

**Education and Training:  
Draft Chapter for the ICPD Pakistan  
Country Report**

Policy Paper Series # 17  
1993

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PP-017-002-060-1993-019

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# Education and Training: Draft Chapter for the ICPD Pakistan Country Report

## Introduction

Four and a half decades after independence, despite a sustained public effort in the education sector, the situation continues to be a matter of deep concern. Almost half of girls and one-fifths of boys of the relevant age group (5-9) are not enrolled in primary school; and adult literacy rate is still barely 35 percent, far below that of other South Asia countries with similar levels of economic development; and there are severe gender and rural-urban imbalances both in the availability and quality of education. In general, Pakistan's social development has lagged far behind its economic growth.

Furthermore, although precise indicators are not available; most evidence suggests that the quality of education is both unacceptably low and declining. School infrastructure is lacking (and where available, not maintained properly), teachers are not properly trained or motivated, curricula lack relevance, management of the school system is not very effective, higher institutions are politicised, indifferent towards merit, in congenial for research, and prone to bouts of violence. About 35,000 primary schools are without any shelter, more than 80 colleges and 150 vocational and commercial institutes are functioning in improvised buildings; the management of the education system is centralized and without active participation of the user communities or an effective system of accountability.

These conditions persist despite fairly impressive growth in numerical terms. Since independence, primary school enrolment increased from 0.77 million (in 1948) to 12.41 million (in 1992), and 20 new universities, 540 colleges, and 60 polytechnic institutes were added. The Eighth Plan therefore will attempt to bring in considerations of quality and performance in addition to those of quantity of inputs.

## Background

Education policy in Pakistan has passed through several phases. In the early years after independence the emphasis was on building up a strong scientific and technical corps. As a result governmental action was aimed primarily at expanding the number of universities and colleges, establishing new technical and vocational schools, and making the course curricula more relevant to national concerns. By the end of the 1960s, when considerations of equity and distribution became paramount, concerns began to be expressed regarding the inequitable distribution (by region as well as gender) of educational facilities, as well as the bias in favour of higher education; it was recognised that investment in higher education was neither efficient nor equitable without a proper base at the primary level. As a result, policy attention shifted away from higher and elite education towards primary education particularly in the rural areas, and the goal of universalisation of primary education replaced that of expansion of higher education as the central objective of government policy. In concrete terms, this led to an expansion in the number of primary schools and the provision of building for existing schools.

An important issue that became the centre of attention during the latter period was that of the relationship between governmental, private, and local participatory institutions in the management of educational facilities. On the one hand, a large number of private schools were nationalised so that their facilities could be made available on a more equitable basis; and on the other hand, some important decision-making functions regarding primary services (including

primary education) were transferred to ad hoc local institutions. While the nationalisation policy was subsequently reversed, the involvement of local interests, particularly elected local representatives, in decision making became a more or less permanent feature of social sector decision making. This was institutionalised through a succession of programmes or rural development-the Rural Works Programme, the Peoples' Work Programme, the Five Point Programme, the Peoples' Programme, and the *Tameer-e-Watan* Programme.

By the end of decade of the 1970s, however, other bottlenecks had begun to appear, partly as the result of the earlier strategies. These include the continuing shortfall in primary education availability, persistent biases in the availability and quality of services, the growing shortfall in the number of trained teachers, the lack of adequate resources for operating the facilities created in the development phase, the general problem of management, operation and maintenance of educational facilities, and the declining quality of higher educational institutions.

The early 1980s were a period of retrenchment. Because of rising fiscal deficits and payments problems, public expenditures had to be trimmed, and this translated into a pressure on social expenditures, in particular on education. This was seen by some writers as a retreat from the government's commitment to invest in the social sector, and as the major explanation of Pakistan's unusual combination of strong economic performance and poor social indicators. As a result, a renewed effort was begun by the latter part of the decade, to restore the lost momentum in the social sector. The most recent manifestation of this is the Social Action Programme, launched in 1992, the largest component of which is primary education.

To summarise, three issues have emerged in the evolution of national educational policy. These are:

- The appropriate balance between the contribution of the government and non-government sectors to the provision of education. After the initial *laissez faire* period, opinion swung towards the almost exclusive reliance on the government. This was followed by a period of rapid privatisation and de-nationalisation. Today, the consensus of opinion appears to favour some form of partnership between the two sectors. There is a growing perception that the primary responsibility of the government may not be that of making new investments (which non-government agencies may be equally willing to do), nor to manage large bureaucracies of teachers and ancillary staff, but to monitor the functioning of existing institutions, contributing to the quality of service provision, and generally supporting the improvement of managerial capacity.
- The balance between development needs and operational concerns. In the past the focus was squarely on development and infrastructure, but in recent years the pendulum has begun to swing the other way. Increasingly today the main problem is seen to be that of the management, operation and maintenance of existing facilities rather than the creation of new ones.

### **The Seventh Five Year Plan**

The Seventh Five Year Plan (1988-93) was designed in the light of these changing concerns. It envisaged a total expenditure of Rs. 23.11 billion on development programmes of education sector. This expenditure had three main objectives: the expansion of coverage of primary schools, channelling students into technical and vocational streams, and improving the management and functioning of universities and colleges. In the event, while the actual expenditure in this sector, at Rs. 25.2 billion (including foreign aid of about Rs. 5.0 billion over and above the normal ADP), exceeded the plan allocation, most of the physical targets were not achieved. Neither was the expenditure performance distributed evenly; while the expenditure on primary education and college education exceeded the plan allocations by 16 and 208 per cent

respectively, that on technical education and universities fell short by 54 and 26 per cent respectively. Sub-sector-wise break up of the expenditure is given in Annexure-I.

As for physical performance, only 21,000 primary and 13,000 mosque schools were established against the target of 34,600 and 20,000 respectively; building were constructed for only 16,500 shelterless schools against the target of 20,000; 13,000 classrooms additional children (including 1.5 million girls) were enrolled at the primary level against the target of 4.6 million (including 2.7 million girls). The performance in primary and secondary education is presented in Table 1.

As for the second major objective of inducing a shift towards technical education, the Seventh Plan proposed to channelize 33 per cent of students continuing beyond the secondary level into technical and vocational streams. For this purpose, the plan proposed the establishment of 36 poly/mono-technics, 4 commercial colleges and 50 vocational centres in the public sector. However, work started only on 29 poly/mono-technics, mostly during the last 3 years of the plan, and only 4 of them could be completed. The remaining work is expected to be completed during the middle of Eighth Plan. Besides this, no headway could be made on the remaining plan proposals, such as the introduction of one-year on-the-job training for technical graduates in order to improve their employability; or the support, in the form of credit facilities and incentives, for the establishment of private polytechnics and commercial training institutions.

Table 1: Targets and Achievements of the Seventh Plan Primary and Secondary Education

Item	Target	Achievement	
		Number	Per cent
Establishment of new primary schools	34,613	21,000	60.7
Establishment of mosque schools	20,000	13,000	65.0
Construction of buildings of shelterless primary schools	20,075	16,500	82.2
Consolidation and improvement of existing primary schools	14,460	6,200	42.9
Addition of class rooms in existing primary schools	8,749	13,000	148.6
Additional primary level enrolment (millions)	4.60	3.1	67.4
Additional enrolment in classes 6-10 (millions)	1.88	2.0	106.4
Upgradation of primary schools to middle level	6,500	4,200	64.6
Upgradation of primary school to secondary level	3,700	2,600	70.3
New high schools (public sector only)	..	110	..

The third major objective, namely the improvement of university education, was proposed to be addressed through a number of administrative and financial reforms, including:

- i. increase in user charges from 1 per cent of the recurring expenditure to 10 per cent;
- ii. allocation of about 20 per cent of *Iqra* Fund to the universities;
- iii. creation of universities' endowment funds for income generating activities; and
- iv. elimination of duality of their control (by Federal and Provincial governments).

While there was very little progress on the implementation of these proposals, the development and expansion of physical infrastructure of the universities and provision of equipment and books was carried out to great extent. Twelve departments of the various universities or centres of excellence were upgraded through linkages and exchange programmes of their research proposals. More than 100 university teachers were sent abroad for postgraduate training. In the private sector, Lahore University of Management Sciences was extended matching grant through foreign assistance for construction of its campus and creation of endowment fund. Construction was started on the Ghulam Ishaq Khan Institute of Science and Technology.

However, a project for the establishment of an institute of science and technology in the private sector, with a grant from the federal government of Rs. 55 million could not make any headway.

In addition to the above, the seventh plan period witnessed a number of initiatives of a managerial nature for the acceleration of educational development. These include:

- i. Education Foundations were established for encouraging the private sector's participation in the establishment of new educational institutions on non-commercial basis, particularly in the rural areas.
- ii. The *tameer-e-watan* programme was launched. Under this programme, legislators identify the immediate needs of the people at the grass-roots level (including, most prominently, education) and develop projects for implementation through normal channels under their supervision.
- iii. Foreign assistance for education sector was made available to the provinces over the above their normal ADP shares.
- iv. The pay scales of school teachers were upgraded by one step, and the upper age limit for appointment of primary school teachers was relaxed.
- v. The Social Action Programme (SAP) was launched in 1992-93 to accelerate integrated development of social sectors. Basic education, including primary education, functional literacy, and female education, forms the largest component of the Social Action Programme.

### **Broad Objectives and Strategy of the Eighth Five Year Plan**

The Eighth Five Year Plan has been designed with this background in view. Its goal continues to be the removal of both demand and supply side obstacles to the acquisition of education. Within this broad objective, the three priority areas are the same as in the seventh plan, namely:

- i. the democratisation of educational opportunities, primarily by moving towards universal primary education and aiming to reduce regional and gender disparities in the availability and quality of educational facilities;
- ii. inducing a shift towards technical and vocational education; and
- iii. improving the functioning of universities.

On the supply side, the main obstacle continues to be the scarcity of resources. As a result, educational facilities are insufficient in number, inadequate in quality, and inconvenient in location. Although the first problem, i.e. the quantitative scarcity of facilities is gradually being overcome through the mobilisation of additional development resources, the scarcity of resources, both human and financial, for current operations remains an acute problem. As a result, the facilities created through the development effort are not maintained and operated optimally.

As for the demand deficiency, the major contributory factors are the poor quality of the services, their irrelevance to perceived social or economic needs, and lingering cultural opposition of female education. Once again this requires increased attention to qualitative and managerial aspects of educational provision. In addition, it calls for the provision of incentives for continued education, and a mass awareness campaign to overcome remaining cultural obstacles.

Given the above, the eighth plan strategy introduces a shift in direction in three cross cutting areas. This shift has been occasioned by the successes as well as the difficulties of earlier experiments. They are:

- i. a shift from the ideology of direct governmental provision of services towards a philosophy of partnership between the government, NGOs and the private sector;

- ii. a shift from an infrastructure oriented approach to the provision of services towards a management oriented approach that focuses on institutions, incentives, operations and maintenance; and
- iii. a shift sole reliance on public revenues for educational provision towards the examination of innovative mechanisms for creating an adequate resource base for education in the country.

### **Partnership**

As mentioned, the conventional view of the education sector is that all services must be provided directly by the government, and that the remaining sectors in society must assume at best a supporting role. This has placed tremendous stress on the financial as well as managerial resources of the government. In recent years, however, this perception has undergone a transformation in line with an emerging consensus on the reduced role of the government. It is now being recognised that while the state must continue to be responsible for the provision of primary services, and for the monitoring and regulation of the quality of services, the private and voluntary sectors may be better equipped to produce and manage the remaining functions. Furthermore, even in the case of area reserved for the state, the voluntary sector and local bodies could be mobilised to collaborate or take over many of the functions. This is not exactly a recipe for the withdrawal of the state from the responsibility of educating children; indeed, although the pressure on the state will be reduced in some areas (secondary and higher education, technical education), its responsibility in other areas (monitoring, certification, research, support, regulation) will be considerably enhanced.

An important form of partnership is that between the conventional educational system and other communications media. The easier and cheaper availability of electronic technology can make it possible to disseminate newly emerging ideas and knowledge more rapidly. During the eighth plan, studio facilities of the second (Educational) TV Channel will be brought into intensive use, special programmes of video lessons based on school and college curricula, particularly on complicated topics of science and technology, will be produced and disseminated not only through this channel but also through radio programmes, and in the form of VCRs through libraries and private outlets. The production facilities and dissemination system of AIOU will also be used in this connection, and updated as needed.

Another form of partnership can be envisaged between the government, private schools, teachers, and authors, in the dissemination of printed material of adequate quality. During the eighth plan, funds will be allocated to support authors as well as publishers for the development of quality books in science and technology, and for the translations of selected books in these fields into Urdu. These books can be made available to libraries at reasonable cost. To implement this proposal properly, there is also a need to devote attention to the proper development of libraries, both public and institutional, through the provision of public funds. It will be ensured that all the development schemes of educational institutions provide adequate funds for the establishment of libraries, as well as the purchase of professional books and journals.

The above innovations can also be used to catalyse curriculum development. The quality of existing curricula and textbooks is far from being satisfactory. In order to make the curricula more relevant, a new curriculum development cycle will be initiated, involving the participation of teachers, authors and problem solving approaches, in addition to school management and the education departments; this will help encourage enquiry, creativity and analytical thinking, introduce project oriented and problem solving approaches in teaching, orient the curricula of immediate importance (such as environmental education, health education, or population issues) to be integrated into the school curricula. Textbooks will be revised and updated to

incorporate new knowledge using graded vocabulary and pedagogical approach compatible to the age level of the learners. Incentives will be provided for development and production of good textbooks by renowned educators. For each course multiple textbooks, to be produced on competitive basis, shall be approved, and institutions and teachers will be given the choice of selecting any of these textbooks.

### **Management Orientation**

Hitherto, the emphasis in social planning has also been on the expansion of facilities, and therefore on the allocation of investment in physical infrastructure. Today, it is increasingly being recognised that the services that do exist are not being managed or operated adequately. As a result, on the one hand the infrastructure investment is being wasted through inefficient utilisation, and on the other hand there are few incentives for the establishment of new institutions, or the improvement of old ones. To remedy the situation, there is a need to devote planning resources to the refinement of managerial and operational systems. This involves legislative intervention, increase in resources allocated to institutional development, involvement of user communities in the creation as well as the management of services, and reform of internal systems of management and control.

Decentralization is necessary in the education system, particularly in its administration, planning and implementation to improve its efficiency. Planning and management (including maintenance and operations) of all schools will be decentralized upto the district level and placed under the administrative control of district level institutions (such as a District Education Authority) to be established with local participation in each district, and corresponding local institutions in each village. Management training, including project planning, implementation, and evaluation, will be introduced and made mandatory for all categories of educational administrators from school education to higher education.

An important component of educational management is the examination and testing system. A comprehensive and scientific evaluation system makes the teaching-learning process more rational and efficient. The present examination system is liable to considerable misuse. During the eighth plan work will be initiated towards the establishment of a National Testing Service, preferably in the private or voluntary sector, with expert assistance. Such a service will help streamline the process of selection to higher educational institutions.

### **Resource Base**

A number of steps are envisaged for the broadening of the social resource base for education. The share of government resources allocated to education is already being increased through the Social Action Programme. Besides this, the proceeds from *Iqra* surcharge will be organized as a separate fund, first to increase its legitimacy, and second to improve the efficiency of allocation of the funds. Private resources will be tapped by providing fiscal incentives (loans and tax exemptions) to the private sector, and matching grants upto 50 per cent of the cost to NGOs, for establishment of new educational institutions at all levels; for this purpose national and provincial Education Foundations will be organized on a sound footing. Universities and colleges will be encouraged to raise endowments from private sources. Finally, user charges will be introduced and gradually increased for the provision of post-secondary education. This will be accompanied by greater participation of local institutions, particularly local governments, in the establishment and operation of schools in both rural and urban areas.

The reliance on user charges has to be accompanied by the grant of scholarship to needy students. A number of Provincial and federal scholarship schemes are in operation for encouraging talent and equalizing access of the poor but talented students to the educational opportunities. Zakat and Ushr funds are used for awarding stipends to 'Mustahkeen'. These

programmes will be continued during the eighth plan. In order, however, to make the scholarship programme more effective, it will be oriented towards the domestic educational system. Foreign scholarships will be restricted only to areas or programmes where local equivalents are not available. Thus, foreign scholarships from domestic resources will not be offered for M.Sc. courses, nor for M.Phil or Ph.D. in the remaining areas in selected university departments after investing in their quality, and bringing them up to the required level, in foreign universities. Finally, the cost of foreign training will be recovered from all those who do not complete their degree.

The above shifts will be introduced slowly. The first step in each case is to undertake a detailed study of the various options available, and to use the study to identify possible courses of action.

### **Programmes of the Eighth Plan**

The above strategy translates into some specific actions in each of the priority areas of the plan. The following is a brief description of the actions envisaged in each specific sub-sector. The overall expenditure on the public sector development programme in the education sector is estimated to Rs. 69.031 billion (including Rs. 39.319 billion for the Social Action Programme in education). Of this, Rs. 7.534 billion (Rs. 0.584 billion for SAP and Rs. 6.950 billion for non-SAP) is included in the Federal PSDP (Annex III). Subsector-wise break up may be seen at Annex I and II. In addition, Rs. 159 billion will be required to meet the cost of recurring expenditure for the eighth plan period (Rs. 139 billion for the existing programmes and Rs. 20 billion for new programmes).

### **Democratisation of Opportunity**

The objective of democratisation of education opportunity will be pursued through a number of actions, including filling the backlog in the availability of primary educational facilities, especially for hitherto disadvantaged groups (girls, rural children, scattered hamlets, inner city areas), improving the quality of services in remote areas, improving the retention rate beyond primary education (to increase the demand for primary education), initiating a mass awareness campaign to remove lingering cultural obstacles particularly against female education, and initiating a mass literacy campaign.

The universalisation of primary education, both for boys and girls, is a key main instrument not only; for equalising social opportunities, but also for achieving mass literacy in the long run. The objective of the Eighth Plan, is on the one hand, to fill the infrastructure gap in primary education and provide facilities at a reachable distance for every child of the relevant age group; and on the other hand, to remove the obstacles to the demand for primary education. On the infrastructure side, the plan includes the establishment of schools according to need, provision of buildings for existing shelterless schools and classrooms for existing overcrowded schools. On the demand side, a motivational campaign will be launched to persuade parents to send their children to schools. In addition, demand will be improved by improving the efficiency of the system through better supervision and local participation, and thus a reduction in the dropout rate.

By the end of the plan period, 82 per cent of the girls in the 5-9 age group (including all girls of age 5), and 96 per cent of boys will be enrolled in a primary or mosque school (please see Table 2). The strategy is to establish new schools where needed, provide school buildings or additional classrooms where needed, and supplying additional infrastructure. Almost every village has a boys school today, but only about 50 per cent of villages have the girls schools; to remove this imbalance, the highest priority will be given to opening of girls primary schools in villages with only boys' schools. The major physical targets are in Annex V.

Table 2: Benchmark and Target of Enrolment at Primary Level

Total	Enrolment (000)			Participation rate (%)	
	Benchmark 1992-93	Target 1997-98	Additional 1993-97	1992-93	1997-98
	12,414	17,962	5,548	68.9	87.7
Boys	7,792	9,944	2,152	84.8	95.5
Girls	4,622	8,018	3,396	53.7	81.6

To identify the localities where access to primary educational facilities does not exist, a detailed school mapping exercise will be undertaken. The target is to provide schools to every village, and even to scattered hamlets outside the main village settlement: a primary school for settlements of over 300 people, and mosque schools for smaller settlements with more than 25 primary school age children. If separate schools for boys and girls cannot be established, co-educational primary school will be established, preferably with female teachers.

In keeping with the idea of partnership, local government organisations in urban areas, (i.e. municipal committees and cantonment boards) will be encouraged to establish primary and secondary schools to complement the efforts of the private sector (which caters mainly to middle and higher income groups). Local governments will be provided matching grant assistance for this purpose. Finally, funds will be granted for the purchase of land for schools in urban areas, and legislation will be enacted to ensure that all future housing schemes (in the public as well as the private sector) make a provision in their plans to provide land free of cost for primary schools.

On the demand side, the primary goal is to improve the attractiveness of the school as a learning environment. This will be accomplished partly through increased financial allocations for school facilities (e.g. adequate shelter, furniture, potable water, latrines, teaching aids), and partly through such indirect means as greater professionalism in teacher training, greater involvement of the user communities in the governance and administration of schools, development of activity oriented instructional material, and increase in the relevance of courses to local needs. In addition, a motivational campaign will be launched to persuade the parents to send their children (both male and female) to school, and special incentives (e.g. free textbooks) will be directed at girls in rural areas. Finally, scholarships will be provided on the basis of merit to students from low income families to enable them to enrol in higher quality private schools.

A major component in the democratisation of opportunity is literacy. Literacy is not only a human right, it also contributes to economic productivity. In 1992-93, the stock of literates in Pakistan is estimated to be 29.65 million out of an adult (i.e. 10 years and above) population of 83.77 million; this yields a literacy rate of 35 percent, which is one of the lowest in the world. If universal primary enrolment is not achieved at the earliest a large number will be added to the existing stock of illiterate population; and even the neo-literates might relapse into illiteracy because of the lack of appropriate reading material. The public sector programme for increasing literacy will rely mainly on the universalisation of primary education and on the efforts of NGOs in launching functional literacy and adult education campaigns. NGOs will be given grants for this purpose on the basis of their performance. With these methods, it is estimated that 18.83 million new literates will be addition to the population during the eighth plan period (10.78 million primary education, and 8.05 million through non-formal and adult literacy programmes of NGOs). After deducting 1.97 million deaths, the total number of adult literates in 1997-98 will come to 46.51 million, or 48 per cent of the adult population of 96.69 million.

Another method of improving the demand for primary education is to improve the availability, quality and relevance of secondary education. To this end, secondary school facilities will be expanded in keeping with the increased demand, curricula will be reformed to make it relevant

to local needs, technical and vocational education will be introduced through innovative schemes (e.g. making the buildings of selected schools available during off hours to provide vocational training to the dropouts of the general school system). Improvements in quality will be encouraged through model schools, and by support for private initiatives. To make education responsive to the community requirements, the administrative and financial control of primary and secondary education will be decentralized up to district level under District Education Boards to be set up in each district by the provincial governments so that effective participation of public representative and parents is ensured.

In numerical terms, 2.4 million additional seats will be created in classes 6 to 10 by upgrading primary and middle schools, establishing new high schools and adding class rooms to existing schools, introducing a second shift in selected secondary schools in urban areas. It is anticipated that as a result of these interventions, the participation rate of boys at the secondary level will rise from 50 per cent in 1992-93 to 55 per cent in 1997-98, and for girls from 26 to 30 per cent. These figures include the enrolment in private schools, which is estimated to rise to 15 per cent of the total. The major physical targets are given in Annex V; summary details in Table 3.

Table 3: Benchmark and Target of Enrolment at Secondary Level (Classes 6-10)

	Enrolment (000)			Participation rate (%)	
	Benchmark 1992-93	Target 1997-98	Additional 1993-97	1992-93	1997-98
Total	5110	7515	2405	38.1	42.7
Boys	3463	4906	1443	49.7	54.5
Girls	1647	2609	962	25.6	30.0

In addition to the above, the policy, begun in the sixth plan period, of adding classes 11 and 12 to existing secondary schools instead of creating new intermediate colleges, will be continued. In order to encourage the spread of quality education institutions to remote areas of the country, model schools will be set up in each district for boys, and in each division for girls. These schools will be set up preferably by the private sector. The government will come in only where such institutions do not exist.

Finally, the provision of quality education depends, after all, on the existence of quality teachers. A number of steps are envisaged to produce the needed number of teachers of the requisite quality. At present there are 110 institutions for training of primary school teachers, 11 colleges for training of secondary school teachers, and 100 teacher training units attached to secondary schools. In addition, a large number of teachers receive training as private candidates in the Allama Iqbal Open University. In quantitative terms, an estimated 200,000 additional primary school teachers, 50,000 middle school teachers and 35,000 high school teachers will be required during the eighth plan period. While the requirements of middle and secondary school teachers can be met fully by the existing system, the production of primary school teachers will fall short of the demand by about 75,000. To meet the excess demand, 40 new training institutions will be established, in addition to training out-posts for training of rural female teachers, and increase in the capacity of existing institutions.

The quality of these programmes will be evaluated during the plan period and necessary policy changes made. Possible changes include the review and reform of the curricula and training methodology, updating the knowledge and skills of master trainers, raising the entry qualification for training programmes, increasing the duration of the programmes, and linking the payscales of teachers to the qualifications. Furthermore, 8 teacher training colleges will be designed as model institutions to offer modern curricula and techniques, and 66 teacher training

out-posts will be established at the premises of rural girls high schools to facilitate the training of female teachers in rural areas. Last, similar actions will be taken in the field of in-service training, including the introduction of distance learning through non-formal education, establishment of teacher resource centres at selected places, mobile teacher training programmes particularly for the female teachers in rural areas and on the job training through learning coordinators. Similarly, incentives in the form of awards and recognition will be introduced to link the career of teachers with their in-service training.

### **Shift Towards Technical Education**

The education system in Pakistan is producing graduates without functional and marketable skills, resulting in a high rate of educated unemployment. In addition, there are concerns that the system is not geared to producing the skilled manpower needed to meet the challenges of a rapidly growing industrial and technological sector. In order to overcome these handicaps, the eighth plan aims at increasing the share of enrolment in technical and vocational streams from the existing level of 30 per cent to 38 per cent, and to increase the quality and relevance of the programmes offered in these streams. At present, there are 4 engineering universities, 2 engineering colleges, and a few specialized engineering institutions, with a total intake capacity of 4,500. In addition, there are 60 polytechnics with an intake capacity of 12,000, offering three-year diploma courses; 200 vocational institutes with an intake capacity of about 20,000, offering 3 month to one year courses for middle and high school graduates and pre-service and in-service training in a variety of trades; and 20 commerce colleges, and 110 commercial training institutes in the public sector and a large number in the private sector, offering certificate, diploma, degree and post-graduate courses commercial education.

Given the goal of increasing the flow of students into technical and vocational streams, 30 poly/mono-technics, 150 vocational or commercial training institutes, and 40 new teachers training institutes will be established during the Eighth Plan period; except for 5 polytechnics, all of these will be in the public sector. It is expected that this will increase the number of post-secondary students enrolled in such programmes from the current level of 100,000 to 1,50,000. Similarly, the intake capacity of the engineering education will be increased from 4,500 at present to 5,500 during the plan period through better utilization and expansion of existing institutions. On the demand side, in order to attract more students to technical and vocational training programmes, the status and career opportunities for technicians will be improved, and better training opportunities for technical and vocational education for women will be provided.

The goal of technical education will be pursued by other means as well, including the establishment of specialised training centres by specific government agencies (Labour Department, Manpower Division, Health Division), provision of grants and other assistance through the Education Foundations for private sector initiatives, provision of loans from the Small Business Finance Corporation, support for linkages between technical training institutions and industry for on the job training of technical graduates, and better utilisation of existing facilities by the introduction of second shifts wherever feasible. Specific programmes include:

- i. establishment of technical and vocational training institutions up to Tehsil level in the public or private sector;
- ii. improvement in the facilities for teaching of science subjects in normal schools by provision of additional laboratories, equipment and better trained teachers;
- iii. establishment of a parallel system of vocational high schools for imparting employable skills on experimental basis and expanded if found successful;
- iv. expansion of commercial training facilities by introducing commerce courses in schools and colleges;
- v. encouragement to commercial training institutions to offer short courses oriented towards the immediate needs of the local community on self-financing basis; and

- vi. establishment of trade schools, particularly in the rural areas in evening shifts in the existing school buildings for imparting income generating skills such as poultry, nursery, mechanical skills, embroidery, silk-worm rearing, carpet weaving.

Another concern pertains to the deterioration in the quality of the science curricula all the way from high schools, to technical and commercial training institutions, to colleges and universities. These will be kept under constant review and made responsive to the market needs, particularly in relation to newly emerging technologies, such as environmental sciences. Computer education will be made a compulsory part of all programmes. Marketable skills, such as basic accountancy, typing, industrial arts, and agriculture, will be introduced in selected secondary schools according to the requirements of the local market. If trained teachers are not available, skilled technicians or artisans could be engaged on part time basis.

Finally, there is a complaint that the graduates of technical institutions, including engineering colleges and universities, do not receive sufficient practical training during their studies. To overcome this problem, all technical institutions will be encouraged to establish symbiotic links with the industrial sector. One year on-the-job training, in collaboration with appropriate industrial units, will be made compulsory before award of diplomas or degrees. In addition, the curricula and instructional methodology of the engineering institutions will be reformed to include project or case study approach. Selected commerce and business colleges will be encouraged to develop linkage with private sector industrial and commercial establishments, as well as counter-part training institutions in other countries. This will facilitate both an improvement in quality and relevance of education, and the placement of students for practical training and future employment.

Existing engineering universities are mostly producing under-graduate engineers, mainly because of the lack of proper incentives for pursuing post-graduate work, and the absence of linkages between post-graduate departments and the industrial sector. In the eighth plan, incentives for higher education and research and development. The University of Engineering and Technology, Lahore, or its Taxila Campus will be upgraded as Institute of Science and Technology for promoting research in the high technology and for preparing high level engineering manpower. Work on establishment of Institute of Science and Technology of Pakistan (ISATOP) on the pattern of MIT in the private sector will be revitalised. GIK Institute of Science and Technology is expected to be completed and commissioned during the Eighth Plan.

In order to overcome the resource gap, and to promote qualitative improvement, the private sector will be encouraged to establish specialized institutes of engineering education in the newly emerging fields of high demand. Besides this, wherever feasible, selected polytechnics will be encouraged to generate some of their resource by adding production units, and engineering universities will be asked to undertake contact research and training programmes for the private sector.

### **Improvement of University Education**

College and university education in Pakistan is characterized by low quality, lack of relevance to the needs of 21st century, indiscipline, campus closures due to violence, budget deficits, faulty examination system, absence of effective accountability system and insignificant output of quality research. University graduates lack employable skills. Universities have been unable to keep pace with recent advances of knowledge in social and natural sciences and technology. The rapid rate of university expansion without proper funding has also starved these institutions for funds; out of 20 existing universities, 12 were started after 1970, and due to thin funding the campuses of 10 of these are still to be completed. In view of this, the university education needs a new look and complete overhauling.

In view of the above, a major shift in strategy is envisaged in the case of higher education. The new strategy focuses on investment in institutional arrangements and capacity building, rather than on physical infrastructure. No new university will be established in the public sector. Instead, efforts will be made to complete the work on the universities already established, and to rationalise the system of incentives faced by institutions as well as individuals in the educational system. A few areas of immediate concern include:

- i. Improvement in general administrative efficiency will be brought about through changes in legislation, including the granting of autonomy to selected institutions, the entrusting of college and university governance to local educational boards, a thorough review of the incentive structure facing educational personnel, and eliminating the duality whereby administrative control is in the hands of the provincial governments and financial control, with the federal government.
- ii. To increase the responsiveness of the educational system to market needs, and the creation of institutions and incentives that would encourage institutions to introduce training programmes in marketable skills (e.g. skills in environmental analysis, advertising, secretarial work, specialised management, and computer systems; or to provide a knowledge of global or financial markets).
- iii. Introducing an orientation towards research at colleges and universities. In addition to internal mechanisms of rewards and promotions, the main instruments for this objective are the improvement of library and information management, allocation of funds for infrastructural facilities, encouragement to university departments to solicit research programmes. Rs. 1 billion will be earmarked for promoting research activities in the universities under a separate head of the recurring budget of the universities.
- iv. Overcoming the budgetary crisis of universities through increased government allocation (both current expenditures and endowment funds), better financial control, the gradual introduction of user charges, and incentives for generating funds through contract research, entrepreneurial activity, and public contributions to endowment funds.
- v. Improvement in the accountability of the system to users. Mechanisms to be investigated in this connection include strengthening both parents' organisations and professional bodies, and involving them in the governance of institutions, and introducing systems of ranking of institutions.
- vi. Upgradation of selected degree colleges for women to postgraduate level, in order to provide women with greater access to post-graduate education in modern disciplines.

A number of concrete steps are being envisaged to improve the management of the system of higher education. These include management training for those in administrative positions, selection of heads of academic institutions on the basis of administrative skills as well as academic reputation, grant of autonomous status to colleges of high repute, revision of University Acts to facilitate effective financial and administrative management, elimination of duality of control over universities, closing of obsolete university departments and starting new ones as needed, creation of parent-teacher committees to deal with problems of campus discipline and violence.

In order to improve the quality of higher education, it is proposed to introduce a number of steps. These include introduction of pre-service and in-service training for teachers as well as administrators, reform of the system of curriculum selection and development to make it more responsive to emerging problems and perceived social and economic needs, better admission methods based on standardised tests, improvement of inter-departmental linkages in colleges and universities, establishment of linkage with industrial and commercial organisations through contract research, and creation of links with counterpart foreign institutions, including especially institutions in central Asian countries. At least two departments in each university will be designated as Centres of Advanced Studies after suitable strengthening to enable them to conduct quality research and offer postgraduate courses.

The main instrument to improve the resource position for higher education is the increase in user charges to appropriate levels. One of the reasons for financial deficit and misuse of the campus facilities is the highly subsidized rates of user charges. At present the university fees constitute only about 1 per cent of the recurring expenditure. This implicit subsidy will be reduced by increasing the tuition fees gradually to 10 per cent of recurring expenditure, and the full recovery of maintenance cost of hostel facilities from the users. In addition to these measures, the financial position of the universities will be improved by eliminating their budget deficits through increased allocations and better financial control, creating endowment funds, encouraging them to undertake contract research programmes and other income generating activities, and facilitating cost reduction by including a provision in the recurring budgets of colleges to employ part time teachers from the local market for selected courses.