Technical & Vocational Training in Pakistan

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Abstract

Pakistan's economic reforms that were set in motion in 1991 rest on the tripod of privatisation, domestic deregulation and trade liberalisation. A critical component for strengthening the reforms and improving their effectiveness will be the availability and quality of human resources for accelerating industrial growth.

This paper, therefore, attempts to:

a) Review the success of Pakistan's vocational and technical education institutions in satisfying the market demand for various skills.

b) Based on these assessments, identify the key constraints to the availability of technical skills and make recommendations on how the government can improve the efficiency and effectiveness of training arrangements.

The Supply and Demand for Labour

The labour force has been growing at just over 2 per cent per annum as against a I per cent expansion in employment opportunities, resulting in an annual increase of 60,000 in the army of the unemployed. Although employment growth within each sector of the economy has been influenced by the changes in the structure of production, there has been a steady decline in the labour absorptive capacity of the economy. The capital intensification of industry in particular has affected the growth of sectoral employment. The decline in the elasticities of employment is being experienced at a time when the labour force participation rates are changing, partly owing to an improvement in school enrollment rates and partly on account of the growth in female participation.

One of the results of the imbalance between the supply of and demand for manpower has been the emergence of a structure characterised by a large number of educated individuals looking for white collar jobs (especially in the public sector) and an industrial sector struggling to adopt new technologies by providing informal training to a work force handicapped by poor literacy levels.

Institutional Arrangements for the Supply of Skills

Introduction

Faced with competing demands and powerful lobbies, the GNP commitment to education has remained weak throughout the history of the nation. Not surprisingly therefore, whereas successive governments have presented vocational education and technical training as an important component of their strategy for human resource development, only Rs. 2 billion was allocated in the 7th Plan (1989-1993), (barely 8 per cent of the allocations of the provincial government for education and under 0.5 per cent of the total public sector development programme). The allocations in the recurrent budget have also been low. In the Punjab, for instance, only 0.4 per cent of the recurrent budget for education is devoted to technical training.

Sources of Skills

Technical labour is supplied by public sector technical training institutes, private sector programmes and in-house training organised by public and private sector industrial establishments.

Vocational Training Programmes are administered by a number of federal, provincial and private agencies[1] (see Appendix-1 for an overview of the administrative structure of the federal and provincial vocational training system), i.e.:

i) The National Training Board.

ii) Government Vocational Institutes administered by the Provincial Education Departments.

iii) Technical Training Centres and Apprenticeship Training Centres administered by the Provincial Labour Department.

iv) In-plant Training Programmes, i.e.. Apprenticeship Training under the Apprenticeship Training Ordinance 1962 administered by the Provincial Directorates of Manpower and Training of Labour Departments for establishments employing fifty or more workers.

[1] *Report of the National Manpower Commission*, Government of Pakistan, Ministry of Labour, Manpower and Overseas Pakistanis (Manpower and Overseas Pakistanis Division), TclaiTiaharl I99I.

iv) Training within industry designed for individual and specific needs. Multinationals, public sector concerns and a handful of the more enlightened domestic employers depend largely upon their own sources to provide formal training programmes to their employees.

v) Other training programmes administered by various agencies such as Overseas Pakistanis Foundation, Agency for Barani Areas Development, Small Scale Industries Corporation, etc.

The foremost problem in determining the sources and quality of skills is the level of detail at which information is available on key indicators such as the disciplines and trades for which training is being provided at the training institutions, the extent of formal and informal private sector involvement in vocational training, the type, quality and relevance of the facilities for practical training at the institutes and the nature of shortcomings in the output of the institutes as experienced by employers.

A major part of the manufacturing and services sectors relies on informal training, on the traditional *Ustad-Shagird* relationship to fulfil their needs. A recent study[2] on the self-employed in small-scale manufacturing showed that only 3 per cent of the self-employed in this sector had formal while 65 per cent had had informal training in their area of activity.

The primary weaknesses of training through the informal system are the excessively long periods of informal training, in some cases eight to ten years, its inability to address the demands of rapidly changing production processes and techniques, and its high cost in terms of productivity and quality.

Public Sector Technical Training Institutions

The legal and operative framework for technical training was established in the form of the National Training Board following the promulgation of the National Training Ordinance in 1980.

Studies carried out by various organisations at different times have produced conflicting estimates of the number of institutes/facilities in the country and their training capacities. Table-1 summarises data published by the National Training Board on institutional capacity, enrollment and output. It highlights the degree of underutilisation of existing capacity.

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[2] A.R. Kemal and Zafar Mehmood, "Labour Absorption in the Informal Sector and Economic Growth in Pakistan", Friedrich Ebert Stiftung, Islamabad, 1993.

Table 1: Institutional Capacity, Enrollment and Output

	Capacity	*Enrollment*	*Enrollment as % of Capacity*	*Output*	*Output as % of Capacity*
1985-86	8,577	6,894	80.38	4,790	55.85
1986-87	9,100	7,944	87.30	5,856	64.35

Source: National Training Board.

It is revealing that in 1986 Bangladesh had about 23,500 students enrolled in public sector vocational training institutions and polytechnics, three times the enrollment in the training institutions in Pakistan.

The numbers provided in Tables 2 and 3, although somewhat dated and at odds with those published by the National Training Board, while reinforcing the difficulties of analysis as a result of inconsistencies in published statistics, summarise respectively, the pattern of growth in the numbers of institutions providing training and the output capacities of the training centres.

Table 2 shows that the enrollment in institutes providing training in commercial skills has grown at around 11.3 per cent per annum, while that in the industrial/vocational and technical training institutes has grown at 1.5 per cent and 5.7 per cent per annum respectively.

Table 2: Total Number of Secondary Vocational Institutes by Type 1978-79 to 1991-92

	Type of Institute					
Year	*Commercial*		*Industrial/ Vocational*		*Polytechnic/ Technical*	
	No.	*Enrollment*	*No.*	*Enrollment*	*No.*	*Enrollment*
1978-79	52	5,500	87	9,094	22	10,515
1981-82	61	12,506	79	9,864	23	14,416
1984-85	73	15,304	87	10,537	23	13,074
1987-88	116	20,919	169	11,618	42	21,608
1991-92	237	22,020	188	11,068	52	21,503

Source: *Pakistan Statistical Year Book*. 1994. Tables 14.5 and 14.6.

Table 3: Overall Availability of Vocational Training Facilities and Annual Output in Pakistan

Agency	No.of Training Centres	Output (Annual
Directorates of Manpower and Training and National Training Bureau (including Apprenticeship Training)	73	7030
Directorates of Technical Education.	99	11707
Small Industries Corporations/Boards (Carpet, Centres, TC, Hosiery Centre, Embroidery, Cutlery and Pottery Centre and Metal Centre)	226	9110
Agency for Barani Area Development, Punjab.	6	462
Training Programmes of Overseas Pakistanis Foundation (short courses 3 to 6 months)	3	90
Department of Industries, NWFP	14	1260
Staff Welfare Organisation, Islamabad.	43	11350
Large Public Sector Organisations (in-service) - Pakistan Railways, PIA, WAPDA, PTC, etc.	7	160
Paramedical Staff Training Programme		
Total-	494	43619

Source: *Report of the National Manpower Commission*, 1991.

There is a high social demand for places in government run technical training institutions in some areas and for particular trades. This is partly because the beneficiaries of these training programmes expect to make large private returns on the highly subsidised education. These

institutions, however, have few, if any, links with prospective employers (see further details in the sections on Linkages with Industry and Student Population).

Training Schemes in Public Sector Companies

The government requires public sector companies to run training and apprenticeship programmes. The large public sector organisations such as PIA, WAPDA, Pakistan Telecommunication Corporation and Pakistan Railways also operate training programmes. Their in-service training schemes produce about 11,000 trained technicians annually. The Small Scale Industries Corporations/ Boards also operate schemes which produce about 9,000 trained personnel each year.

However, these enterprises are not overly concerned with the quality of the intake to their programmes - such decisions being influenced by factors such as kinship to existing workers, interventions by politicians, etc. - nor with the results of their training programmes. Survey results, however, show that public sector companies do not view the quality of their employees or their own ability to attract manpower as a hindrance to their operations,

Training Programmes Organised by the Private Sector

Private sector involvement in occupational training is substantial, by way of on-the-job and apprenticeship training schemes (see Apprenticeship Programme below), within industries and through private institutions. However, only the large firms provide serious and effective training. Industry specific institutes have also been set up, for example, by the textile industry. Many enterprises too have developed and institutionalised their own training schemes which are tailored to their specific requirements and which can be constantly updated as new production processes and technologies are acquired.

The private sector also provides training through NGOs. Most NGO-run programmes are directed at the poor and at women.

The Apprenticeship Programme

The Apprenticeship Ordinance, 1962 and the associated Apprenticeship Rules, 1966 require all manufacturing enterprises employing fifty or more skilled workers to recruit one apprentice for every five skilled workers.

At the time of recruitment a contract is signed between the firm and the apprentice for a period ranging from a minimum of six months to three years. This contract is signed under the supervision of the Region: Offices of the Directorate of Apprenticeship. An apprentice, once recruited is required to work in the factory for three months, the probation period. After he has completed his probation period the terms of employment of the apprentice (other than his wage) are protected by the labour laws. Then he can only be dismissed from service with the prior approval of the Regional Directorate.

The apprentice is then required to attend a six month overall basic training course designed to give him exposure to various disciplines. This training is arranged by the Regional Directorates either in the eight apprenticeship institutes (that can cater for 1,200 apprentices) or in private firms which have enrolled for this programme. The firm may run such a training programme within its own premises, provided it can specifically dedicate an area and necessary equipment/tools for this activity.

The wages of an apprentice are 60 per cent of the initial basic wage for that skill, and rise by 10 percentage points per annum over the period of his contract with the enterprise.

Failure to comply with the Ordinance invites a minimum fine of Rs. 10,000 (with an additional penalty of Rs. 1,000 per day on failure to pay the fine) while the maximum penalty is imprisonment for six months.

The formal apprenticeship system produces approximately 1,500 trainees every year while the estimated requirement is more than 20,000. One estimate suggests that training under the apprenticeship programme is imparted by less than half the eligible establishments in Punjab and Sindh and by just a handful of units in NWFP and Balochistan.

Employers are reluctant to participate in a training package over which they have little control and which is thrust upon them under legislation which they consider coercive in nature, particularly in view of legislation which they consider coercive in nature, particularly in view of the rather rudimentary training facilities available throughout the country. They are quite unhappy with the quality of the six month training course organised by the Regional Directorates.

The employers resist the compulsory schemes also because of the legal treatment of apprentices as workers for payroll related levies, e.g., the Industrial Employment Ordinance, 1968, covers apprentices under the definition of skilled workers. Apprentices take advantage of this clause by claiming that this qualifies them for the various concessions announced by the

governments for workers from time to time, e.g., cost of living or other wage increases, etc. These factors act as disincentives to the hiring of apprentices.

Employers also complain. that the enforcers are only using their policing powers to earn rents. They do not have the training to play what should in fact be their role of co-ordinators, supervisors and evaluators of training programmes.

The government complains that employers get around labour legislation by using apprentices as cheap labour and after the completion of the three year contract period do not hire them as permanent workers.

Donor Assistance to Technical Training Programmes

Current donor participation in the sector is devoted to the provision of funds to establish skill development councils and skill management committees involving the concerned Chambers of Commerce at industrial estates.

Assessment of Public Sector Training Institutions Management and Administration of Vocational Training Institutions

As described in the previous section, these institutions function under assorted bodies, bureaus, councils, etc., with little co-ordination amongst themselves. In addition, bureaucratic procedures dictate that those mandated to run these institutions have little or no control over important aspects of their operations. Hiring and firing of staff, salaries and career development, the fee structure and even academic standards fall outside the ambit of those managing these institutes; such powers are vested in boards and bureaus far removed from the scene.

The vocational training institutes have not escaped the general malaise afflicting educational institutions. They are poorly resourced, ill-managed and misdirected. By internationally accepted standards efficiency is low, the student teacher ratio ranges between II to 13 compared with 15 to 25 in other similarly placed countries.

The limitation of resources and their improper deployment directly affects the quality of the training available at these institutions.

Academic Staff

Public sector training institutions face a severe shortage of trained instructors; few have undergone formal training. It is difficult for these institutes to attract staff with the relevant expertise, particularly those that

have good industrial experience. In some cases, because of low salaries, academic staff have to look for other part time employment, with its adverse impact on student motivation and inspiration.

The limited funds for consumer items, research and other operational support, paucity of instructional aids, obsolete and insufficient equipment, the outdated curriculum and a weak pay structure are all contributing factors to the inability of these institutions to equip themselves with sound trainers.

Salaries, increments and promotions are strictly tied to civil service pay scales. Higher levels of effort and achievement do not attract a reward different from that due to an average or even below par performer. Having entered the academic scene, staff are virtually guaranteed tenure, with promotions based almost entirely on the length of tenure. Industry is able to offer higher salaries and incentives for the motivated trainer, and the more competent are inevitably attracted by the private sector.

As conditions of service do not attract qualified trainers, courses that are most in demand suffer from severe staff shortages.

The Curriculum

Vocational institutions have made few attempts to either update their curricula to reflect recent advances in technology or to bring them in line with the needs of the industries they are designed to support. The approach towards training tends to be traditional and theoretical.

The curriculum is designed so as to cover a series of topics in a specified time period with a view to certification. It has not been structured in a modular fashion with self-contained modules (developed on a competency basis) to be taken up by trainees at suitable times, such that the completion of a specified set of modules leads to trade certification.

There is limited, if any, interaction between the employers and these institutions in the design and content of syllabi. Students and institutions, therefore, do not benefit from the inputs that could be provided by industry on current technology and practice.

A UNDP study[3] has shown that of those finding employment after attending training institutions, 27 per cent faced difficulties in performing their jobs. Thirty-two per cent of them attributed this to insufficient

[3] UNDP ILO/ARTEP, "Monitoring of Vocational Training Programmes in Pakistan", April, 1991.

training, while others had problems because the equipment on which they had received training was either at variance with that found in the work place or had become obsolete.

A roughly similar survey carried out in the North West Frontier Province (NWFP)[4] had concluded that around 51 per cent were using the same tools as those on which they had been trained. This was perhaps because 77 per cent of the employed had been accommodated in the public sector (compared with only 16 per cent in the private sector) - that does not regularly update its technological base.

Linkages with Industry

The linkages of these institutions with industry are rudimentary in nature. The vocational training system and the employers who are ostensibly served by the system operate largely in disregard of each other. Generally, industrial and related enterprises have developed their own training procedures and tend to ignore the vocational training institutes altogether.

A World Bank Survey in 1987[5] showed that employers placed little or no value on school based training, preferring on-the-job training in all circumstances. To support this, the survey interviewed 885 employees, of whom only four were found to have attended technical high schools.

Moreover, as industry merely criticises the performance of these institutions the potential for a healthy interchange is also lost.

These problems have been overcome in the Latin American countries, for example, by ensuring strong linkages with industry. These countries finance vocational training institutions through a levy on enterprise payrolls. The resulting financial stability has nurtured autonomy and enhanced training quality.

Student Population

The educational experience at these institutions is largely an unsatisfactory one. Students enter them in pursuit of a certificate regardless of actual motivation and interest; the heavily subsidised education serves as an incentive for uncommitted students. In many cases students enrol for want of alternatives and after exploring other avenues; a large number of

[4] *Survey Report on Employability of Technical Manpower in NWFP during the period 1982-86*, survey carried out by the NWFP Board of Technical Education in collaboration with Friedrich Ebert Stiftung and the National Manpower Commission, June, 1990.

[5] "Assessment of Employers' and Employees' Opinions on Supply and Demand of Vocational Manpower in Pakistan's Industry", World Bank, 1987.

unemployed youth take up vocational training as something to do. In addition, those who do secure gainful relevant employment are seen to be better off.

The UNDP-ILO (ARTEP) study found that more than 50 per cent of the entrants to vocational training programmes had earned their last academic qualifications more than four years before entering the vocational training programme. The survey of 25 per cent of those who had graduated from Technical Training Institutions during the period 1983-87 revealed that students had enrolled on courses for such reasons as their low cost (20 per cent), and the fact that they were held in the evening (61 per cent). Only 14 per cent had taken into consideration the reputation of the institute or the competence of the faculty. The same survey found that only 60 per cent of those who had enrolled actually had any interest in the trade in which they had obtained training.

The NWFP study had come to a similar conclusion. It had found that only 4 per cent had received training in view of the usefulness of training and 20 per cent because of the perceived opportunities for employment. Not surprisingly, therefore, many of them, despite having received training and acquiring qualifications, fall short of the requirements of industry.

Institution based training has a high cost and is subsidised by the government; training at these institutes is virtually free. Consequently, the government ends up subsidising those who manage to enter these institutions at the cost of those who, for whatever reason, do not; as places are limited, only a few can benefit from the extensive investment made by the government.

The Product of the System

On the one hand, because of non-uniform standards for certification, the quality of the output of different institutions varies greatly. On the other hand, having graduated, candidates regard themselves overqualified for entry level jobs. The cultural attitude, which is discussed in the relevant section, also plays its part. Those emanating from the system demand supervisory positions, which are only a small fraction of the positions available on the shop floor. In any case, such positions are generally assigned by employers as a reward for proven ability, experience and loyalty.

For various reasons, therefore, employing the products of the system is not an easy task. The results of the UNDP study were that 63 per cent of those trained were unemployed; the NWFP study had also discovered that 55 per cent of the polytechnic and 59 per cent of commerce diploma

holders and 72 per cent of those with vocational certificates were unemployed. Nearly 40 per cent of the unemployed in the UNDP sample had been waiting more than two years for a job. Of those employed two-thirds were employees and one-third was self-employed. Almost 25 per cent of those employed had had to wait more than two years for a job and only 35 per cent found jobs within six months.

The NWFP study revealed that 30 per cent found a job after two to three years, 28 per cent were unemployed for over three years, while 20 per cent were unemployed for a period of six months to one year.

The dated and inflexible programmes in the training institutions have meant that workers emanating from this system cannot necessarily expect to have acquired the skills required for gainfill employment.

Other Factors Affecting the Performance of Vocational and Technical Training Institutes

As little information is collected on the requirements of the market, there is an imbalance between the demand and supply of different categories and types of skills, resulting in the simultaneous co-existence of surplus manpower in some skills and severe shortages in others.

A recent survey[6] has shown that there is a locational mismatch of the demand for and the supply of certain skills. It found that inadequate attention had been paid to the siting of the vocational training centres and on the nature of the programmes being offered. In several instances the labour absorptive capacity of the local economy was not only limited it was also not demanding the skills in which training was being offered. The survey clearly showed that the two key players, industry and institutions, were not tallying.

Other Constraints to the Development of Skills

The Policy Environment

The government's economic policies distort the incentive environment for those desiring to invest in the development of skills. Policies have been frequently changed because of the revenue needs of the government and the pressure of lobbying groups, and always at the expense of efficiency. These factors have shortened society's value function for time; reinforced by insecurity and fear that the system will not be fair, the rules of the game will be changed simply to suit family, friends, patrons, etc.

[6] *ILO-Trainins Needs Survey*, Preliminary Report, 1992.

Furthermore, a nation's response to technological change is influenced by the environment. In a society where profits are made less on the basis of competition and merit and more by 'fixing' deals and by arranging the 'desired' import and excise duty and sales tax rates, productivity is an alien concept. In such a system there is little need for professional or quality management, in the technology embodied in people - human capital.

As the system is not driven by productivity, adaptation to local conditions becomes a problem. When promotions in the public sector are based on seniority or 'right contacts' and not on merit and performance, how can the state recognise and reward productivity? The incongruence of society with technology has made technology and scientific method irrelevant.

Labour Related Legislation

Labour laws also discourage efforts directed at efficiency improvements. Investment in skill development is hindered by the rigidities of hire and fire regulations.

If the issues discussed above are addressed, the environment for entrepreneurial participation in technical training can become more conducive because entrepreneurs can, through quality and efficiency improvements, expect to gain higher returns from investments in such skills.

Cultural Factors

Finally, the cultural attitude to manual work also adversely affects attempts to develop effective training programmes. Those with higher education tend to believe that they are far too 'qualified' to carry out manual work. Most, therefore, seek managerial jobs rather than assignments on the work floor.

The Skill Gap

Modern Technology and the Nature of the Skill Gap

Until recently the private sector had neglected the skill gap, because production technology tended to be rather simple, industry being heavily protected from both internal and external competition. As domestic manufacturing capacity catered essentially to local, in-country demand, its expansion was essentially determined by the growth in domestic demand.

This factor and the lack of competition did not put a large premium on product quality, and thereby the quality of the labour input.

However, with the saturation in domestic demand and the opening up of the economy, more complicated technology has been introduced in the production process. Competition in international markets is forcing Pakistani entrepreneurs to update manufacturing technology. Greater sophistication in quality control procedures has enhanced the role of technology in industries that had hitherto been labour intensive. For example, looms in the country's largest industrial sector, textiles, are now equipped with computers that are programmed not only to steer the production processes but also to provide important feed back on the performance of the looms themselves.

The induction of modern technology is rapidly altering the nature of the skills requirement. With the production structures slowly moving out of the intermediate to the higher range of value added products, there is greater demand for both standardised and higher level skills. Greater emphasis is now placed on the innovation and design skills needed for the graduation of the manufacturing process. The composition of skills required for the new production structures and processes has changed.

Furthermore, the share of the lowest skill level in production is not only much smaller today, it is also relatively easy to develop. The quantum of skill or knowledge required to perform these lower level repetitive functions is not vast. In many cases, two to four week in-house courses are adequate for training unskilled workers to carry out the task of machine operations.

However, the process of technological change requires constant training and retraining of workers. Training, therefore, becomes a continuous process. Operating and fine-tuning production equipment, to arrive at the least cost input mix, therefore, requires a workforce possessing basic minimum educational skills, as well as the ability to be retrained several times over during its working life to assimilate the rapid changes in technology.

Moreover, modern process industry requires skilled maintenance workers who have training in multiple skills, as opposed to the single skilled worker who was the mainstay of the engineering/manufacturing industry in the past. While the demand for the nature of skills has changed significantly institutions have remained wedded to the concept of imparting single skills to trainees.

As discussed in detail in the earlier section, the training structure has proved to be ineffective in responding to the demands of industry. To aggravate the situation further, inadequate resources are allocated for the kind of expansion that is taking place. Whereas priority should clearly be attached to raising deteriorating standards, it is being assigned to expanding facilities. Under the existing conditions the investments in these institutions are simply not productive.

The General Education System

The state of the occupational training institutions is not the sole factor in determining the quality of the product of this system nor in its acceptance by employers. The level of basic education determines not only the material that vocational institutions have to play with but also the capability of workers to acquire new skills.

Low literacy levels and low levels of schooling produce a low quality work force that suffers from a relative inability to adapt quickly to new work methods and technologies. This limits job mobility, within and between firms, and the opportunity to augment skills and adjustment through training.

A great deal needs to be done to improve the general quality of the labour force at the entry level into industry. The literacy level of the industrial labour force has been estimated at 25 per cent.[7] As a result, a large proportion of the potential labour force lacks the educational foundation and the basic skills upon which industry may build. In the Punjab, for example, data suggests that unless something is done to remedy the situation, the prevailing levels of basic education - whereby only 25 per cent workers have completed the first eight grades - will nullify efforts being made by entrepreneurs to remain competitive in international markets.

Although in future the higher enrolment in education will gradually raise the education attainment of the labour force, and thereby its quality, the labour force will be only 50 per cent literate by the turn of the century. Bangladesh, facing similar problems with literacy levels has vocational training schemes in which a key feature is the stress placed on short courses in literacy and numeracy.

What industry requires of the general education system is the instilling of trainability in its prospective workers. A sound general education makes the individual literate and numerate and equips him with

[7] Report of National Manpower Commission. 1991.

the ability to understand instructions and processes, to plan and to give directions. Basic education is required not only to read and understand simple instructions (e.g., on the lot number being processed, size of machine gauge, etc.), but also to evaluate the incentive structure being offered by the employer. Training in specific skills becomes easier and more effective if there is a sound foundation of general education; those who have sound general education can be trained relatively quickly for the vast majority of shop floor jobs offered at the entry level. Such an education enhances the ability of workers to acquire the capability to learn new skills. Lack of education places limits on growth beyond the status of a skilled worker or supervisor. The creative mind required to grow further is not developed.

Therefore, general education serves as a basis for skill development. It increases worker productivity by improving the access of the poor and socially disadvantaged groups to training and wage employment. Literate workers are valued by all sectors. Evidence from a study[8] in 1984 showed that 57 per cent of employers in even the small scale enterprises in the informal sector put a premium on literacy. Basic education is universally seen as the only intervention that has a large scale impact on the quality of skill development.

It is not fortuitous that countries which registered high rates of change in technical efficiency are also among the world leaders in the share of investment in national income and in school enrollment rates.

Basic education is inexpensive compared with technical education. The recurrent cost of a pupil year at primary level is 7 per cent of that of a trainee year in a technical training centre and 17 per cent of a pupil year in secondary school.[9]

It should, however, be noted that while it is being argued that technical skills are more easily acquired by those with a background in formal education, basic education is not being advocated as a substitute for vocational training. Nor does it mean that resources should be diverted from basic education, on which the rate of return is high, to technical and vocational education on which the return is also high, although lower than in primary education. Basic education, by improving access to vocational

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[8] Pakistan/Netherlands Study: "Profiles of Informal Employment in Urban Areas", Ministry of Labour and Manpower, 1984.

[9] It has been estimated that the recurrent unit cost of training at a technical training centre is Rs. 8,000 to Rs. 10,000 whereas it is less than Rs. 3,500 for secondary education and about Rs. 600 for primary education.

training, will complement it. Therefore, resources need to be found for both primary and technical education and vocational training.

Recommendations

Introduction

The overwhelming importance and necessity of good quality basic education stands established. With regard to technical and vocational training, there is much debate not only on its value as it is currently delivered but also on the manner in which this need is to be fulfilled.

Reforms are necessary to improve the efficiency and quality of service delivery of technical training institutions organised by the public sector. However, individuals with the essential knowledge and skills useful to industry will only be produced when there is a demand for technology requiring such skills. This can best be achieved through government and industry acting as partners in the improvement of the training system, private sector collaboration being essential to drive the system.

A concomitant requirement in this regard would be the government's determination to infuse greater competitiveness in the economic system through the creation of an environment (or by putting such incentives in place) that rewards productivity and efficiency.

Establishing the Need

The further expansion of vocational training facilities needs to be carefully examined considering that employers do not indicate any marked preference for vocationally trained applicants over those with no such background.[10]

Although there is a tremendous need to improve and upgrade skills, sectoral investments under the existing institutional arrangements should only be made after a more careful review. Therefore, as a prerequisite, a comprehensive survey of existing training schemes by skill, that are available in the private and public sectors needs to be undertaken.

In the absence of positive findings, linking employability to the training received, the benefits of continued investments in training institutions are not assured. The government should consider declaring a moratorium on the further expansion of facilities which could lead to a

[10] "Assessment of Employers' and Employees' Opinions on Supply and Demand of Vocational Manpower in Pakistan's Industry", World Bank 1987.

further deterioration in standards and a swelling of the ranks of the technically educated unemployed. Future investments should, therefore, be predicated on a substantial restructuring of the system which should enhance efficiency through consolidation and better utilisation of existing capacity.

Restructuring of Existing Technical Institutions

Greater flexibility and job relevance needs to be introduced in the administration of the existing technical training institutions. If they are given adequate funding - while increasing accountability by linking funding to actual placements - and autonomy, they may become more responsive to the needs of the market.

Authority should be decentralised to institutions having the capability and willingness to adopt more innovative approaches for delivering technical and vocational education. They should be empowered to adjust their operations and course offerings to adapt to requirements in their respective catchment areas. Many course offerings are far too long for the objectives and skills being taught. Pruning the length of some courses would help to reduce costs and lower drop-out rates. Also, efforts need to be directed towards an improvement in the currency and content of the programmes.

In order to make such institutions cost-effective, managers should be empowered to effect cost recovery by charging fees from trainees and/or their employers - thus ensuring that only motivated and committed students enroll - by hiring out unused buildings and by allowing academic staff to provide consultancy services to local employers. Funds thus generated could be used to improve the quality of institutional facilities.

The problem of recruiting efficient and experienced instructors could also be overcome by the rationalisation in pay scales that would be possible within an autonomous organisation[11], enabling for example, unemployed engineers to be utilised as teachers. The increased payroll cost could then be met from the savings of operating a leaner establishment, by allowing staff a significant percentage of consultancy assignments undertaken by them for local industry and by other cost recovery measures suggested above.

The measures discussed above would also help establish links with local industry, a critical requirement for improving the effectiveness of these

[11] Currently they have rights inferior to those of teachers in general education.

institutions. Local industry, which is to utilise the product of the vocational training institutes, needs to be more closely involved in the operations of the institutions. Measures that would be beneficial to all parties concerned, industry, trainees and institutions include:

Identification of training needs and prioritisation of training requirements.

Joint planning of curriculum by training institutions and industry.

Setting up of advisory councils comprising senior personnel from industry and from training institutions to monitor standards of training and to ensure their relevance to the needs of local industry.

Encouraging local industry to sponsor trainees and secure first employment for them.

Inviting foremen and supervisors from local industry to be visiting instructors and to discuss standards, level of skills, techniques and current practice.

Including industry representatives in examiners' panels to conduct trade tests.

The Training Needs Survey[12], which established contact with a wide range of employers, reinforces the need to endow the latter with some sense of participation and ownership of Vocational Training Programmes. In this manner they will not only be able to influence the operation of these programmes but also, as a result, be expected to make greater use of their output.

Private Sector Input in Managing Technical Training Institutions

The private sector could be induced into playing a more direct and active role in designing (and perhaps running) the programmes and curricula of the technical training institutions. The governing body of these institutions could have greater representation from the private sector; it could be chaired by a respected industrial employer in the area. In case of institutions not performing to expectations, a reputable industrial organisation in the private sector could be leased the facilities of one or two selected institutes on a pilot basis. The assessments of the institutes

[12] *ILO Training Needs Survey for the National Vocational Training Programme*: Preliminary Report, 1992.

transferred to private management would be carried out on the basis of agreed performance or output indicators, e.g., job placements, pass rates in examinations to be conducted by government agencies, etc.

Improving Private Sector Input in Formulating Training Programmes

To make institutionalised training more focused the private industrial sector should be provided an opportunity to have its views incorporated in setting standards and in the planning and management of training under official auspices. It is, therefore, proposed that to establish a stronger partnership between the government and the private sector a high level National Advisory Committee should be formed to assist the government in developing a national policy and to give it advice on the human resource needs of industry and commerce. Government officials should only have a token representation on the Committee, so that they cannot set its agenda or set its direction of efforts. It should be chaired by a prominent industrialist and should comprise representatives of the Chambers of Commerce, trade associations and technical specialists.

An additional responsibility of the National Advisory Committee (NAC) could be to assess the performance of the training institutions, based on criteria such as enrollment, drop-outs, and pass and placement rates.

The NAC's functional areas of responsibility, the proposed institutional arrangements for mandate implementation and the financing of its activities are discussed below.

Private Sector Input in Formulating Training Programmes
- The Role of the NAC

One of the main responsibilities of the National Advisory Committee (NAC), would be to investigate which sub-sectors and which skills, based on size or priority or expected growth, could benefit from skill development packages. The NAC would then set up sector specific sub-committees which would be mandated to develop such packages.

The sub-committees would supervise package development, establish the training content, prescribe material and books, the method of delivery, class size and duration and design of practical work, together with the criteria for certification and co-ordinate training activities and programmes for the sector. They would also identify and recruit trainers/consultants (see below). The mandate of the sub-committee would include making arrangements to update the training packages, to ensure that they are kept current. This training package would be available for organisations to

purchase. A subsidy might be required if the general skills component of training is high, as it would raise the risk of lost employer investment. The sub-committee would also examine requests for such assistance on the basis of the priority of the sector.

Other means of government assistance to the private sector could be the provision of trainers, partially or wholly at government expense. The consultants could be offered a basic minimum as well as whatever they would be able to raise by selling their services. Such an arrangement would, on the one hand, keep the burden on the exchequer low and, on the other hand, provide the consultant with the incentive to market his skills and create a demand for his services. To check financial abuse, training vouchers could be issued to firms on the basis of employees to be trained. The training consultants could then be paid for their services through these training vouchers which would be encashed by the respective sub-committees.

The above referred sub-committees would include professionals and representatives of the relevant association of industry. Both the professional members of the sub-committees and the training consultants should be recruited on contracts - to ensure that "bureaucratisation" does not creep into these bodies, government employees in these bodies acting as watchdogs of public funds should be rotated at short intervals.

These sub-committees would be located at the secretariat of the relevant association of industry. If this secretariat requires strengthening to support the activities of the sub-committee, the funding could be provided through the allocations for the sub-committee.

The costs associated with these measures should be offset by the sales of these packages and services to the private sector and by gains in export earnings directly attributable to the increase in exports of value added products produced by a higher level of skill acquired from improved training.

In addition, some of the funds could be sourced from the export cess of 0.25 per cent that the government already levies on exports. The burden on the budget is unlikely to increase significantly, especially if rather than providing funds from the earnings of the cess to each industry directly in proportion to its contribution to the cess, the government were to make more judicious use of the funds to sponsor training efforts in promising sectors. This could be done through an in-built mechanism whereby it could support and reward efforts in direct proportion to the annual increase in sectoral exports.

It is a moot point whether employees would be willing to contribute towards their own "general training' on the grounds that they will be able to recoup their investment when it raises their productivity and with it, their wages. This is relevant because employers are likely to be reluctant to risk making substantial investments in training in an environment where technologies are changing so rapidly. The reasons cited for this vary from the apprehension that trained labour demands more by way of compensation (and is better able to gain employment elsewhere) to lack of funds.

The government should also consider establishing a National Training Fund to be administered by this public-private management committee which would fund training projects based on pre-determined criteria.

This Fund could also be used to reimburse the costs incurred by firms on training courses conducted by different institutes or by the consultants hired by the above referred sub-committee; such an arrangement will enable small enterprises to take advantage of the economies of scale in training costs. This method of reimbursement is proposed because it would be easier to monitor. Initially, an upper limit, of say Rs. 50,000 per year, could be placed on reimbursable training costs per company.

The effectiveness of the subsidy built into training programmes financed from this Fund could be improved by targeting them on training for specific occupations and by making eligibility criteria flexible.

Supplementing Private Sector Training

The international experience is that private sector training programmes are more likely than government sponsored schemes to produce workers equipped with the skills that the private sector demands. This is so because the private sector is more aware of current needs and short term trends than government and can adapt to change relatively quickly and more cost effectively than the government machinery. In Pakistan, the rapid growth in computer training institutions in the private sector shows how the private sector has responded to market demand.

Private sector institutes are better able to produce the skills required at any given point in time, thereby increasing the probability that students qualifying from such institutes can be absorbed swiftly and usefully by the sector for which they have been trained

There are some sub-sectors which would obviously benefit from private sector initiatives in the area of training, with the government assisting privately organised institutions through matching grants towards capital and recurrent costs or through long term loans for the construction of buildings and acquisition of equipment, supplemented by fiscal incentives, e.g., duty free imports of tools, permission to charge against the taxable income for the year, two times the expenditure incurred on the training of workers, subject to an overall limit of say x per cent of turnover, etc.

However, in some areas such as electronics and engineering, where higher education institutions already exist in the public sector, private sector programmes would benefit from the support that can be provided by such institutions.

Supporting On-the-Job Training Schemes

Apprenticeship training schemes in the private sector, which have been recognised as an extremely effective means of occupational training to increase skills and productivity, should be promoted by the government. Apprenticeship and on-the-job training schemes carried out within establishments need to be strengthened and standardised and in-plant training needs to be made more structured and systematic. Such training schemes would be all the more beneficial if they were supplemented by revitalised institutional training courses and a tariff structure that does not discourage the import of tools and instructional aids.

In its drive to increase productivity and exports, the government needs to encourage the private sector to invest both funds and other resources in training. It could take an initiative in this regard by sponsoring the development of standardised training packages for essential skills that form the backbone of key industries. This does not imply that the government should become the organiser and the deliverer of training, merely that it should provide incentives and act as the motivator for the private sector to espouse the cause of skills development. However, to protect public funds that may be provided, it must include itself in the monitoring processes.

A broad outline of these packages and the role of the NAC in steering their development and implementation have been discussed in the section on Private Sector Input in Formulating Training Programmes.

Technical Support for the Informal Sector

The above referred efforts at productivity enhancement should no) ignore the utility of the informal sector which provides almost 70 per cent of the employment in the manufacturing sector. This sector needs to be supported through industrial extension services so that improved sub-contracting linkages can be developed between them and industrial units in the formal sector. The expected benefits of the access to skills training, in the shape of better quality products, higher productivity and incomes would reinforce the linkages between these two sectors. It is proposed that this training be carried out through Mobile Training Units (MTUs) which would carry out short courses, perhaps of one week duration, in the major bazars in urban areas.

The content of the training to be delivered by the MTUs would be determined and developed by the sector specific sub-committees set up under the auspices of the NAC. The consultants appointed by the sub-committees would be responsible for imparting this training.

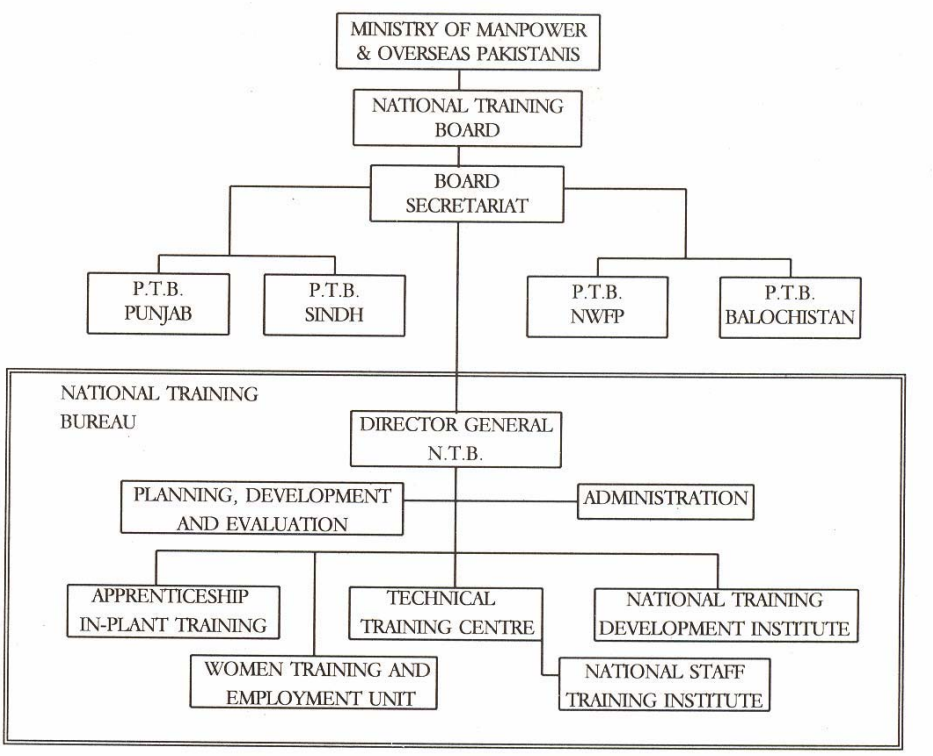
It appears that until the utility of such training is recognised by the "bazars", and is reflected in higher incomes for those engaged in manufacturing activities in the informal sector, the government would have to bear the entire costs of this programme.

Appendix-1

An Overview of the Organisation and Administration of the Federal and Provincial Vocational Training System

The National Training Board is made up of representatives drawn from employers and employees. The National Training Board is organised as below:

ORGANISATIONAL STRUCTURE OF NATIONAL TRAINING BOARD



The National Training Board has the responsibility of developing training programmes, standardising skills, upgrading technical standards in existing institutions and also expanding and regulating standards of the existing institutions and training facilities both in training institutions and in industry.

Provincial Training Boards in each province ensure the execution of training plans, carry out trade testing, and register schemes as well as evaluate training schemes and prepare provincial training plans.

At the level of middle (Grade 6 to Grade 8) and secondary school (Grades 9 and 10) technical subjects have been introduced in the curricula to give greater emphasis to technical education, in the form of agro-technical courses and vocational subjects. These efforts have not been particularly successful in achieving the objectives associated with them partly because of the difficulties in establishing and thereafter promoting and sustaining a technical culture in a schooling system dominated by general education focused on the humanities.

The result is not surprising because international experience has repeatedly shown that introduction of vocational courses in secondary education does not yield any significant benefit to employers or prospective employees.

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