, Numetrics (pvt) td, NSCOM, PAEC, KRL etc were among the participants.

Dr Qasim Sheikh presented a comprehensive description of the challenges in science education in Pakistan. He also mentioned multidisciplinary nature of education & the impact of information and communication technologies on education. He presented a view of how our universities should look like in future to come in line with the international standards. Describing the new paradigm for the education in 21st century, he elaborated the role and responsibilities of teachers, management and academicians to achieve the desired goals.

The speech of Dr Inam-ur-Rehman, Former Director General Pakistan Institute of Applied and Engineering Sciences (PIAES) and a well-known scientist, was mainly centered at the progress and developments in the field of nuclear science education. With the help of pictures, he presented an overview of the development of PINSTECH & PIAES describing how, from one small room, CNS converted into the present high level institute which is imparting good quality education in the field of nuclear science and engineering. He also mentioned various problems and challenges being faced in this area.

Various science & engineering based programs are being run at IIU by its faculties of Basic & Applied Sciences (FABAS) and Engineering & Technology (FET). Dr Muhammad Irfan Chairman Department of Environmental Science, in his speech, presented details of the academic programs being run under FBAS in Environmental Science, Bio-Informatics and Bio-Technology and Computer Science. His speech included the current research activities in these areas. Dr Ahmad Shuja Syed, Chairman Department of Electronic Engineering FET presented a comprehensive description of the academic and research activities being run at the department. He mentioned the recent developments and improvements introduced in the department which have produced very positive impact on the faculty and the students. These developments included restructuring of academic activities, establishment of quality enhancement cell, establishment of alumnae and career counseling offices, international linkages/research collaboration with foreign universities, interaction with home organizations and the current research activities being undertaken at the department.

Engr. Zia Muhammad Paracha Secretary Pakistan Engineering Council, read a message of the Chairperson PEC Engr. Rukhsana Zuberi. He elaborated the current problems being encountered in the field of science and engineering based education in Pakistan. She said the present government is fully aware of the importance and need of higher education in the fields of science and engineering and is determined to improve the science and engineering education in the country. She said the government is committed to enhance the quality and quantity of science and engineering education in Pakistan and introduce comprehensive reforms in this area. Establishment of new universities and increase in the budget allocation for higher education, of which science and engineering sector also fairly benefits, is an indication of the government's commitment towards the uplift of higher education in the country. With these efforts, she said, it was hoped that within next few years the country will be producing sizable qualified human capital in science and engineering related disciplines.

She said that it was very encouraging to note that IIU is fully contributing towards building human capital in science and engineering fields and its role is not less than other big universities of the country. Currently the university is running various programs in science and engineering related disciplines and has plans to open/introduce many new programs in near future. Dr. Anwar Hussain Siddiqui, President IIUI in his speech expressed his thanks to the speakers and the PEC representatives addressing the students, assured them of every possible action and steps by the university to facilitate them and make arrangements to provide them best quality education within a real academic environment. He urged the students to take interest in their studies and do their best to achieve their goals. He also mentioned the university's efforts of funds generation for improving academic and research activities. The seminar was also addressed by Dr. Riaz Ahmed Dean Faculty of Engineering & Technology IIUI.

## Solar Changes lives

Nowhere is this truer than for the people of Oksibil in the mountains West Papua province of Indonesia. This remote town is 1400 metres above sea level, is only accessible by air and relied on a single diesel power plant for energy.

Ensuring a dependable supply of diesel through the jungle and mountains of West Papua was both difficult and expensive. For the residents of Oksibil, energy was both costly and unreliable.

Yingli Solar changed this. The Oksibil solar power plant is inexpensive to run and easy to maintain. The result? The people of Oksibil can now enjoy a continuous supply of electricity throughout day and night.

The power supplied by the diesel power plant was not reliable, as transportation was difficult during the long monsoon. In contrast, the continuous energy produced by the solar power plant means both local businesses and essential public services are able to stay open longer.

Families need no longer rely on candlelight or kerosene lamps for illumination, which reduces the risk of fires starting and people being hurt. Using solar energy means the local government does not need to buy expensive diesel.

The money saved can be used to provide better education and healthcare for the village.

The people of Oksibil can expect to see their community become wealthier, safer and enjoy a better quality of life. For them, solar has changed their lives.



# Space Science Education in Pakistan

Article by Saleem Shaikh

The imparting of space science education at the primary, secondary and college levels can encourage the young generation to pursue space science and technology as a career in Pakistan.

The step holds unprecedented importance for the socio-economic uplift of this country. Space scientists at the Pakistan Space and Upper Atmosphere Research Commission (Suparco) say that lack of awareness among the youth about the huge potential of space science and technology is a major cause behind astronomy and planetary science not being a career choice among our young generation.

Career counselling seminars and workshops while highlighting space sciences and related topics can be conducted to plug this yawning knowledge gap and motivate the young to adopt this line as a career.

According to meteorology scientists, space technology today is not confined to just sending satellites into space for telecommunication. The purview of utility of space science and technology has expanded far beyond that.

"Space technology involving a network of gigantic satellites are now being exploited widely for environmental monitoring, weather forecasting, predicting natural disasters and their impact, water flow monitoring, glacier melting assessment, agricultural data collection, study of climate change impacts, discovering new energy sources, natural resources management, etc," says Dr Ghulam Rasul, chief meteorologist at the Research and Development Division of the Pakistan Meteorological Department.

It is also true that space science and technology is not reserved for national, regional and international space agencies any more. It has gradually turned into a field of mounting interest to an array of industries, including small and medium-sized private firms. Given the reason, there is a rise in demand for candidates with strong space acumen, skills and qualifications within space technology.

Space science and technology education deals primarily with the design, development and application of space technology for national and regional development and studying environment management, weather forecasting, flood monitoring, etc. But, technologies such as weather forecasting, glacier monitoring, remote sensing, Global Positioning System (GPS), satellite television, and long distance communications systems are entirely dependent on space infrastructure.

However, there is a need to create awareness and impart education to the young generation for developing and training human resources in order to obtain benefits from space technology and motivate the youth to envision and create space applications for service to humanity.

"There is a pressing need to develop human resources to gain optimum benefits through the extended use of modern space science and technology, particularly in countries such as Pakistan. But this is not possible unless space science is promoted among the youth as a career of high repute," believes Dr Muhammad Qaisar, vice chancellor of the Federal Urdu University of Arts and Sciences in Karachi.

A senior official at the Suparco Institute of Technical Training (SIIT) in Karachi, Zehra Ali, says that Suparco conducts different awareness raising and related programmes at all levels in collaboration with private and government educational institutions in order to sensitise the youth about the significance of space science and technology education so that they would pursue it as a career and play their part in the country's overall socio-economic uplift.

"The 'Space Week' event that runs from October 4 to 10 every year across the country is one such programme," she says.

Attracting more and more young students to the annual event, which features different colourful activities including night skywatching and stargazing, painting, quiz competitions, activities and workshops can motivate them into adopting space science and technology as a career. Besides, incorporating lessons with practical exercises about space science and technology and the use of space applications through the incorporation of space science and technology into the curricula can also be of great help for encouraging more students to pursue graduate and post-graduate level education in space sciences.

To achieve this, short-term training courses can also be designed and implemented for primary, secondary and college science teachers.

These can be backed by practical exposure. Visits to space research and development institutes, facilities and remote sensing application facilities at Suparco would enhance their understanding of the significance and role of space science and technology for environmental monitoring, disaster management, natural resource management, glacier monitoring, flash flood predictions, etc.

Space-related educational programmes creating lessons for teaching space science can be designed in support with the space scientists and astronauts at Suparco and other higher educational institutes such as the National University of Science and Technology (NUST), Islamabad. Space scientists and astronauts can also be invited to deliver space-themed standards-based lessons in private and government schools and colleges in order to interact with the young students and inspire them through their knowledge and expertise about the exploration of space.

## SCIENCE ASSOCIATION OF PAKISTAN

### INTRODUCTION

The Science Association of Pakistan (SAP) was formed on the 14th October 1998 as a voluntary non-governmental, non-political and non-profitable organization by science teachers from all over Pakistan at the Aga Khan University - Institute for Educational Development (IED).

### THE PURPOSE OF FORMING SAP

SAP was established in response to the need for a professional forum where science educators can meet and share their experiences to improve the quality of science education in Pakistan. Through this platform science teachers are acquainted with the most recent teaching / learning methodologies, theories and research findings in the field of science education.

### VISION OF SAP

"To improve the quality of Science Education in Pakistan"

### MISSION OF SAP

Through dissemination and resource development, to equip teachers with the most current trends and approaches in the teaching and learning of science.

### AIM

SAP aims to enhance the standards of science education in the country and to broaden the concept of science educators, to better prepare them to face the challenges of the 21st century.

### OBJECTIVES

1. To acquaint the science teachers with the most recent teaching / learning methodologies, theories and research findings in the field of science education.
2. To impact the science classroom where the actual learning takes place.
3. To facilitate in the development and dissemination of appropriate science teaching and learning resources.

# Why are Pakistani Students Science-Phobic?

By Pervez Hoodbhoy

School syllabi demand it, but even then few young Pakistanis want to study science subjects and still fewer want to become scientists. Many generations have found science so odiously dull that they are now indifferent - even hostile - to a subject that stands at the very pinnacle of human understanding and progress. While some of our better students will be reasonably successful in science-related professions such as engineering, medicine, and information technology, their poor science backgrounds will leave them ill-equipped for pushing the frontiers of these rapidly evolving fields.

Contrast this with India. Surveys show that school students see science as the most prestigious and glamorous career to pursue. For them Einstein, Stephen Hawking, black holes, genes, etc. is the way to go. Although most students eventually opt for more 'normal' professions, yet sufficient numbers persist and some eventually rank among the world's better scientists. This has been key to India's emergence as a world power.

Why the difference? A good part of the answer comes from looking at our locally-authored science textbooks. Although a dysfunctional examination system and bad science teachers are also blameworthy, poor textbooks are especially debilitating in a culture where the written word is considered virtually unchallengeable.



Over the years, I have collected many titles, both Urdu and English. The Urdu ones are even more unattractive than their English counterparts. All were produced by the Punjab and Sindh textbook boards. The number of printed books must now run into many hundreds of millions.

The books reflect an attitude that science is to be taught no differently from geography or history. A stern looking Quaid-i-Azam on the inside of every front cover admonishes students to study else 'we may be wiped out altogether'. But threats - or exhortations that learning is a holy duty for improving our chances in the Hereafter - are useless. They cannot create interest in a subject that springs from human curiosity.

Local books seem designed to kill curiosity rather than nurture it. Mathematics is reduced to a set of drills shorn of relevance and meaning while physics, chemistry and biology are just about remembering formulae and diagrams. Whether written from scratch, or with bits cut and pasted from here or there, these books give no hint that knowledge is being continuously created by human endeavor and intelligence.

Bad pedagogy is all over. For example, a terrible way of teaching about surface tension is to begin with "surface tension comes because a skin is created on the surface of a liquid by attraction of molecules". Now, no one has ever seen a molecule with a naked eye, much less seen one attracting the other. A student who learns it this way has not learnt anything at all.

On the other hand, a good approach would be to ask the student to gently place a razor blade on the still surface of water. Why does it float? The student is then allowed to deduce that there is some kind of invisible skin; a drop of liquid soap thins it further and the blade sinks. In this manner the student could be led towards meaningful comprehension of phenomena through a logical process.

The weakest parts of the books I have browsed through are the chapter-end questions and exercises. This is useless memory-recall drill. The authors do not know that the essence of science is problem-solving, and that good scientific training builds a student's capacity to internalise newly-learnt principles by applying them to problems whose answers are yet unknown. In contrast, foreign-authored O-level books - used only by a tiny sliver of upscale Pakistani schools - usually do have good questions.

There is only a little good news. Compared to earlier textbooks, newer ones have fewer conceptual and spelling mistakes. Also, with time, better printing and use of colour illustrations are more common. But, as before, a jumble of facts bundled together cannot spark the imagination of young minds.

Some say that money lies at the root of the problem. Indeed, authoring textbooks is a lucrative business because of the sheer volume of books sold. The pressure to include incompetent authors - and to share profits - is enormous. This is probably why the current Class X mathematics book of the Punjab Textbook Board, has six authors and the slim 187-page Class X chemistry book has eight authors! So, while every individual gets a cut from the sales, the blame can be easily passed on to others.

I doubt that stricter regulations can help. Local textbooks are such poor pedagogical instruments for a very good reason: science is not part of Pakistan's national culture. There is endless political entertainment on TV but no locally-produced science programmes. I know of no science museums except for one in Lahore. So great is the public's ignorance of science that the path-breaking work of Abdus Salam is considered inferior to the copycat reverse engineering that led Pakistan to the bomb.

There is a solution: good science books exist. So use them! Elite O-level schools use books chosen from the most successful ones published internationally. Surely matric-level schools can be made to do the same after the books are properly adapted/translated. Should a Pakistani be the author (or among the authors), so much the better! But quality alone should matter, not where the author comes from.

Unfortunately, nationalist bravado kicks in whenever this is proposed. The rhetoric is that Pakistanis can author science textbooks just as well as anyone else. The conclusion is that we should not rely upon foreign educational materials. But an inflated national ego, together with small scientific accomplishment, is hardly helpful.

Firm resolve is needed to turn the situation around. Pakistanis must admit locally written textbooks are nowhere as good as foreign ones, and decide to use the very best ones available anywhere. The argument against importation is senseless because we use medicines and computers invented by outsiders, fly in their planes, and use their mobile phones. False pride and misplaced beliefs must be set aside. Eating humble pie is never easy, but surely this is a small price to pay for having scientifically smart Pakistanis in the future.

*Published in The Express Tribune, February 20th, 2012. The writer currently teaches physics and political science at LUMS (Lahore). He taught at Quaid-i-Azam University for 36 years and was head of the physics department. He received a doctorate in nuclear physics from the Massachusetts Institute of Technology.*



# KP Government reaffirms commitment to achieve Education For All Goals by 2015

Peshawar, 16th May 2012: The present government of the KP province aims to accelerate expansion of educational opportunities for the girls and disadvantaged groups of the society, and will double the education budget from the next financial year to achieve EFA Goals, stated Sardar Hussain Babak, provincial Education Minister while delivering inaugural address at the Seminar on Early Childhood Education here in Peshawar. Education indicators in KP are low due to certain historical reasons and geo-political factors, including impact of insurgency in neighbouring country of Afghanistan, burden of 3 million Afghan refugees, and extremism leading to destruction of schools in different parts of the province, explained Babak.



**Speaking on the occasion, Dr. Kozue Kay Nagata, UNESCO Representative to Pakistan**, congratulated Govt. of the KP and Education Minister, Sardar Hussain Babak, on the announcement of doubling the education budget in the next financial year. She indicated that KP was the first province which prepared Education For All (EFA) Plan way back in 2003, which later on provided basis for the preparation of Education Sector Plan. Emphasizing the crucial role of early childhood education, Dr. Nagata pointed out that wider exposure of people in KP and diversity of languages spoken here, children and young people in this part of the country are more capable of learning foreign languages and their intelligence level is enhanced, comparatively.

About one third children in KP province are out of school and 71% rural women are illiterate, informed **Arshad Saeed Khan, Senior National Specialist (Education) of UNESCO** during his presentation. Based on the past trends, KP province is not likely to achieve EFA Goals by 2015, unless extra-ordinary steps are taken to speed up the momentum, predicted Arshad Khan. Early Childhood Education is first of the six Goals of EFA, whereas conditions of learning in Katchi classes at government schools are dismal, pointed out UNESCO expert.

**Mr. Riaz Bahar, Director, Education Sector Reform Unit (ESRU)**, highlighted major initiatives being taken by the KP Department of Education to achieve EFA Goals. The new project of opening of 1000 ECE Centres, funded by the donors, will serve as a model to replicate and scale up early childhood education throughout the province, hoped Mr. Riaz Bahar.

**Education Minister, Mr. Sardar Hussain Babak** appreciated UNESCO for its assistance for promotion of EFA and ECE in KP, and also acknowledged generous support of other donors to KP like DFID, EU, and Norway. About 100 educationists from various districts and representatives of donors and INGOs attended this Seminar. Participants of the Seminar evolved a set of recommendations and a road map for scaling up and institutionalization of ECE and up grading learning conditions in Katchi classes in the province. Seminar was organized by KP Department of Elementary and Secondary Education in collaboration with UNESCO.

# World Press Freedom Day Meeting

At Lahore, Avari Hotel, May 4, 2012

A PACADE - UNESCO Meeting was held in Lahore on May 4, 2012 to commemorate the World Press Freedom Day. It was attended by journalists, newspapers reporters, representatives of the electronic media, NGOs, educationists, industrialists, Punjab University mass communication department students and special persons' specialists participated in the meeting. In the absence of the speakers who had earlier agreed to come (and some of them had confirmed) and address the Meeting,

Director Nagata helped PACADE to make the most of the occasion. Mr. Inayatullah, President PACADE welcomed all the participants and especially Dr. K.K. Nagata, Mr. Arshad Saeed Khan, National Senior Specialist (Education) UNESCO, Hafiz Muhammad Iqbal, Dean of the Faculty of Education at the Punjab University, Mr. ST Hussain a well-known crusader of consumer rights and Mr. Mansoor Malik, a senior journalist of DAWN newspaper. He spelt out the purposes and themes of the World Press Freedom Day May, 2012 which are:

1. Media Freedom has The Power to Transform Societies
2. Difficulty in The Access to Quality Information Undermines Media Freedom
3. Challenges to Media in A New Environment

He drew the attention of the participants to the power and problems of the media in Pakistan and abroad. He emphasized the need for the protection of the working journalists and the vital importance of catching and punishing culprits responsible for death and injuries inflicted on a number of Pakistanis media personnel. It required enormous courage for brave journalists to investigate violence and the dark deeds of anti-social elements, especially the terrorists. He laid great stress on the role and responsibility of the Media to transform society in a country half of whose population was utterly illiterate.

The next speaker Mr. Arshad Saeed Khan made a power-point presentation on Historical Background and significance of World Press Freedom Day. He traced the evolution and the rise of the media and highlighted the role of UNESCO and other United Nations organs in promoting the cause of freedom of expression. He provided useful statistics regarding spread of the print and electronic media in the world and the role it can play to bring about transformation of the societies. He appreciated the role of the Geo Television for promoting the cause of education in Pakistan.

Mr. Mansoor Malik, a senior journalist from daily DAWN spoke about the role of the media, the power it wields in highlighting issues and raising awareness of the people. While the right of expression is sacred and could not be compromise, he pointed out how it was misused and abused. He referred to the need for instituting training for journalists to strengthen their capacity to work effectively. Sometimes privacy is compromised unnecessarily. He advocated a code of conduct for the media men and women.

Mr. Khalid Khattak, from the Daily News while agreeing with most of the points made by the speakers raised and cited the example of media reports Osama Ben Laden's death and how all the facts about the episode have not been revealed.

Dr. Hafiz Muhammad Iqbal, Dean of the Faculty of Education, Punjab University emphasized the value of the various organs of the media for spreading education at various levels in Pakistan. He suggested that more workshops should be held to raise awareness both the media men and women as well as civil society organizations about the potential of bringing about a change in society.

Others who actively participated in the discussion included Mr. ST Hussain, a well-known social activist who has been highlighting various issues and their solutions by addressing letters to the editors of various newspapers. (Based on these letters we has compiled a book under the title "The Bitter Truth" copies of which he presented to Director UNESCO, Dr. Nagata, Mr. Arshad Saeed Khan and Mr. Inayatullah.) Interesting questions also came from the Mass Communication students.

Dr. Kozue Kay Nagata who addressed the gathering twice first at the opening of the Meeting and again at the end while delivering the closing address. She also addressed the questions raised by the participants. Her Address is reproduced below:

Ladies and gentlemen,

It's a great pleasure for me to officially open the World Press Freedom Day event here in Lahore, with so many talented journalists, writers, artists, development partners, UN colleagues and other friends. We are holding this Commemoration of



The Day to appreciate the professionalism of the journalists in Pakistan, in a country where security and protection of Journalist is a serious challenge. Indeed, it is a very challenging situation. UNESCO supports this Day to emphasize the importance of freedom of expression and free flow of diversified opinions. We support it, because Media - old and new, print or broadcasting, text-based or visual - has the increasing important power to boost positive change, positive social transformation in a given country. As said by the Director General UNESCO, Ms Irina Bokova in her Joint Message with Mr. Ban Ki-Moon, the Secretary General of United Nations, "World Press Freedom day is our opportunity to raise the flag in the fight to advance media freedom. We call on States, professional media and non-governmental organizations everywhere to join forces with the United Nations to promote online and offline freedom of expression in accordance with internationally accepted principles. This is a pillar of individual rights, a foundation for healthy societies and a force for social transformation".



Ladies and gentlemen,

We have seen how great a role the internet and social media played in the recent uprisings in the Arab world, from Cairo to Bahrain, from Bahrain to Damascus under so called "Arab Spring". We all witnessed, - The images from Tahrir Square in Cairo are still fresh in our minds, No? In the crowds of young Egyptian women and men, mobile phones and laptops were changing the Country in connecting the Square to the rest of the world, the West and the East. At the same time, that has been a most hopeful sign for hundreds of millions of people in every corner of the World who have taken to the internet to enhance their lives and seek new opportunities.



Freedom of expression is the foundation of every free nation. With due respect for other basic human rights, states are responsible for ensuring the free flow of information. Not only the Media Sector, but the private sector, for instance, definitely has an important role to play too. Some IT companies even proactively provide cyber mechanism with tools against censorship. In my modest opinion, such spontaneous corporate initiatives to tackle censorship and control of information Are extremely important. At the same time, growing corporate ownership of media may pose a nest set of risks or challenges to freedom of expression and other human rights because some business conglomerates may have strong links with -or even own- the media.



Thus, there is an issue of code of conducts on media side too. Together, the public and private sectors need to tackle these kinds of challenges for the freedom of expression. Thus a global approach is important, as freedom of expression is a global issue. In many countries, journalism is a dangerous profession, and more so in Pakistan. In Pakistan 7 journalists got killed during last one year, making Pakistan for consecutive two years the deadliest country in the world for press freedom. This is so sad. We, UNESCO will join voices and forces to support those who have the courage to keep doing their important job for promoting positive and demanded social changes in Pakistan.



At the end, Mr. Inayatullah referred to the environments in which the media has to play its vital role - these being political environment, how the state promotes and regulates the media, the economic environment which is concerned with production, circulation, ownership and returns and finally the legal environment which relates to special laws promulgated for the freedom, regulation and sometime control of the media. He also referred to the representatives of the organizations, press and the tv workers and managers on how they relate to and interact with the three environments in which the media breaths and delivers. Mr. Inayatullah thanked UNESCO for helping organize the meeting and expressed the hope that UNESCO would continue to undertake such advocacy and sensitization exercises for the good of the people of the Pakistan.



At the very end, Ms Sophia Malik, Coordinator PACADE presented souvenirs to Dr. Kozue Kay Nagata, Mr. Arshad Saeed Khan and Mr. Mansoor Malik. Director UNESCO in Pakistan also presented a souvenir to Mr. Inayatullah, Present PACADE.

# Media Forum Meeting - Education For All

At Karachi Press Club, June 28, 2012

A PACADE - UNESCO Meeting was held at Karachi on June 28, 2012 to highlight the importance of Education for All and the Right to Education under the 18th Amendment, Article 25-A Constitution of Pakistan.

It was attended by journalists, newspaper reporters, representatives of the electronic media, NGOs and educationists.

Mr. Inayatullah, President PACADE welcomed all the participants and especially Dr. K.K. Nagata, Mrs. Pir Mazhar-ul-Haq, Additional Secretary, Education Department, Government of Sindh, Mr. Arshad Saeed Khan, National Senior Specialist (Education) UNESCO, Mrs. Aftab, Education Consultant, Mr. Moosa kaleem, General Secretary Karachi Press Club and Mr. Akhtar Ali, Director Information Department, Government of Sindh. He spelt out the purpose of the meeting which had two important aims:

One, to inform and sensitise the Government of Sindh and the Media about the enhanced responsibilities of the provincial government with regard to the devolution of Education after the passing of the 18th Amendment as well as the tasks to be undertaken with the addition of Article 25-A making Right to Education, justiciable.

Two, to convey effectively the urgency of reviewing and up-scaling the EFA programmes by the Department of Education & Literacy and Sindh Education Foundation under the promising leadership of

Mr. Pir Mazhar-ul-Haq and Mr. Siddique Memon, Provincial Secretary for Education and Literacy. Sindh's literacy rate is far below the scheduled target stated in the National Plan of Action. This means that the province will fail to meet the international commitments to achieve 86% literacy and EFA goals by the year 2015. The position in regard to the UN MDGs - Millennium Development Goals relating to primary education, gender issues and education of the youth is hardly better.

Mr. Inayatullah highlighted that UNESCO, led by its capable Director Dr. Kozue Kay Nagata has made special efforts to ensure that the required legislation by the central and provincial governments was promulgated to enforce Article 25-A of the Constitution, without delay.

He added that UNESCO and PACADE deeply acknowledge and value the cooperation and support of the Karachi Press Club in making the Media Forum Meeting possible and for making arrangements for this purpose. He said that PACADE was grateful to Mrs. Pir Mazhar-ul-Haq, Additional Secretary for Education & Literacy Department, Government of Sindh for finding time to preside over today's important advocacy meeting. We look forward to a substantially up-scaled and upgraded EFA programme in the province. We are also grateful to Mr. Shahid Pervaiz Qazi, Information Secretary, Government of Sindh for providing personal and departmental support to PACADE and making the Meeting a success.

He appreciated the print and electronic media professionals present and all the representatives of the civil society.

He requested Media's fullest support in accelerating government's and society's efforts to achieve the committed goals of early childhood care, primary education and adult literacy as also for pressing the government to promulgate the Right to Education legislation Article 25-A of the Constitution.

Mr. Moosa Kaleem, General Secretary of Karachi Press Club welcomed the Director UNESCO, the Additional Education Secretary, Mr. Inayatullah, President PACADE, Ms Sophia Malik, Coordinator PACADE and all the participants, representing Media and the NGOs. He assured them of Karachi Press Club's cooperation in the noble cause of spreading literacy and education in the Sindh province.

Mr. Arshad Saeed Khan, UNESCO's National Senior Specialist Education made a cogent and comprehensive presentation to inform and sensitise the media representatives on the need and urgency of stepping up efforts for the promotion of literacy. He drew their attention to the 18th Amendment Article "The State shall provide free and compulsory education to all children of the age of five to sixteen years in such manner as may be determined by law". He referred to the Sindh Education situation. He said that there is need to make special efforts to increase

the literacy rate in Sindh. Mr. Arshad Saeed Khan asked media participants to highlight the urgency of promulgating a law so that this Right could be legally enforced. (Presentation is attached as Annex A)

Mrs. Aftab Inayat, Consultant Education Department said that the first draft of the Act called "Right to Education" spread over 15 pages had been prepared and soon would be finalized. Participants asked to share the contents of the Act but she excused to share because the draft had yet to be finalized.

A participant asked and requested for an improvement in the schools culture so children could be attracted to schools.

Other participants highlighted the fact that millions of children were out-of-schools in Sindh.

A journalist emphasized the role of the media, the power it wields in highlighting issues and in raising awareness of the people.

Participants suggested that more workshops/meetings should be held to raise awareness of both the media men and women as well as civil society organizations for promoting the cause of literacy and education.

A journalist cited the case of ghost teachers mentioning that a list of journalists shown as (fake) teachers was provided to the Education authorities but no action was taken. Why then write about the department's acts of omission and commission if the reports were thus ignored. Chairman PACADE observed that one should not get discouraged and efforts should continue to get things set right. A question from the participants related to the role of UNESCO in Pakistan and the funds it has to support educational activities. Director UNESCO ad Mr. Arshad Saeed Khan explained at length UNESCO's role, the fact that it was not a part of the UN Secretariat and that inter alia its primary role was to promote the spread of literacy and quality education and provide technical assistance. Mr. Inayatullah informed the participants that UNESCO deserved credit and praise for its initiatives and support for literacy and education more than any other national or local entity. He appreciated the laudable services of Director Nagata and her colleagues.



Dr. Kozue Kay Nagata who addressed the gathering twice first at the opening of the Meeting and again at the end and delivered the closing address. Her Address is reproduced below:

Distinguished Mrs. Pir Mazhar ul Haq, Additional Secretary for Education and Literacy Department, Government of Sindh.  
Office bearers of Karachi Press Club

#### *Journalists and media persons*

Educationists, Govt. Officials and representatives of NGOs etc.

#### **Distinguished participants**

Let me first express my pleasure for taking this occasion of visiting Karachi Press Club (second time, I suppose), which is a national hub for all media persons in this vivid city with sea breeze.

**Media Experts,** You are powerful people. We have seen how great a role the internet and social media played in the recent uprisings in the Arab world, from Cairo to Bahrain, from Bahrain to Damascus under so called "Arab Spring". We all witnessed the change - the images from Tahrir Square in Cairo are still fresh in our minds, No?

In the crowds of young Egyptian women and men, mobile phones and laptops were changing the Country in connecting the Square to the rest of the world, the West and the East, and the South and the North. At the same time, that has been a most hopeful sign for hundreds of millions of people in every corner of the World who have taken to the internet to seek new opportunities and social changes. Not only the Media Sector, but the private sector too definitely has an important role to play. Some IT companies even proactively provide cyber mechanism with tools against censorship.

#### **Colleagues,**

**What is the Role of Media in Education?** I request that you, media experts kindly accord higher priority to education issues in your reporting, press coverage --- whether education is your own beat or not --- because education is a cross-cutting issue. Education is all about human rights and democracy in Pakistan. Education is the most effective tool for truly sustainable socio-economic development. If you look at other countries in the world, and just see who is the winner (e.g. Republic of Korea, USA, Singapore, etc.) you will easily agree that "no education means no development in a given country".

**Article 25-A and Provincial Act:** The historic contribution in passing 18th Amendment to the Constitution and in particular its Article 25-A on "Free and compulsory education for children aged 5-16" is a great achievement of this country; however now, provincial governments have to pass a provincial act on Article 25-A and mobilize funds to implement it. This is a big challenge.

I know that Sindh Education Minister Pir Mazhar ul Haq's personal and professional dedication to promotion of education in Sindh. To facilitate Govt. of Sindh in passing of a provincial Act for implementation of Article 25-A, UNESCO has already given technical support to you, Sir.

The Education Minister in his speech on 17th June 2012 in Sukkur had given one month strict deadline to Education Department for preparation of the draft Act on Right to Education. I am confident that with powerful support of the senior Minister, Sir, this important act will soon be tabled in Sindh Assembly. Sindh Government will be the first province to implement this Article in Pakistan.

We, UNESCO will join voices with the Media to support those who have the courage to keep doing their important job for promoting positive and demanded social changes in Pakistan. We need your help, Media experts, for our joint effort.

Thank you.

**At the end Mr. Inayatullah President PACADE thanked all the participants and in particular Mr. Moosa Kaleem Kaleem, General Secretary of the Press Club for helping organize the meeting at the Press Club and extending his cooperation.**

**President PACADE expressed thanks also to Mrs. Pir Mazhar ul Haq, Additional Education and Director UNESCO Dr. Kozue Kay Nagata for their support for the cause of education and their cooperation in organizing the meeting at the Karachi Press Club.**



# Gender parity an issue in all countries

Almost all countries face gender disparities of some kind, though the challenges vary widely among countries and even at the different levels within countries. Although many countries have achieved gender parity in terms of access and enrolment at the primary level, most face continuing challenges related to issues such as late entry into school, repetition and dropping out. At diverse stages of development, virtually all countries must address gender disparities that shape the way boys and girls progress through education. In some situations the challenge becomes one of how to increase educational outputs for boys rather than girls.

Most developed countries have reached parity at the primary level, but disparities in favour of girls sometimes develop at the higher levels. In developing countries, boys frequently have an advantage over girls with regard to access to education; but once they make it into schooling, girls often outperform boys both in terms of educational progression and academic performance.



Female advantage in terms of educational attainment can also be found in situations where boys continue to maintain an enrolment advantage. Despite the continued existence of what is sometimes called the "boy problem" in some countries, the rights of girls to education continues to be inhibited in many developing countries in important respects.

1. Constraints with families. In many countries girls take on domestic responsibilities, including the care of younger siblings, and, depending on the country and the culture, boys often receive preferences when choices have to be made regarding education. For example, in most African countries, such as Kenya, girls may experience domestic work overload, which reduces their interest in pursuing education. Since it is commonly expected that girls should be married off at an early age, parents consider educating their daughters a waste of time and money. The girls are aware of their parents' perceptions regarding their education. They do not find it necessary to work hard because they assume that they will probably drop out of school early.

2. Constraints within society. These include pressure for early marriage, sexual harassment and violence in and out of educational settings, religious constraints and vulnerability to HIV and AIDS.

3. Policies of school system and educational practices. School systems in countries of all kinds are not always empowering for girls, nor are they sensitive to their needs through curricula, guidance and counseling services, teaching methods and the presence of appropriate female role models.

4. Benefits of education. Even when girls achieve parity in access to education or academic performance, this parity does not always lead to equal benefits of education, especially in the job market of developed countries. In short, gender disparities and inequalities are prevalent within the schooling process in both rich and poor countries. Virtually all countries must address the gender disparities and inequalities that shape the ways in which boys and girls progress through the education system.  
(Source: WORLD ATLAS of Gender Equality in Education)



Asia South Pacific Association  
for Basic and Adult Education  
Learning Beyond Boundaries

## **Announcement of Election Result for Country Voting Representatives From Pakistan for ASPBAE**

Dr (Hon) Maryam Bibi Country Coordinator from Pakistan is pleased to announce formally, the result of the election held on 4th August 2012 for country voting representatives ( one male and one Female) from Pakistan:

Out of eleven accredited members of ASPBAE, ten were present on the day who participated in the election process that was a tie between each of the two candidates. Maryam Bibi then announced her withdrawal in favour of Ms Samia Imran. The fate of the other two candidates was decided on the participants' agreement by toss which was in favour of Mr. Iqbal-ur-Rehman. Thus the following two are now elected country voting representatives from Pakistan:

1. Ms Samia Imran from IRM
2. Mr. Iqbal Ur Rehman from NCHD

Dr.(Hon) Maryam Bibi,

## A PERSONAL VIEW

### UNESCO PROPOSES A MOVEMENT FOR LITERACY

INAYATULLAH

PERSONAL VIEW UNESCO PROPOSES A MOVEMENT FOR LITERACY INAYATULLAH

Earlier this week UNESCO in cooperation with PACADE - the national NGO for literacy and continuing education, held a meeting with the print and electronic media for the promotion of EFA (Education For All) in Sindh province and for enforcement of Article 25-A of the Constitution, at the Karachi Press Club.

The UNESCO Director in Pakistan Dr K.K. Nagata made a passionate plea for accelerating efforts to achieve the internationally committed targets of achieving 86% literacy by the year 2015 as also meeting the goal of universal primary education as laid down in the United Nations MDGs. While she appreciated Pir Mazhar-ul-Haq Sindh Education Minister's keen interest in promoting the cause of education, she also referred to the pressing need for seriously planning and implementing a province - wide literacy programme as the current programmes in this respect were quite inadequate. She cited the remarkable progress made in other developing countries in Asia like Indonesia, Thailand, China and India and regretted that Pakistan was lagging behind even the developing countries. She highlighted the role of the media and how as a powerful medium it could help influence the government and the society to pay due attention to this neglected field. Dr Nagata also exhorted the Sindh government to come up with a requisite law to enforce the Right to Education under Article 25-A of the Constitution/18th Amendment. Possibly the most knowledgeable authority on literacy in Pakistan, UNESCO's Senior Specialist for Education, Mr Arshad Saeed Khan in his elaborate presentation informed participants that according to the latest official estimates overall literacy rate in Sindh is 59% -- 42% in the rural areas with only 22% female illiteracy. Also that the net enrolment rate in the primary schools for female children of age 6 to 10 is less than 45%. In other words more than 55% of the girls in Sindh province do not join schools. He underscored the fact that the overall literacy figure of 59% was mainly because of the large literate population in the two large urban areas of Karachi and Hyderabad. Again according to an official survey 22% of the primary schools have no buildings, 86% lack electricity, 46% no latrines and there is no proper provision for drinking water in 51% of the schools. As for education budget allocation there has been in 2012 a negligible increase of 0.29%. In other words considering the high 2-digit inflation figures there has been a net decrease in the financial allocation for education. Out of these allocations not even 0.5% is being spent on literacy programmes. Mr Arshad Saeed cited example of Sri Lanka where literacy rate is 95% and where all students in schools are provided not only free education but also free stationery and mid-day meals.

With the abolition of the Ministry of Education under the 18th Amendment - a myopic decision indeed - Pakistan has no mechanisms left for national planning, monitoring and coordinating literacy programmes. Although the National Commission for Human Development has survived, its wings have been clipped and its well-developed capacity for promoting and strengthening basic education drastically cut down. KPK where a few years back a remarkable initiative was taken through the Elementary Education Foundation today presents a dismal picture with hardly any province-wide literacy projects. It is sad that another welfare-oriented party like ANP has failed to promote literacy for millions of illiterate people of the province.

The less said about Balochistan the better. With no one goading and guiding the government to make up for the last time and start opening literacy centres, there is hardly any activity to spread literacy in the province.

Focusing on Punjab, I recall my column of December 24, 2011, captioned "Literacy, Mr. Chief Minister", wherein I had analysed reasons for a less than satisfactory progress in up-scaling the literacy programme - Punjab being the only province which can boast of a full fledged literacy department. For years there has been no whole time minister while more than half-a-dozen secretaries having come and gone to other departments within a span of two years, little of sustained progress took place. Hopefully the present secretary who joined late last year would stay on for sometime. Last year, the government took a backward step by abolishing all posts of EDOs Literacy - Executive Districts Officers. The additional charge of the department in the districts has been handed over to the EDOs Education who already are overburdened with increasing school and secondary education chores, have little time and interest to work for non-formal education.

As for the Punjab 2012-2013 budgetary programme, it woefully lacks focus on the committed target of achieving 86% literacy by the years 2015. Instead of concentrating on opening more Adult Literacy Centres - more than 3 ½ crore people in the Punjab are utterly illiterate at present (they can't even read the number of a bus) - funds are being spent on special (and otherwise desirable) programmes for a limited number of persons. Oblivious of the pressing obligation to meet the laid down targets, a happy-go-lucky approach to the formidable task of quickening the spread of literacy has been adopted. The money spent on these special (and otherwise desirable programmes) could have made a lot more illiterate men and women, literate. With no effective stewardship available in the districts (the posts of EDOs' Literacy having been abolished) the prospects of successfully undertaking literacy programme - limited in range and scale as these are - will remain problematic and in places, bleak.

Appropriately, Dr Nagata the UNESCO Chief in Pakistan appealed to the Media at the Karachi Press Club to take up the cause of literacy and Education For All in Pakistan, in right earnest and use its colossal clout to persuade government to provide more funds for rapidly up-scaling literacy programmes and stepping up the promulgation of the law under Article 25-A of the Constitution to enforce the Right to Education.

As pointed out at the Karachi meeting today it is primarily UNESCO which is keeping alive the cause of literacy and EFA in the country. More strength to your elbow DR Nagata. Some credit is also due to a few NGOs for keeping the literacy flag flying.

As the UNESCO Director observed at the Karachi Press Club neither democracy nor the economy can function meaningfully and pick up strength and momentum if the masses lack the basic human skills of reading and writing in this day and age of knowledge societies. As a long term crusader for the cause of literacy, I too urge my brothers and sisters in the media to support the UNESCO appeal to launch a movement to wipe-out "Pakistan's literacy deficit". An other suggestion. Why not also work for an International Consortium for Literacy in Pakistan so that allocations for Education and Literacy can be raised from the present meagre 1.8% of GDP to at least 4% as recommended by UNESCO.

**The writer is an ex-federal secretary & ambassador and a freelance political and international relations analyst. Email: pacade@brain.net.pk**





## GLOBAL CAMPAIGN FOR EDUCATION April 22-28, 2012

To mobilize additional political and financial support for the achievement of the EFA goals

### Rights from the Start! Early Childhood Care and Education Now!



Expanding and improving comprehensive early childhood and education, especially for the most vulnerable and disadvantaged children

"The most important period of life is not the age of university studies, but the first one, the period from birth to the age of six."

Maria Montessori

"We are guilty of many errors and many faults, but our worst crime is abandoning the children, neglecting the fountain of life. Many of the things we need can wait. The child cannot. Right now is the time his bones are being formed, his blood is being made, and his senses are being developed. To him we cannot answer 'Tomorrow', his name is today."

Gabriela Mistral



"It is easier to build strong children than to repair broken men."

Frederick Douglass

"In early childhood you may lay the foundation of poverty or riches, industry or idleness, good or evil, by the habits to which you train your children. Teach them right habits then, and their future life is safe."

Lydia Sigourney



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