

## **Education Reform In Pakistan – Challenges and Prospects**

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*Education can be dangerous. It is very difficult to make it not dangerous. In fact, it is almost impossible. The only way you can prevent education from being dangerous is to try and develop an educational system in which the pupil is exposed to no ideas whatsoever.* [Robert Hutchins]

The connection between education and human security – defined in a broad sense – is immediate and direct. How future Pakistanis will live, the quality of their lives, the kinds of employment available, the political system to be, the manner in which citizens will resolve conflicts between themselves, and the country's relationship to the global community of nations, will ultimately be determined by the content and quality of their education.

Education also provides a society with its scientists, engineers, managers, technicians, and trained and trainable people. In a world where economies are increasingly based upon the availability of sophisticated skills and a well-informed citizenry, education in rapidly progressing countries is considered a sound investment into the future. Belgium or Holland, for example, have few natural resources but have political and economic power that is disproportionately large. On the other hand, Pakistan's greatest need – and its single greatest failure – is its tragic failure to educate its citizens. Only 25 per cent of the Pakistani work-force is literate, and female literacy in two of the four provinces, Balochistan and North West Frontier Province, is lower than in sub-Saharan Africa. Nevertheless, education remains a low-priority issue for the Pakistani state, evident both from historically low levels of funding and a chronic inability to take major steps towards reform now that funding is likely to increase.

What is true today was true nearly six decades ago as well. In fact, one might argue that the origins of the present situation are to be found at the time when the future of the nascent state was being charted out. Unlike Jawaharlal Nehru, Pakistan's founder, Mohammed Ali Jinnah did not put educational and scientific development at the top of his agenda. Education was viewed as just one of several things that the new Pakistan would eventually need and no particular vision in this regard was articulated. Indeed, the allocations of the First Five-Year Plan were pitifully small and wholly inadequate for producing universal literacy or a system of proper schools<sup>1</sup>. Insufficient emphasis was given to technical and vocational education.

In subsequent decades, where military spending became steadily larger, the blame for a failing school system was all too often put upon inadequate budgets. But this was only part of the problem – there are more fundamental, but less quantifiable, issues of efficiency, purpose, and direction. Unless these are squarely faced, more funding by itself will do little.

As a country that has acquired an image of violence and intolerance, it has been frequently presumed in the international media that the madrassas are the source of Pakistan’s increasingly intolerant and violent culture. While this may be a partial contributory factor, the real problem lies in the public school system – which subsequently feeds into the higher education system of colleges and universities.

### **Organizational Structure of Education**

Analysis requires, at the first step, an understanding of the organizational structure of the education system, its governing mechanisms, and its genesis. In this essay, these can only be touched upon. Details may be found in ref. [1]<sup>2</sup>.

The Pakistani education system is seven-layered (Table 1). The Federal Ministry of Education controls all matters related to education up to the intermediate level as well as colleges, and the Higher Education Commission (HEC) is responsible for universities<sup>3</sup>.

1. Kachi (or nursery)
2. Primary school (grades 1-5)
3. Middle school (grades 6-8)
4. High school (grades 9-10)
5. Intermediate (grades 11-12), located in between school and college
6. College (grades 13-14 in most cases, except for 4-year programs)
7. Universities (15-upwards)

**TABLE 1 – organizational structure of Pakistani education**

There is little coordination between the Ministry and HEC; strong institutional rivalries have made it difficult to create new college programmes that would make the college-university transition easier.

*Education Statistics:* Some idea of the size of education in Pakistan can be obtained from Table II, which draws from a variety of sources. Although the statistical data may be questioned for accuracy, nevertheless it does enable a comparison with available global data.

Average years of schooling of adults:	3.9	75 <sup>th</sup> of 105
Education spending:	2.3%	102nd of 130
Female enrolment share - Primary level:	35.9%	176th of 185
Female enrolment share - Secondary level:	39.5%	153rd of 179
Literacy - Female:	30.6%	171st of 184
Literacy - Male:	59.8%	160th of 184
Literacy - Total population:	45.7%	185th of 202
Primary school girls out of school:	55%	16th of 109
Private school enrolment – Primary level:	34.8%	18th of 155
Private school enrolment - Secondary level:	22.4%	49th of 137
Progression to secondary level:	94.6%	39th of 101
Pupils-teacher ratio - primary level:	44.1%	24th of 184
Pupils-teacher ratio – secondary level:	28.3%	18th of 125
School enrolment - Primary - Net:	66.2%	127th of 168

Table II

**Table 3: Education statistics (from diverse sources<sup>4</sup>)**

As of 2005, the allocation for education stands around 2.3 per cent of the GNP although the amount actually spent is somewhat less than this. President General Pervez Musharraf, in a press conference in October 2005, declared that henceforth Pakistan would spend 4 per cent of its GNP on education. Even if this actually happens, a good part of the new allocation will have to be spent upon rebuilding the 16,000 schools that were destroyed or heavily damaged by the earthquake of October 8, 2005.

Although current allocations are significantly larger, historically education has been vastly under funded in Pakistan. Social sector expenditure since late 1970s oscillated between 2 to 3 per cent. Between 1987-88 and 1990-91 the social expenditure declined from 3.4 per cent to 2.8 per cent, registering a marginal increase to 2.9 per cent in 1993-94. In 1994-95, the total social expenditure increased further to 3.1 per cent and to 3.3 per cent in 1996-97. Table 4 gives the GDP expenditure on social sectors with percentage allocation to education and health. The health sector fared even worse than the education sector. The percentage of the social expenditure on health did not exceed 1.0 per cent during the entire “Structural Adjustment” period. In fact, 1.0 per cent of the health expenditure in 1987-88 declined to 0.7 per cent in 1990-91. Thereafter, it has remained constant in spite of a slight increase in the overall social expenditure. The outlay on education, on the other hand, was 2.2 per cent during the period 1991-94 which slightly increased to 2.4 percent during 1994-96. It increased marginally by 0.2 per cent for the period 1993-1994. However, by 1998-99, it had once again declined to the level of 2.2 per cent of the GNP despite initiation of the Social Action Programme (SAP). Overall, the total expenditure on education sector in the country remains below the UNESCO recommended level of 4 per cent of the GNP for developing countries.

Year/Expenditure	Education	Health	Total
1987-88	2.4	1.0	3.4
1988-89	2.4	1.0	3.4
1989-90	2.2	0.9	3.1
1990-91	2.1	0.7	2.8
1991-92	2.2	0.7	2.9
1992-93	2.2	0.7	2.9
1993-94	2.2	0.7	2.9
1994-95	2.4	0.7	3.1
1995-96	2.4	0.7	3.1
1996-97	2.6	0.7	3.3

**Table 4: Expenditure on Education and Health as a percentage of GDP**

Source: Pakistan Economic Surveys 1994-95 and 1996-97.

#### **PAKISTAN'S SCHOOL EDUCATION**

Fundamental structural problems underlie the delivery mechanism for primary and secondary education in Pakistan. Like in other areas such as health and transportation, these are well known: political and bureaucratic interference, appointments based on considerations other than merit, corruption in awarding contracts, lack of accountability and sound management practices, lack of internationally comparable learning outcome standards, and a virtual absence of cost-efficient and high quality teacher and staff training. Mismanagement and corruption are rampant: it has been variously estimated that between 10 and 20 percent of schools in Pakistan have few or no students (the so-called ghost schools). The consequence of rampant corruption and mismanagement is a crisis of quality that is indicated by the following:

- School teachers have very poor content knowledge. *A study in NWFP found that only 6 out of 10 teachers could pass a fifth-grade mathematics exam (compared to the 4 in 10 pass rate among their students* <sup>5</sup>.
- When teachers were asked to sit for the same competency test administered to children in Grade-3, there was little by way of difference in the marks scored by female teachers of government and private schools. On the basis of a 50 per cent pass mark, 4 female teachers failed in both tests in the 5 districts of the Punjab. When the pass mark was raised to 90 per cent, a startling number, 45 males (66 per cent) and 147 female teachers (78 per cent) failed to pass both tests<sup>6</sup>.
- A survey entitled “Basic Competencies of Children in Pakistan” was undertaken in 1994 by the National Institute of Psychology at Quaid-i-Azam University, Islamabad<sup>7</sup>. The object was to assess the proficiency of 11-12 year old Pakistani children in life-skills knowledge, reading, writing and arithmetic. Typical questions

asked in the life-skills part where: “who is the prime-minister of Pakistan,” and “why is it good to use a latrine” Questions were asked in Urdu. The study sampled 2582 children in 180 different locations in Pakistan and included remote areas as well as cities. This survey discovered that Pakistani children are reasonably competent in rote reading, numeracy and arithmetic, writing from dictation, and reading from the Holy Quran. But reading with comprehension, life-skills knowledge, and letter writing ability, were found to be extremely poor. The quantum of skills absorbed in the average school environment is so small that a fifth grader does not qualify as being literate according to the international definition of literacy. A comparison between in-school and out-of-school children from classes 1-5 was also made. If real learning had been taking place in the school environment, then there would have been a big difference between the two groups. But, on the whole, the difference was found to be quite marginal. *It was observed that out-of-school children are considerably better than in-school children in mental arithmetic!* Perhaps the reason is that they have more opportunity to exercise this skill outside school than inside.

- International comparisons are not easily available, but one indication of standards is to compare the best in one country with the best in other countries. In the International Physics Olympiad, Pakistan has put considerable effort and money into selecting its best students. All those selected were from the elite “O” and “A” level streams. But, as of 2005, Pakistani students have rarely won even an honourable mention or a bronze award, although Indian and Iranian students have frequently won gold medals (in various sciences).

### **Why Does Reform Fail?**

It is not immediately obvious why the Pakistani public education system functions so poorly relative to other institutions of Pakistani society – which are arguably much less essential. Defence, the textile industry, power, telecommunications, airlines, roads, railways, irrigation, etc. provide examples. Pakistan’s armed forces are better trained and equipped than in most countries, Pakistani textiles do well internationally, electricity producing organizations are corrupt but electricity has nevertheless reached tens of thousands of villages and is continuing to reach more. Internet and mobile telephones cover much of the country, Pakistan International Airline is not the world’s best airline but its flights are relatively punctual and safe, Pakistan Railways is in bad shape but the trains do run, etc. Pakistan has undeniably made economic progress; the GNP per capita has averaged a steady rise of 5-6 percent yearly for the last twenty years. This may not compare well against growth rates in Korea or Taiwan. But it does put Pakistan well above many third world countries. People with experience in development work are fairly impressed with the country’s economic indicators. But in the same breath they say that they have never seen an educational system as appallingly bad as Pakistan’s.

A possible explanation is that the power structure in a given society develops and nurtures those institutions that it needs for its survival, increased prosperity, and future development. Once the need is established there is then a demand for the need

to be fulfilled. This supposition readily explains why, in spite of general corruption and apathy and all else, Pakistani rulers, civilian and military, have not allowed “vital” institutions responsible for electricity generation, telecommunications, airlines, etc to deteriorate beyond a certain point. If the electricity fails too often or planes crash frequently, somebody will be fired. The chairmen of these organizations may lose their jobs. But no university vice-chancellor has been dismissed because his university has low academic standards.

An indication of the low priority given to education is that traditionally the education ministry is considered the least desirable or important. It is generally the last portfolio to be assigned by a new government. A visit to the ministry in Islamabad will reveal that its badly kept and disorganized premises are swamped by parents who come to get their failed children promoted to the next class, and by teachers who want their transfers made or revoked.

To put it bluntly: education is not perceived as a vital, central, need of Pakistani society. It could have been otherwise, given that Pakistan is a military dominated state. Modern defence requires the use of sophisticated weaponry and hence sophisticated technical manpower. But this is not so because routine skills suffice – Pakistan does not design or manufacture the submarines or planes or radars which lie at the heart of its defence forces.

### **Ideological Roadblocks**

The first page of the Pakistani ministry of education website defines the priorities of education in clear terms:

*Education and training should enable the citizens of Pakistan to lead their lives according to the teachings of Islam as laid down in the Qur'an and Sunnah and to educate and train them as a true practicing Muslim. To evolve an integrated system of national education by bringing Deeni Madaris and modern schools closer to each stream in curriculum and the contents of education. Nazira Qur'an will be introduced as a compulsory component from grade I-VIII while at secondary level translation of the selected verses from the Holy Qur'an will be offered.*

This statement of objectives does not emphasize cultivating civic virtues and producing socially responsible, thoughtful, and well-informed individuals. It does not ask for creating a mindset that can readily accept Pakistan’s diversity of religions, languages, and cultures. It pays relatively little attention to what much of the rest of the world considers important: knowing and respecting the law of the land, preserving the environment, paying one’s fair share of taxes, assurance of social justice, etc. Instead, it emphasizes ritual, tradition, and submission to authority. Proponents of this view of education – who constitute an overwhelming majority in the ministry of education – argue that becoming a “true practicing Muslim” will automatically endow

an individual student with all possible virtues, and hence emphasis on “secular” objectives such as social responsibility is unnecessary.

Public school education today is premised on a belief that repeated sermonizing, and strict regimentation of the school environment, will produce moral and patriotic Pakistanis. The basic road-map of education is provided by the school curriculum, and it is here where the roadblocks are in full view. This is evident from the following excerpts from the official curriculum, duly authorized by the Curriculum Wing of the Ministry of Education, Government of Pakistan<sup>8</sup>. According to this document, at the completion of Class-V, the child should be able to:

- “Understand Hindu-Muslim differences and the resultant need for Pakistan.” [pg154]
- “Acknowledge and identify forces that may be working against Pakistan.” [pg 154]
- “Demonstrate by actions a belief in the fear of Allah.” [pg154]
- “India’s evil designs against Pakistan.” [pg154]
- “Make speeches on Jihad and Shahadat” [pg154]
- “Be safe from rumour mongers who spread false news” [pg158]
- “Learn the national anthem by heart and recite it in class” [pg158]
- “Visit police stations” [pg158]
- “Collect pictures of policemen, soldiers, and National Guards” [pg158]
- “Demonstrate respect for the leaders of Pakistan” [pg153]

The Curriculum Wing of the Ministry of Education has also decreed that Pakistani children must learn at least three languages—Urdu, English, Arabic—and often the mother tongue, if different, as well. Arabic has no practical utility in Pakistan and is not understood even by most students who have been educated in madrassas. The current Pakistani curriculum is an awkward attempt to marry elements of modernity into the 11<sup>th</sup> century system devised by Nizam-ul-Mulk when he created the madrassa system in Baghdad.

This awkwardness is apparent in the grotesque caricatures that arise when the values of traditional education are used to judge and reward performance in modern subjects. Most Pakistani students are capable of remembering volumes of scientific facts without any significant understanding of principles. Current attempts to introduce secular subjects such as science and computers into madrassas are therefore unlikely to achieve very much beyond possibly impressing foreign donors. Here a different philosophy is at work. For the madrassa education the notion of human progress carries no meaning. Knowledge is considered a set of unchallengeable, immutable, truths. Teachers see students as empty vessels to be filled up with this. Questioning of precepts and assumptions is not welcomed, the teaching style is authoritarian, punishment is common, and problem-solving is minimal. This demand for intellectual docility and unquestioning obedience has particularly destructive consequences for science education<sup>9</sup>.

Many in Pakistan – and in other Muslim countries – argue that Islam demands of Muslims that they be educated. This may be correct, but knowledge in the modern sense is a problem-solving tool which is useful as a survival skill in society rather than something that has to be acquired because of a divine command. So the curricula in secular societies changes with time according to changing needs. Internalization of key concepts is important, memorization is not.

Those desiring reform in Pakistan invariably concentrate upon improving the delivery mechanism for education. There is little doubt of the need to do this, but technical fixes alone cannot do the job of creating a modern citizenry. Education reform is far more difficult to effect than, say, changing the health, transportation, or banking systems. These do not involve ideological matters at any deep level. But schooling does because teaching the young must deal fundamentally with the self-image of a society, its aspirations, and history. In broad terms, the end goal of modern education is to produce an informed citizenry – one that can make rational choices, and tolerate diversity and dissent. It is hard to imagine that this view of education is possible in a society increasingly governed by religious laws. Fundamentally changing education is a matter of changing values; this is why education reform in Pakistan, in the last analysis, is a political rather than technical issue.

### **The political challenge**

The present curriculum dates from nearly a quarter century ago, when late in 1981 the regime of General Zia-ul-Haq used the ministry of education and its Curriculum Wing to launch an ideological assault on a generation of children<sup>10</sup>. It was faithfully transmitted onwards by the governments of Benazir Bhutto and Nawaz Sharif to General Musharraf.

As a consequence of the emphasis on Islamization of education, for a generation students in Pakistan have been spending progressively less time on useful skills such as reading and comprehension, creative writing, and science and mathematics. Instead the memorization of religious materials, or those that were deemed part of the Pakistan ideology, gained priority. School children learned to chant war songs, and venerate the state and its armed forces, and the atom bomb. Ideologically imbued materials were not confined to Islamiyat and Pakistan Studies courses; they pervaded the entire syllabus, including Science, English, Urdu, Geography, Social Studies, etc. A quick browse through any bookstore reveals officially prescribed school books that have page after page filled with materials preaching hate, militarism, and intolerance<sup>11</sup>. At the same time, the number of madrassas exploded, growing from less than 3000 before 1979 to about 18,000 today.

The effects have been profound. Militant jihad soon became part of the culture on college and university campuses. Armed groups flourished, set up offices throughout the country, collected funds on Friday prayers, and declared a war without borders.



With time, the system has become more difficult to change and Pakistani rulers – even when they wanted change – became convinced that this was too hard a problem. Eventually the Pakistani education system came under the spotlight but only because of incidents of international terrorism; the US and Europe wanted something done. Pressures after 9/11 forced Pakistani rulers to utter some words about making the curriculum less inclined towards militancy. But street protests by religious forces successfully deterred General Musharraf’s former minister of education, Zubaida Jalal. After an abortive attempt to remove certain Quranic verses on jihad from the curriculum, she nervously declared herself a fundamentalist on television and announced that school textbooks without such verses would be incomplete. Prime Minister Jamali went yet further and declared that the “ideology of Pakistan” was “the most important thing that students need to learn”.

Given the lack of progress, those familiar with Pakistan’s education landscape were surprised that General Musharraf’s so-called education reforms, and his minister of education, had earned high praise from George W. Bush, Colin Powell, and Condoleezza Rice (who described Ms. Zubeida Jalal as a “wonderful woman”). This may come from naïveté but was more likely part of a bid to prevent Pakistan from becoming the incubator of international terrorism. Thus, since the events of 9/11, the US has led Britain and the EU into pouring hundreds of millions of dollars into Pakistani schools, teacher training, and infrastructural needs.

Seeing that his education minister Zubeida Jalal was under siege from the right, General Musharraf eventually replaced her with the former chief of the ISI, General Javed Ashraf Qazi. Some think that the move may well have been motivated by the hope that Qazi’s close relationship with pro-Taliban and other jihadi elements in the mid-1990s would give him the authority and credibility to put a less ideological curriculum in place. But it is unclear whether General Qazi is committed to any kind of reform, except that which he has been forced to initiate. A report of the International Crisis Group notes that “In the absence of state support, powerful Islamist groups are undermining the reform initiatives of civil society to create a sustainable, equitable and modernised public education system that educates girls as well as boys. Despite its stated commitments, the Musharraf government appears unwilling to confront a religious lobby that is determined to prevent public education from adopting a more secular outlook”<sup>12</sup>.

General Qazi, at the National Education Conference held in Islamabad in June 2006, declared that Islamic studies will be taught from grade three instead of grade four and the subject will be compulsory up to grade twelve for Muslims, whereas ethics will be compulsory for non-Muslim students<sup>13</sup>. Nevertheless, there are signs of confusion and indecisiveness. At the same meeting, Qazi defended his decision to delete certain Quranic references to jihad and, to the astonishment of many, declared that “there was no significant difference between the cultures of Hindus and Muslims because the followers of both the religions belonged to the same region”.

Still more confusion comes from statements of Pakistan's prime minister, Shaukat Aziz, on educational matters. At the National Education Conference, Dr. Javed Ahmed Ghamdi, a prominent religious scholar who pleads moderate causes, recommended that Islamiyat (Islamic studies) be introduced as a subject only after Class V. He argued that religious education without formal education from an early age tends to produce religious and sectarian extremists. But Aziz differed with him and said that students should be imparted religious education from the very beginning. "In my personal view both religious and formal education are necessary from the beginning. Religious education... helps character building," he said at the concluding ceremony of the conference<sup>14</sup>.

A key opportunity has been lost. 911 – which led to Pakistan's abrupt desertion of the Taliban and the slackening of the Kashmir jihad – could also have been used as the chance for changing education. But General Musharraf's educational curriculum largely remains a copy of General Zia's. Fearful of taking on powerful religious forces, every government had refused to take a position on the curriculum. What might happen a generation later is a secondary matter for a government that is challenged on many sides and which lacks deep legitimacy.

What are the likely consequences upon Pakistan's future of continuing with the present curriculum? Two decades of experience suggest a bleak answer. There is little hope of social peace or economic progress in Pakistan. It is impossible to create functioning modern political institutions when a people are turned inwards, their mindset rooted in tradition, their culture rigid and sectarian. Democracy will refuse to grow roots in Pakistan. It is also impossible to effectively participate in today's globalized economy without a well-educated, scientifically literate, culturally creative populace, except as a source of cheap, unskilled labour or a source of natural resources. Pakistan cannot compete in any of these fields.

### **Towards Reform: Crucial Action Areas**

Underlying any real improvement in education requires that society accept, at least in principle, that education is a vehicle for change and progress rather than a means of simply preserving tradition and culture. A rational restructuring of educational priorities focusing on the relation of education to employment will be needed as well. Obviously this is a long-term program, but how does one begin? Whatever the full contents of an agenda for reform, action is urgently needed in five crucial areas: curriculum, examinations, textbooks, teacher-training, and school management. Let us examine each in turn.

*Curriculum:* By an act of parliament (1974), the curriculum for all schools in Pakistan is uniform – all schools in all four provinces, whether Urdu medium or English medium, must follow it<sup>15</sup>. No deviations are permitted. The legal authority for devising curricula is the Curriculum Wing (CW) of the Federal Ministry of Education, and its decisions cannot be challenged. Over the decades, the role of the CW has been a negative and dangerous one. The curricula devised by its "experts" often have the

wrong emphases, contain dated concepts, and do not provide for a relevant and useful education. Instead, the CW appears preoccupied with the propagation of ideological doctrines rather than the proper education of children.

For progress, the CW must be dissolved and curriculum development be made independent of the Federal Education Ministry. One possibility is to entrust this work to certain of the country's universities. In doing so, Pakistan will not be doing anything out of the way. In Britain, universities such as Cambridge, Oxford, and London, define the curricula for school-leaving examinations. There are numerous other models: in the United States, every school is free to have its own curricula but college entrance examinations (the Scholastic Aptitude Test) enforce some standardization of learning. India and Iran also have no national curriculum. With so many countries having demonstrated that they can exist and prosper without a national curriculum, there is no reason why Pakistan must be fixated upon having one. A revised act needs to be presented to parliament which breaks the monopoly of the CW and allows a choice of curricula.

But the problem is deeper than the existence of the CW. The truth provokes fear – senior members of the establishment defend the necessity of indoctrination through textbooks by arguing that if they are told the truth, many Pakistani children will question the very existence of Pakistan. In 2003, a resolution moved in the Pakistan Philosophical Congress against propaganda and indoctrination in textbooks was soundly defeated because apparently the “philosophers” also believe that telling the truth is dangerous. But without coming to terms with epic disasters such as Partition, the 1965 war with India, the separation of East Pakistan, the failure of democratic politics and the seemingly endless military regimes, Pakistan will be haunted in perpetuity by these demons of the past. Nations that lie to themselves can never be secure.

#### *Textbooks*

Sheer volume makes text book publishing highly lucrative. Textbook boards in Punjab and Sind, together with their favoured authors, make huge profits in spite of often publishing badly written books that have frequent conceptual, pedagogical, and printing mistakes. That their monopoly, under the protection of the state, should have been tolerated for so long is tragic. The good news is that there has been some movement on this issue – in principle the government has agreed to let private publishers compete and allow multiple textbooks to be used. The bad news is that the CW still decides on the selection of books, and does not offer open and free competition on the basis of prepared manuscripts.

#### *Examinations*

Pakistani education is strongly examination driven; exams provide the incentive to study. But with cheating in examinations, and continuing emphasis on rote memorization, the examination system has become corrupt and dysfunctional. The results of examinations today are poor indicators of student performance and learning.

The Boards of Intermediate and Secondary Education (BISE's) are directly responsible for this state of affairs. There is a Federal Board, controlled by the federal ministry of education, and 22 provincial boards. The BISE's have substantial assets and income, and some have constructed large buildings with money obtained from examination fees.

Today the "A" and "O" level schools in Pakistan, linked to examination boards in Cambridge and London, are the only private schools that can be reasonably said to impart quality education. The assurance of quality is provided by the fact that students must measure up to the yardstick that the overseas boards provide. At the same time, the very fact that the examination authority is located in a foreign country is a serious disadvantage. National pride is hurt and examination fees are much higher.

Pakistan needs an indigenous "A" and "O" level system, with similar quality but with changes appropriate to Pakistan conditions. This new system, which should continue in parallel with the present ones, would have to be recognized by the Government as better than, or equivalent to, the matriculation certificate currently awarded by the 24 BISEs in the country. The advantages accruing from the Independent Examination Board would be considerable:

- The certificate would be awarded by a Pakistani organization. Hence there would be no stigma of association with a foreign country.
- The exam fees would be lower and more affordable than "A" or "O" levels.
- The BISEs would be forced to raise standards because they would appear so bad in comparison.

Ideally, it should be for the government to organize better quality examination boards. Unfortunately, the continuing inability of the National Education Testing Service (NETS) to make progress suggests that it may not be possible for the government to fulfill even this responsibility. Hence, an Independent Examination Board may have to be a citizens' initiative as well.

A step in the right direction was taken when General Musharraf signed an executive order (the Presidential Ordinance of November 8, 2002; CXIV/2002) inducting the Aga Khan University Examination Board (AKUEB) into the national education system. When fully operational, this will raise standards in the few hundred schools that will eventually be associated with it. But approval of this private board has provoked street demonstrations, with the Jamat-e-Islami accusing the AKUEB of possessing a secret agenda to "secularize Pakistan and uproot it from its moral foundations".

### *Teachers Training*

As a very rough guess, there are probably no more than a few hundred science teachers in all Pakistani schools combined who understand what they teach, and can be therefore considered proper teachers. Teachers training is a disaster area, and the planners first instinct would be invest massively in teacher training. However,

government control and administration of teacher training institutions is bound to lead to familiar results. Therefore, teacher training should be done, with strong government subsidy, in private institutions. The Teachers Resource Centre, Ali Institute of Education, and Institute for Educational Development are fine examples showing that teachers can be trained well in institutions run by dedicated, professionals. But their efforts are but a drop in the bucket. Many more like them are needed. Similarly, private universities could also be encouraged to have training programs.

Quite correctly, teacher training has been a central part of USAID assistance towards improving Pakistani education. As part of ESRA (Education Sector Reform Assistance), USAID graduated 3026 primary teachers and 735 head teachers<sup>16</sup>. Scarcity of master trainers, and resistance to change among teachers were noted as the principal difficulties encountered. The difficulty of finding suitable master trainers is more acute at higher levels. Extensive use of video programs, which cover the science syllabi up to the matriculation level, could be a partial solution. The development of such materials should be given high priority.

#### *School Management:*

Community, private non-profit, and private for-profit schools, are far more efficient delivery vehicles for quality education. Hence a national policy should seek to maximize reliance, and provide encouragement, to these. One should seriously consider gradual and selective transfer of the administration of government schools – without surrendering property rights to the buildings – to private parties with demonstrated competence and experience. These parties could be community representatives or bodies, NGOs, school principals or academics with management experience, etc. The contract would require the interested party to infuse a certain amount of capital, and to submit a work-plan for improvement of the school. Penalties for non-compliance should be made explicit. The basic contract would require renewal after, say, 5 years. The new school administration would have the right to hire and fire teachers and collect fees from the students. Since the local urban or rural community would be the principal gainers/losers in such a change, their input into the selection of the new administration would be imperative. The government should play the role of a monitoring agency to assure adherence to basic norms and the conditions of the contract.

Community participation is the key ingredient to success, and NGO's have a vital role to play in bringing education to the people. The Aga Khan Rural Support Programme in the Northern Areas has touched tens of thousands of children. Community and home schools are being run successfully all over the country at much lower cost per student than government schools. Today there are hundreds of other private, large-scale, non-profit, initiatives in education. The quality of management and care given to organizational matters in private schools is generally much superior to that in government schools.

With the state's administrative apparatus having become unwieldy, inefficient, and corrupt, parents have turned towards private schools. The Beaconhouse Public School System, an expanding chain of over 120 schools and nearly 80,000 students is notable among these. It is only the upper-middle class and the rich who can afford to send children to such moderately good schools where the fees range from a minimum of Rs. 1000 per month to Rs. 6000 per month and upwards. But privatization immediately brings up the question of social inequity. While private schools are generally better in quality, there can be little doubt that they perpetuate and promote class differences. According to one estimate, only 1 per cent of Pakistani pupils pay over Rs. 500 per month while 52 per cent pay less than Rs. 10 per month. The differences are simply enormous. How then are the demands of quality and equity to be simultaneously fulfilled in a scheme such as the above?

Strategies can be designed so that privatization of school administration produces a relatively greater degree of equity than at present, or at least does not increase it. For example, the government could have full and partial scholarships in each school for fixed percentages of students. In poor rural areas, one might even demand scholarships for 100 per cent of students, but in a school located in Defence Society, Karachi, this could be 5 per cent. The criterion for award should be merit and need.

Another alternative is a voucher system – each student could be given a voucher which enables him to study at the school of his choice. The voucher would have no cash value and so could not be sold. The school where it is deposited, however, would claim its value from the state and be compensated according to a fixed rate.

## PAKISTANI HIGHER EDUCATION

Universities are key institutions of the modern world, the cradles of knowledge in its many diverse forms, and the fountainheads of modern science. This science has produced technologies that have changed the world more in the past two hundred years than the previous two thousand years. But universities are not magic boxes that just churn out new science and technology. Reforming Pakistan's universities requires, at the outset, a clear vision of the purpose such institutions must accomplish.

### **What Is A University?**

Universities are dynamic and complex organizations, whose building blocks are the faculty, students, administration, and physical infrastructure. The purpose of a modern university is to effect the transmission of existing knowledge, create new knowledge, and generate employment skills needed for a modern economy. Its organizing principle is that of a self-governing community of scholars engaged in free inquiry, discovery, and teaching.

Let us disaggregate and consider each function of a university in turn.

*Research function:* Modern universities treasure critical inquiry and regard it as the basis of all scholarship. The results of research are published in journals that exercise rigorous standards of scholarship. Citations of published work by other scholars provide the most important estimation of an individual scholar's achievement in research. Unimportant work sometimes also achieves publication, but is not (or rarely) cited.

*Economic function:* Universities produce a large fraction of the technical knowledge essential for the production of goods and services. The economies of modern states are essentially knowledge based. Universities prepare not just philosophers and mathematicians, but also engineers, doctors, economists, business managers, and other professionals needed to fulfill the stringent demands of technological development and management.

*Social function:* Universities create an informed and knowledgeable citizenry capable of responsible, reasoned, decision making. Broadly speaking, they help to create thinking minds, organize and initiate research in subjects that are important but are not of immediate economic utility, create discourses on social and political issues, and raise the cultural and aesthetic level of society. Whereas the Soviet and Chinese models concentrated largely on utilitarian goals, western universities – or at least the better ones among them – were able to successfully create a balance between scholarship and more direct needs.

Whether the subject of study is science, engineering, economics, literature, or any other discipline, high quality of instruction is crucial. A person in possession of a good degree is expected to thoroughly understand, and to be able to apply over a

lifetime, those principles learned at lower rungs of the educational ladder. Ideally a graduate should be capable of scientific inquiry, be able to reason mathematically, should possess the capacity to organize one's thought in a logical way, have an understanding of culture and history, and be capable of coherent expression in speech and writing.

The key point that makes a graduate valuable in a modern society is adaptability. A broad range of interests and knowledge makes it possible for one to find a niche in academia, industry, or elsewhere. A well-trained mind in any discipline develops habits and attitudes of critical reasoning. These habits, learned in one environment, can be equally valuable in another. Educational quality is the key. Surveys show that two-thirds of all US PhDs in physics now work in areas very different from that in which they did their theses. Fresh PhDs in theoretical physics from leading US universities are eagerly sought as analysts by firms on Wall Street and offered starting salaries at par with, or better than, those offered to MBAs.

### **The Pakistani Situation**

In 1947, Pakistan had only one university (Punjab University). Fifty years later, in 1997, it had 24. In just eight years from that time it had 51. State funding for higher education (at the expense of school education) increased, between 2002 and 2006, by a factor of fifteen – probably setting some kind of world record for the highest rate of budgetary expansion. Nevertheless, enrollment in higher education amounts to only 2.7 percent of the eligible population in the college/university age bracket. There are approximately 160,000 students enrolled in public universities, perhaps a third as many in private universities, and approximately 600,000 in colleges.

Over a period of 10 years, the number of private universities has increased from just two to around sixty in 2006. These fall into different categories. The elite ones among them (Lahore University of Management Sciences, Aga Khan Medical University, Ghulam Ishaq Khan Institute) are reputed for their good quality of teaching, reasonable infrastructural facilities, and have student bodies that come from a higher income group than in public sector universities. As yet private universities do not have graduate departments, and research is rare. Both LUMS and AKU now have plans for setting up science departments that would bring in faculty capable of original research.

### **Identifying the Problem**

While lamenting the obviously poor quality of Pakistani universities, officialdom invariably chooses to focus on the small number of research papers published or the small number of Ph.Ds produced, the paucity of equipment and facilities, and frequent incidences of violence. But the problem is considerably more serious because public sector universities in Pakistan are characterized by extreme poverty of scholarship, intellectual timidity, irrelevance to societal needs, and frequent physical violence.



*The teaching environment* is authoritarian and reflects the experience of teachers when they were students in public schools. Teachers wield enormous power, and the right of students to appeal unfair marking is highly restricted. A few teachers take lectures regularly and complete their courses by the end of the teaching period, but these are exceptions rather than the rule. Incompetent and insecure teachers discourage students from asking questions in class. Most teachers never consult a textbook, choosing to dictate from notes they saved from the time when they were students in the same department.

The exceptionally low quality of most teachers in Pakistani universities has a plausible explanation: In the mid 1970's, a rapid expansion in the number of universities led to the sudden availability of faculty jobs. Low levels of school and college education, and unattractive working conditions, ensured that only those who could not make it to professions like engineering and medicine became teachers. The rules for faculty appointment and terms of service are those of a bureaucracy. Promotions are time-bound and automatic; incompetence is a minor sin if it is one at all. It was impossible for anyone to be fired for incompetence or laziness – there does not seem to be a single example of a dismissal for such reasons.

Rote learning, even in the sciences, is the rule rather than the exception. A generation of students has been brought up to be unquestioningly obedient, uncritically respect authority, and efficiently memorize and reproduce. Students dutifully copy down as the teacher dictates – mistakes and all – and then transfer it on to exam sheets at a later time. Many students write the magical inscription “786” on their exam sheets in the hope of securing better grades, others spend long hours praying before examinations.

*The ethical environment* is remarkably tolerant of practices that would elicit high censure and punishment in other parts of the world<sup>17</sup>. Cheating in examinations, plagiarization of research papers or projects, multiple publications of slightly different versions of the same paper in different research journals, fabricating scientific data, seeking out third-rate foreign journals with only token referees, forgery of Ph.D thesis evaluations by students and their supervisors, and other such acts of academic dishonesty are not considered crimes. Even when the proof is incontrovertible, those who commit such acts are almost never punished<sup>18</sup>. Nor do they lose face socially. The manifest increase in religiosity on campuses has evidently not led to an increase in ethical behavior.

*The intellectual environment* is almost empty of intellectual discourse and argumentation. Quaid-e-Azam University in Islamabad, considered Pakistan's premier public university, has three mosques but no bookstore. In 2006, work began on a fourth one. Academic activities, common in good universities around the world, are noticeably absent. Seminars and colloquia, where the results of on-going research are presented for peer review, are few and far between. Public lectures, debates, or discussions of contemporary scientific, cultural, or political issues are almost non-existent. The university faculty is more concerned with money and promotions than

research, teaching, or bringing their knowledge to bear on the myriad issues facing our society. Intelligence agencies monitor staff and students for “anti-state activities” – deputed agents often do not bother to hide their identities. Because university administrations forbid discussion on anything that might be considered remotely controversial, all such events are held in hotels or other venues outside of the university.

The truth of the above is evident if one glances at campus notice boards. They are almost, or totally, empty of announcements for academic seminars or colloquia. Most of the notices posted are those of religious gatherings and sayings of the Holy Prophet. Until the government back tracked on jihad after 11 September 2001, large banners invited students to participate in the Kashmiri jihad. Following the U-turn in Pakistan’s foreign policy, these have disappeared.

*The academic research environment* is impoverished. At a rough estimation, the number of computer scientists in Pakistan who might be able to run for a tenure-track position at some B-grade (or better) US or British university is less than twenty. In physics, even if one roped in every competent physicist in the country, this would be insufficient for staffing a single good department of physics<sup>19</sup>. As for mathematics – it is not possible to find even five real Pakistani mathematicians living within the country. In the “hard sciences” (mathematics and physics) there is no one under 50 who has made a mark internationally. Although much has been made of it, the research work in chemistry and biological sciences, while higher in volume, goes only a little beyond rather routine work such as classifying chemicals found in plants and natural products. It is not cutting edge science by any means, and no large scale industrial applications have accrued from it. The social sciences appear just as impoverished as the natural sciences.

*The social environment* in Pakistani universities is wholly different from western, or even Indian and Iranian universities. Segregation is automatic; male hostels may not be contiguous with female hostels; the use of a certain section that houses research journals in my university’s library is curtailed out of fear that the sexes may intermingle in the deserted bookstacks; burqas and beards abound; and the call to prayers (azan) is given during class hours. Like overgrown children, university students kill time by making colourful birthday posters for friends, do “istikhara” (fortune telling), and wander aimlessly in city bazaars. Few students have learned how to think; they cannot speak or write any language well, rarely read newspapers, and cannot formulate a coherent argument or manage any significant creative expression.

*The cultural environment* is significantly restrained by religious vigilantes whose job is to guard public morality – the Islami Jamiat-e-Talba and other Islamic groups. Drama, theatre, and musical events are forbidden, as is any activity that can bring male and female students together. They may not engage in debates or political discussions that may strain the patience of the guardians. Religious piety is all-pervasive and campus life crawls to a near halt during Ramadan. Even poetry recitals

– once a major cultural event – have become uncommon. Posters on stair-walls in my department instruct one about the proper prayer to use while ascending or descending.

In Punjab University, which is effectively run by the Jamaat-e-Islami, males and females must sit in separate sections of the classroom. A male and female student were once “caught red-handed” while holding hands and severely beaten with wooden clubs. A fanatical student mob ransacked the Department of Visual Studies of Karachi University, destroying musical instruments, sculptures and paintings because these are forbidden by orthodox Islam. Student activists from universities rove the streets in Peshawar and Lahore, throwing paint on billboards showing women's faces.

Actually the process starts during earlier stages of formal, as well as social and cultural, education. A kind of *lumpen* student is abundantly produced in schools and colleges who then makes his way up to the universities. He or she enters the university with poor reading and writing skills, is ignorant and uncurious, cannot coherently articulate an argument, and readily flocks to the call of ethnic and religious demagogues.

*The political environment* of Pakistani universities has undergone enormous changes over three decades. The global intellectual ferment of the late 1960's and 70's had a stimulating impact on Pakistani campuses. Political consciousness was at its highest point, with teachers and students participating in intense ideological disputes, and to explore ways of moving Pakistani society forward. Relatively speaking, intellectual, scientific, cultural and literary activity also flourished. Young Pakistani scholars gave up potential careers in the West to come to Pakistani universities. But in November of 1981, just days after three QAU teachers had been caught with anti-martial law and pro-democracy pamphlets, General Ziaul Haq thundered on television that he would “purge the country's universities of the cancer of politics”.

General Zia succeeded brilliantly. Today all student unions are gone – they have been outlawed and do not have even an underground existence. Ideological disputes of the 60's and 70's have evaporated into the thin air, and students have simply “tuned out” from every kind of social reform issue. Left versus right politics has been replaced by a simple tribalism. Pakistan's public universities, including the so-called “big names” – Punjab, Karachi, QAU – are ruled by murderous ethnic and religious thugs who constitute the *lumpen* element on campus. Now Punjabi students gang together against Pakhtoon students, Muhajirs versus Sindhis, Shias versus Sunnis, etc. Some campuses have Rangers with machine guns on continuous patrol. On occasion, student gangs attack each other with sticks, stones, pistols, and automatic weapons. There are many campus rapes and murders. The tribalism is not new but it was greatly accentuated by the banning of student unions over 15 years ago on grounds they brought national politics into educational institutions.

Over the years, Pakistan's universities have steadily turned into intellectual and moral wastelands. Deep indifference, even antipathy, to scholarship and knowledge became

nearly universal. This anti-intellectualism gags independent thought and action; it mutilates and mocks the spirit of scientific inquiry. There is an absence of basic academic values, and casual acceptance of abysmal ethical behavior from faculty and students. Incompetence is rife. Resources are wasted on an epic scale.

### **Awaiting the Messiah**

For three decades Pakistani education planners had claimed to recognize the need for reform and had announced grandiose plans that came to naught. In the mid 1980's, Dr. Mohammed Afzal, General Zia-ul-Haq's education minister, swore that he would build MITs and Harvards in the country. Nothing materialized, and for the next 20 years university reform went into the doldrums. Then in 2002, a feeble attempt to formulate a reform plan was made. Known as the Shams Lakha Commission Report, it mutated into the Model University Ordinance 2003. It was summarily rejected by university teachers who had become accustomed to a system that makes no demands upon them. The thought that a university job could be anything less than permanent successfully united teachers who otherwise feuded bitterly on everything else.

Enter Dr. Atta-ur-Rahman, first as minister of science and technology, and then as chairman of the newly formed Higher Education Commission in 2003. It seemed that education reform was finally to be seriously taken. Soon he became General Musharaf's wonderman, armed with an endless list of projects. He flew around the world, eloquently arguing that the world of higher education would change if he was given the chance.

A massive publicity blitz went underway to announce the “new era”. Huge newspaper advertisements and multi-page supplements – paid for by the Higher Education Commission – declared that the decades-old decline of Pakistan's universities had been finally reversed. The speed and scale of change was breathtaking. Banners bearing the pictures of the HEC chairman and executive director could be found on the streets of Islamabad extolling other achievements: internet connectivity in universities; a digital library; hiring of foreign faculty; students being sent abroad for PhD training; a massive PhD program at Pakistani universities; links being forged with foreign academic institutions; faculty salaries about to be massively increased; and money for scientific equipment becoming available. A total of 350 university related projects were announced as of April 2005, which amounts to 25 per cent of the total number of projects being executed by the Government of Pakistan<sup>20</sup>.

Unfortunately, movement became confused with progress. Foreign donor agencies and governments, fearful that an uneducated Pakistan may become an epicenter of terrorism, tripped over each other as they rushed in massive aid for education. Given the dire circumstances Pakistani education finds itself in, many welcomed change. Many wished to believe that these were indicators of a revolution in the making or, at the least, harbingers of better times to come.

These miracle-a-day promises are unlikely to be ever met and billions of rupees are disappearing without tangible improvements. The present effort at university reform is rapidly becoming another missed opportunity. In fact, one fears that things may end up no better when this age of wild experimentation comes to an end.

### **Misdirected Reforms**

Unfortunately for Pakistan, those in authority see the problem of higher education as simply a quantitative one. They do not tire from emphasizing that there is insufficient student enrollment, that far too few PhD degrees are awarded, and that the number of research papers published is miniscule for a country the size of Pakistan. As remarked earlier, less than 3 per cent of Pakistan's eligible population has access to a university education. Of course, one wishes that this number, as well as other quantitative indicators, could be improved. But a long-term strategy, beginning with reform at the school and college level, is essential. To artificially jack up numbers amounts to printing counterfeit currency that can only have a negative overall effect.

It is absolutely essential not to lose sight of the real problem. The real crisis of Pakistani academia is that oases of academic competence, integrity, and freedom have steadily become fewer and further apart. Thus the key demands must include an open and liberal campus environment, higher standards of academic ethics, and activities that create greater social understanding or awareness. Unfortunately these are not easily quantifiable. On the other hand, concentrating on numbers brings immediate propagandistic benefits. It has led to the following quick fixes:

*Make yet more worthless universities:* The HEC's first big idea behind reforming education in Pakistan was that the country needed more universities. So today all it takes is a piece of paper from the HEC and some paint. Some colleges have literally had their signboards taken down for repainting, and been put back up changed into "universities" the next day. By such sleight of hand the current tally of public universities, according to the HEC website, is now officially 50, up from the 23 officially listed in 1996. In addition, there are eight degree awarding public sector institutes. But this is a sham. All new public sector universities lack infrastructure, libraries, laboratories, adequate faculty, or even a pool of students academically prepared to study at the university level.

The government's "generosity" extends even into largely illiterate tribal areas. There are so-called universities now in Malakand, Bannu, Kohat, Khuzdar, Gujrat, Haripur, and in many other places where it is difficult to detect the slightest potential for successfully establishing modern universities. The absence of vital elements is complete and total – these "universities" lack not just libraries and laboratories, but also students who are academically equipped to study at the university level as well as teachers.

*Tolerance of fake universities and fake degrees:* Private "universities" have boomed because of the limited capacity of public sector universities. Although there are a handful of elite universities, there are many fly-by-night operations where money

spinning is the only concern. These few-room, shoddily equipped, inadequately staffed, academic non-entities have become part of the urban scenery. Preston University branches have mushroomed in Pakistani cities. But, according to the Chronicle of Higher Education, an unaccredited Ph.D. degree can be had for \$7,500 from American Branch of Preston University. Preston is accredited to the World Association of Universities and Colleges formed to accredit dubious institutions like the American World University<sup>21</sup>.

Nevertheless, some such universities have managed to curry favour with the HEC and have been awarded charters. The HEC has also quietly accepted that fake degrees given to influential persons will not be challenged. A recent example illustrates this point<sup>22</sup>: the vice-chancellor of Quaid-e-Azam University, a retired army officer, received a PhD degree apparently in violation of established rules. When the whistleblower brought the matter to the attention of his boss, the chairman of the HEC, he was promptly handed his marching orders. The dismissal briefly became the subject of protests in national newspapers but to no effect<sup>23</sup>.

*Produce yet more shoddy PhD degrees: India-envy*<sup>24</sup>, and alarm at a “PhD deficit” has driven HEC’s planners into setting absurd goals. Undoubtedly it is this which, in recent years, has elevated the production of Ph.D. graduates into becoming a kind of holy grail. Accurate numbers are apparently unknown even to policy makers: an article written by the HEC chairman refers to an annual production rate of 250 PhDs per annum<sup>25</sup>. But in an interview given less than a year earlier (Dawn, 20 June 2004), he gave this number as around 200. In various other speeches, this number has fluctuated between 50-250. In an earlier article he wrote: “During the forty years between 1947 and 1986, only 128 PhDs were produced in the sciences in Pakistan. This amounts to 3 Ph.Ds per year (this is not per university but the sum output of all universities and research organizations). In 1996, Pakistan produced about 48-50 Ph.D’s in science”<sup>26</sup>. In any case, this has led to an incredible leap: from a yearly Ph.D. graduation rate from Pakistani universities of perhaps less than 100 a few years ago, the current goal has been set at one thousand per annum with an additional 500 to be trained overseas. The total number of PhD faculty in Pakistan is to be increased from the current number of 2000 to over 20,000 over ten years<sup>27</sup>.

This is a propagandistic move. With occasional exceptions, research in Pakistani institutions is mediocre and quite incapable of supporting genuine PhD dissertations. The consequences of mass production will be a further erosion of quality and standards. Although the HEC claims that it has checked prospective PhD candidates through a “GRE type test” (the American graduate school admission test), a glance at the question papers shows that it resembles the GREs only in so far as it is a multiple choice test. In effect it is no more than a shoddy literacy and numeric high school level test.

To give an idea of quality: in the QAU physics department, advertised as the best in the country, the average PhD student now has trouble with high-school level physics and even with reading English. Nevertheless there are as many as 18 PhD students

registered with one supervisor! In the QAU biology department, that number rises to an incredible 40 students for one supervisor. The enthusiasm among supervisors for enrolling more PhD students comes from a handsome monthly sum of Rs 5000 given to each supervisor for every student enrolled<sup>28</sup>. The new incentives have helped dilute PhD qualifying exams to the point where it is difficult for any student not to pass.

The implications are dire. What will happen when hundreds and, in time, thousands of worthless PhDs are cranked out? Each subsequent generation of such graduates will be more ignorant and less competent. Eventually these PhDs will become heads of departments and institutions. When appointed gatekeepers, they will regard abler individuals as threats to be kept locked out. The degenerative spiral, long evident in any number of Pakistani institutions, will worsen further and become yet more difficult to break.

*Spend yet more on wasteful research projects:* The reader may wish to visit [www.hec.gov.pk](http://www.hec.gov.pk) and examine the list of research projects funded by the HEC. Some have the appearance of genuine projects, but others smell fishy.

Among the dubious projects (“Research Grant Award List 2003-2004”, Grant Number 247) is a research project entitled “Quranization of Courses At The M.Sc Level”, awarded to Dr. Saadia Khawar Khan Chishti, whose address is listed as “Higher Education Commission, Islamabad”. The grant award is for Rupees 5,581,000 (about \$95,000). The project summary, also to be found on the website, reads:

*“Researches by Muslims as well as by non-Muslims have confirmed that Al-Quran has the roots of disciplines both known as well as unknown to humanity. As such, it becomes obligatory for any Islamic State to weave the Quranic perspective into its curricula. Broadly speaking the main focus of this project is “Quranization of existing Science Courses” at M.Sc. level by weaving the Quranic perspective into the syllabus without changing the contents of the course.”*

The purpose of this manifestly fraudulent and money-skimming project – to inject religion into science courses – is reminiscent of the failed efforts of General Zia-ul-Haq to create an “Islamic Science”<sup>29</sup>. In those days many bearded Ph.Ds jumped onto the band-wagon and started making calculations of the temperature of Hell, the speed of Heaven, extracting energy from trapped jinns, finding the “Angle of God”,..... They stood at the head of various scientific organizations and spent millions of rupees on their absurd conferences. Eventually such people were ridiculed and shown up in the press. It was a minor victory for reason. But thanks to the HEC, they seem to be making a comeback.

There appear to be other skimmers on the same list too: one, for Rs 5,355,000 has been awarded to the Allama Iqbal Open University (AIOU) for research in a specialized area of chemistry which, according to the project summary, had been wrongly approached by a Nobel Prize winner in chemistry. But the AIOU is a

distance-learning university with no tradition of chemistry research, and grandiose aims of challenging Nobel Prize winners are highly suspect. Moreover, the principal investigator – who is also the chairman of the HEC – is not from AIOU and already holds several other full time jobs at other institutions, and travels more often than he is present in Islamabad.

When confronted by the list of unviable, but fully funded, HEC research projects, the excuse given by the HEC czars is that they are not responsible for the poor judgment of the referees. This is an unacceptable excuse. Some colleagues, as well as myself, once upon a time would regularly receive proposals for refereeing that were obviously nonsensical. To give examples: I received physics proposals for funding that violated fundamental physical principles, such as the second law of thermodynamics. Others were blatant money-skimmers – the stated prices of components were between 100 to 1000 times higher than what one normally expects. Plus, there were demands for high-priced equipment with no stated utility, as well as requests for salaries for “computer operators” to run personal computers. When I rejected these proposals as unsound, I found myself quietly black-listed by the HEC and received no more proposals to referee. Other colleagues, whose integrity and judgment can be trusted, have also found themselves similarly sidelined. The HEC authorities apparently had no difficulty finding more pliable referees to fund the various scientific-sounding junk projects that are now present on the HEC website, and which the reader may peruse at leisure.

*Turn on the propaganda machine and declare fake successes:* An HEC “Best University Teacher” program has been extensively advertised, and cash awards of Rs 100,000 are handed out yearly to dozens of persons. Excellent, one might say, because good teaching does need to be recognized and rewarded. But in choosing the “best teacher”, no student was asked whether a particular teacher knew his or her subject well, had the necessary communication skills, or could create enthusiasm for the field. Instead, department chairmen and deans were asked to nominate the best teachers. Some nominated their favorites. Others were more direct – they simply named themselves.

Rewards for research are similarly problematic. The production of knowledge remains small, and papers published by Pakistanis are rarely cited – the only indication of genuine worth. A poorly thought-out, and dangerous, HEC scheme involves giving massive cash awards to university teachers for publishing research papers. Although these stimulants are said to have increased the number of papers published in international journals by a whopping 44 per cent, there is little evidence that this increase in volume is the result of an increase in genuine research activity.

The fact is that only a slim minority of Pakistani academics possesses the ethics, motivation, and capability needed for genuine scientific discovery and research. For the majority, the HEC incentives are a powerful reason to discover the art of publishing in research journals without doing research, to find loopholes, and to learn how to cover up one's tracks. There are locally produced science journals where the editor will publish gibberish, either to oblige a friend or for payment, without batting



an eye. Often the “journal” has only half a dozen issues before it ceases publication and goes into oblivion. But this may be enough for the contributors and editor to chalk up enough publications for their promotions. Fraud in international journals is common: one may choose journals of little repute (mostly Indian and Polish), resubmit one’s previous work in some slightly altered form, cook up data without having performed any experiment, hide negative results but state positive ones, plagiarize the work of others and quote without reference, and so on. All this has increased after the HEC broadcast the message: corruption pays.

How prevalent is academic fraud? Nobody can really know, but several “well-reputed” Pakistani scientists have been caught red-handed by the international community. It has had not the slightest effect upon their status and career – they continued to thrive. Society at large does not understand the fine points, and there is no real academic community in this country that cares. So academic fraud is not thought of as really wrong; it is considered just a part of life.

### **Towards Real Reform**

The government’s current “reform strategy” offers false remedies by playing the numbers game and concentrating upon glitzy things like internet access, digital libraries, and virtual learning. Yet it refuses to acknowledge the dreadful diseases that eat into the fabric of education and Pakistani society.

So what needs to be done?

The policy don'ts are clear: stop feeding into religious fanaticism; stop the creation of worthless new universities; stop funding and rewarding research that really isn't research; stop dishing out useless PhDs; and stop rewarding academic corruption. Of course it is important to increase access to education, but the increased access carries meaning only if there is a certain minimum quality as well.

The do's are far more than can be discussed here. Broadly speaking, they can be divided into two mutually distinct sets. One set must deal with creating a freer university environment, controlling campus religious vigilantes, and stopping campus violence. Another set must be aimed at raising the level of general competence of teachers and students by ensuring that they actually have an understanding of the subject they teach or study, and with increasing the amount of research in specific disciplines.

*Entrance tests for students are critically important.* First, there must be university entrance examinations at the national level to separate individuals who can benefit from higher education from those who cannot. No such system exists in Pakistan. Only local board examinations – where rote memorization and massive cheating are rampant – are used to select students. Reform of these boards is essential, but no progress has been made although many grand plans have been in existence for nearly fifteen years. Instituting such centrally administered entrance tests everywhere will

not be easy. In the NWFP, street demonstrations organized by the Jamaat-i-Islami demanded scrapping a proposed admissions test for university admission, arguing that students from tribal areas would suffer a disadvantage if they had to compete against students from urban areas. Similar protests have taken place in the interior of Sind.

It is important to note that both Iran and India have centralized university admissions systems that work very well. Although corruption in India is perhaps as pervasive as in Pakistan, admissions to the top universities have nevertheless retained their integrity and intensely competitive nature over several decades. Honest examinations are presumably also possible in Pakistan, provided extreme care is taken.

Having such university entrance examinations would be important for another reason as well - they would set the goal posts for colleges and high schools all over Pakistan. In the US, the Scholastic Aptitude Tests, centrally administered by the Education Testing Service in Princeton, are extremely useful for deciding student aptitude for university education. The "A" level examinations in Britain have similar importance. At the PhD level, if the HEC is at all serious about standards, it should make it mandatory for every Pakistani university to require that a PhD candidate achieve a certain minimum in an international examination such as the GRE<sup>30</sup>. These exams are used by US universities for admission into PhD programs.

Given the state of student and teacher knowledge, and the quantity and quality of research in Pakistani universities, selection through GRE subject tests would have the welcome consequence of cutting down the number enrolled in HEC indigenous PhD programs from 1,000 per year to a few dozen. The present safeguard of having "foreign experts" evaluate theses is insufficient for a variety of reasons, including the manipulations commonly made in the (almost opaque) process of referee selection.

*Entrance tests for university faculty must be made mandatory.* The system has remained broken for so long that written entrance tests for junior faculty, standardized at a central facility, are essential<sup>31</sup>. Without them, universities will continue to hire teachers who freely convey their confusion and ignorance to students. No teacher has ever been fired for demonstrating incompetence.

*Be harsh and uncompromising in matters of academic fraud and corruption:* Academic crime flourishes in Pakistan's universities because it is almost never punished. Even when media publicity makes action unavoidable, the punishment amounts to little more than a slap on the wrist.

*Better, more transparent, and accountable ways to recruit vice-chancellors and senior administrators are needed.* Pakistan has a patronage system that appoints unqualified and unsuitable bureaucrats or military men as vice-chancellors, and that staffs universities with corrupt and incompetent administrators. While a tenure-track system for faculty is currently under discussion and may allow for breaking with the system of life-long jobs independent of performance, there is no corresponding

system being contemplated for the top leadership. But without good leadership, and people who can set an example, no institution can be reformed.

*Students must be permitted, even encouraged, to self-organize.* It is crucial to bring back on to the campuses meaningful discussions on social, cultural and political issues. To create the culture of civilized debate, student unions must be restored, with elections for student representatives. They will be the next generation of political leaders. Such a step will not be free from problems – religious extremists rule many Pakistani campuses although all unions are banned. They would surely try to take advantage of the new opportunities offered once the ban is lifted. Political parties have also been less than responsible. But the reinstatement of unions – subject to their elected leaders making a pledge to abjure violence and the disruption of academic activity – is the only way forward towards creating a university culture on campus. Ultimately, reasonable voices, too, will become heard. As an interim step, the government should allow and encourage limited activities such as community work, science popularization by students, etc.

To condemn Pakistani students as fundamentally incapable of responsible behaviour amounts to a condemnation of the Pakistani nation itself. If students in neighbouring countries can successfully study, as well as unionize and engage in larger issues, then surely Pakistan's can do so as well.

*Foreign faculty hiring must include Indians.* It is a good thing that the Higher Education Commission has initiated a program for hiring foreign faculty with attractive salaries. There are simply not enough qualified persons within the country to adequately staff the departments. But the success of this program is uncertain, and programme management is poor. Jealousy at salary differentials, and a fear that local incompetence will be exposed, has led local teachers and university administrations to block the hiring of faculty from abroad.

There is another problem: Pakistan's image as a violent country deters most foreigners from wanting to come and live in Pakistan for any considerable period of time. Therefore, westerners are almost totally absent from the list of those who have applied under the foreign faculty hiring program. Apart from Pakistani expatriates in the Middle East, the bulk of applicants are Russian speakers from the former Soviet Union countries. One wishes it could be otherwise. It would be a major breakthrough if Indian and Iranian teachers could be brought to Pakistan. Indians, in particular, would find it much easier to adapt to local ways and customs than others and also have smaller salary expectations. The huge pool of strong Indian candidates could be used to Pakistan's advantage – it could pick the best teachers and researchers, and those most likely to make a positive impact on the system. In the present mood of rapprochement, it is hard to think of a more meaningful confidence building measure.

### **Comparing With Neighbours – Personal Impressions**

It is not utopian to imagine an education system that works in a country like Pakistan. India and Iran both show it can be done.

Few Pakistanis get to visit India, the so-called “enemy country”, and fewer still to independently assess the development of science and education across its hugely diverse regions. I had the exceptional good fortune to make such a visit in 2005, made possible by a UNESCO prize that included a 4-week lecture tour which took me around India: Delhi, Pune, Mumbai, Bangalore, Chennai, Hyderabad, Bhubhaneswar, Cuttack, Calcutta, and then back to Delhi again. I gave several lectures daily at schools, colleges, universities, and research institutions. To my knowledge, no other Pakistani has had such an opportunity to experience Indian educational institutions.

My impression was that many Indian universities have a cosmopolitan character and are world class. Their social culture is secular, modern, and similar to that in universities located in free societies across the world. (In Pakistan, Aga Khan University and the Lahore University of Management Sciences would be the closest approximations.) Male and female students freely intermingle, library and laboratory facilities are good, seminars and colloquia are frequent, and the faculty engages in research. Entrance exams are tough and competition for grades is intense. Some “deemed universities” and other institutions I visited (TIFR, IISC, IITs, IMSC, ICT, IUCAA, JNCASR, IPB, Raman Institute, Swaminathan Institute,...) do research work at the cutting edge of science. A strong tradition of mathematics and theoretical science forms a backbone that sustains progress in areas ranging from space exploration and super-computing to nanotechnology and biotechnology.

As a Pakistani, I could not but help compare Pakistan's premier public sector university (QU) with those in its neighbors' capitals.

First to the east: Jawaharlal Nehru University, and the Indian Institute of Technology, in Delhi. Their facilities are simple and functional, nothing like the air-conditioned and well-carpeted offices of most professors at QU. And, more importantly, every notice board is crammed with notices for seminars and colloquia, visitors from the very best foreign universities lecture there, research laboratories hum with activity, and pride and satisfaction are written all around.

Conflict on campuses does exist - communist and socialist students battle with Hindutva students over the Gujrat carnage, Iraq, Kashmir, and the doctoring of history in Indian textbooks. Angry words are exchanged and polemics are issued against the other, but no heads are bashed. I was impressed by the fearlessness and the informed, critical intelligence of the students who questioned and challenged me. I cannot imagine an Indian professor having a similar reception in Pakistan.

The above are personal impressions, but they confirm more quantitative assessments of Indian higher education. The India Science Report, released in September 2005, combines information from a massive public survey with data on the country's higher education sector. The \$500,000 exercise, commissioned by the Indian National Science Academy (INSA) and executed through the National Council of Applied Economic Research in New Delhi, identified 8.74 million science graduates (those with college-level education in science). Another 1.8 million persons have advanced

scientific and technical degrees, including 100,000 with Ph.D. degrees<sup>32</sup>. There is no comparable study for Pakistan available.

Now for more impressions but this time of a country to the west of Pakistan: after attending a conference on mathematical physics in Teheran some years earlier, I came away with the impression that Sharif University of Technology, and the Institute for Theoretical Physics and Mathematics, are impressive institutions filled with professional activity, workshops, and seminars. Like the institutions I had visited in India, they do not represent the entirety of Iranian universities but do contain something that is common to Iran.

Even as they maintain good academic standards, Iranian university students are heavily political and today are spearheading the movement for freedom and democracy. Iranian students make it to the best US graduate schools. Although it is an Islamic republic, bookshops are more common than mosques in Tehran. Translations into Farsi appear in just weeks or months after a book is published in the western world.

### **Conclusion**

Twenty-three hundred years ago, Plato observed that the perfect system of education is necessary to produce the perfect society. But, on the other hand, the educational system derives from the cultural ethos and relations of power prevalent in that society. Thus, problems prevalent in the society at large are inevitably reflected in the education it gives to its young. This is the usual chicken-and-egg problem. Hope for a society lies in the new generation being better educated and more aware than the one that preceded it.

Given the class structure of Pakistani society, and the state's patronage of feudalism and tribalism, there are no easy solutions to this fundamental problem. Education cannot be freed from inequities unless there is a social revolution - which is not on the horizon.

But there are ways to ameliorate the worst aspects of the present system and step by step reforms that can make things better. As emphasized in the earlier section of this essay, one needs to disaggregate the problems into those of school and higher education.

For schools, in addition to improving the infrastructure where needed, reform must be directed towards the curriculum, examinations, textbooks, teacher training, and school administration.

For higher education, it is crucial to discard the numerical games that have brought such acclaim to the Higher Education Commission. Even if numerical targets are actually met, Pakistani universities will still remain intellectually arid. The task of university reform has not yet seriously begun. Nor can it while wild-eyed fanatical

student groups rule the campuses, academic thuggery is rewarded rather than punished, and university professors are recruited from those who have failed at all else.

A financial and academic audit by international experts is essential to check the squandering of resources. To claim that some benefits have accrued from the HEC reforms is a weak argument – with the huge amounts being spent it would be nearly impossible to avoid doing at least some good. But the real need is for deep administrative and organizational reforms, together with the strong political will needed to handle the counter-reaction they would inevitably provoke.

Only modern, forward-looking societies have so far been able to produce educational institutions that serve the needs of an advanced society; there is no counter-example. Real reform will require that the purpose and philosophy of education be accepted, together with the norms of civilized, ethical, behavior. It is time to start living in the present rather inflicting upon students a medieval concept of knowledge, values, and behavior. Pakistan's future will be bright only if builds institutions that produce students who are informed, critical, and active citizens of the modern world.

### **Acknowledgement**

The author thanks Dr. Zia Mian for a careful reading of the chapter and suggesting improvements.

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<sup>1</sup> Nasir Jalil in Hoodbhoy, in “Education and the State – Fifty Years of Pakistan”, edited by Pervez Hoodbhoy, Oxford University Press, Pakistan, 1998.

<sup>2</sup> “Education and the State – Fifty Years of Pakistan”, op cit.

<sup>3</sup> 4-year university programmes will fall under the HEC administration rather than the Ministry of Education's.

<sup>4</sup> This table may be found at <http://www.nationmaster.com/country/pk/Education> where each entry can be followed to its ultimate origin.

<sup>5</sup> Shahid Kardar and Nadia Khar in “Elusive Search For Quality Education”, Dawn (c. March 2005), note that primary school teachers often resorted to cheating when they were given a simple test to judge their competence level. One estimate is that 30-40 percent of all students cheat in matriculation examinations using a variety of methods.

<sup>6</sup> Shahid Kardar, in Hoodbhoy, op cit.

<sup>7</sup> *Basic Competencies of Children in Pakistan*, Muhammad Pervez, “Dr. Mohammad Ajmal National Institute of Psychology”, 1994. The survey also found that Punjab and Sindh have the highest ratios of competent children, 23.2 per cent and 22.9 per cent respectively. Baluchistan has 21.9 per cent and NWFP comes last with 9.11 per cent. The tribal structure of NWFP, which is relatively the most conservative in the country, places high premium on rote learning.

<sup>8</sup> Curriculum document, Ministry of Education, Islamabad (1995).

<sup>9</sup> Pervez Hoodbhoy, *Islam and Science – Religious Orthodoxy and the Battle for Rationality*, ZED Books, London, 1990.

<sup>10</sup> Pervez Hoodbhoy and Abdul Hameed Nayyar in “Islam, Politics, and the State”, edited by Asghar Khan, ZED Books, 1984.

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- <sup>11</sup> A useful compendium of such materials may be found on the following website: <[www.sdpi.org](http://www.sdpi.org)>.
- <sup>12</sup> ICG Asia Report No. 84, 7 October 2004.
- <sup>13</sup> <[http://dailytimes.com.pk/print.asp?page=2006%5C06%5C09%5Cstory\\_9-6-2006\\_pg11\\_2](http://dailytimes.com.pk/print.asp?page=2006%5C06%5C09%5Cstory_9-6-2006_pg11_2)>
- <sup>14</sup> [http://www.dailytimes.com.pk/default.asp?page=2006%5C06%5C03%5Cstory\\_3-6-2006\\_pg3\\_1](http://www.dailytimes.com.pk/default.asp?page=2006%5C06%5C03%5Cstory_3-6-2006_pg3_1)
- <sup>15</sup> The “O” and “A” level schools, follow a separate curriculum and have their examinations set in Britain. The Pakistani Ministry of Education requires that they follow certain guidelines with regard to Pakistan Studies, Islamic Studies, etc.
- <sup>16</sup> ESRA Quarterly Progress report 10, July 2005.
- <sup>17</sup> Shahid Kardar and Nadia Khar in “Elusive Search For Quality Education”, Dawn (c. March 2005), note that primary school teachers often resorted to cheating when they were given a simple test to judge their competence level. One estimate is that 30-40 percent of all students cheat in matriculation examinations using a variety of methods.
- <sup>18</sup> Every university abounds with examples of unpunished academic crimes: recently at QAU, the chairman of the biology department was discovered to have forged the referee reports on a thesis written under his supervision. The university administration refused to penalize him. When the scandal reached the press, he merely took retirement and became dean of science at Hazara University.
- <sup>19</sup> The physics department at Quaid-e-Azam University started with an excellent initial momentum and produced world-class research in the area of high energy physics, reaching its peak in the late 1960’s and early 1970’s. Established by Dr. Riazuddin, a student of Prof. Abdus Salam, this continues to be the only physics department in the country where some research is still done.
- <sup>20</sup> Dr. Atta-ur-Rahman, private communication to the author on 15 April, 2005.
- <sup>21</sup> “Fake Degrees for the Big Boys in Pakistan”, [www.chowk.com](http://www.chowk.com) by Q. Isa Daudpota, November 28, 2004 and “Dubious universities and the future of higher education”, Q.I.Daudpota, The News, November 03, 2004.
- <sup>22</sup> See A.H. Nayyar, Letter to the Editor of Dawn, 30 March, 2005.
- <sup>23</sup> Technically, Daudpota’s contract was not renewed and so he was not literally fired. For some remarks regarding this incident see: “A Dime A Dozen” by Wajahat Latif, The Nation December 10, 2004. Also, “Seedy Side Of Higher Education”, by Wajahat Latif, The Nation, April 29, 2005.
- <sup>24</sup> Science, Vol 309, Issue 5744, 2142 , 30 September 2005. The India Science Report, a \$500,000 research exercise, commissioned by the Indian National Science Academy (INSA) and executed through the National Council of Applied Economic Research in New Delhi, identified 8.74 million science graduates (those with college-level education inscience). Another 1.8 million persons have advanced scientific and technical degrees, including 100,000 with Ph.D. degrees.
- <sup>25</sup> Dr. Atta-ur-Rahman, Dawn, 7 April, 2005.
- <sup>26</sup> Atta-ur-Rahman and M.Iqbal Choudhury in “Education and the State – Fifty Years of Pakistan”, edited by Pervez Hoodbhoy, Oxford University Press, Pakistan, 1998.
- <sup>27</sup> Presentation by the HEC chairman to the World Bank on April 26, 2005.  
<http://siteresources.worldbank.org/PAKISTANEXTN/Resources/293051-1114424648263/Session-V-Atta-Ur-Rehman.pdf>
- <sup>28</sup> Up to a maximum of 8 students. Supervisors may tap non-HEC sources for numbers in excess of this. The rules are posted on the HEC website [www.hec.gov.pk](http://www.hec.gov.pk) and have changed a number of times.
- <sup>29</sup> “Islam and Science – Religious Orthodoxy And The Battle For Rationality” by Pervez Hoodbhoy, Zed Books, London (1991).
- <sup>30</sup> As a consequence of repeated criticism, the HEC has finally conceded this point. However it remains to be seen if GREs requirements will be seriously implemented.
- <sup>31</sup> In Italy, passing the centrally administered “concorso” examinations is necessary for the appointment of junior faculty. A sample lecture must also be delivered on a topic given to the candidate a day earlier.
- <sup>32</sup> Science, Vol 309, Issue 5744, 2142 , 30 September 2005.