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## **Abbreviations**

ADB	Asian Development Bank
AEC	Atoll Education Centre
APTMA	Pakistan Textile Manufacturing Association
AT	Apprenticeship Training
BMET	Bureau of Manpower, Employment and Training
BPEP	Basic and Primary Education Project
BTEB	Bangladesh Technical Education Board
CBO	Community-based Organisation
CTEVT	Council for Technical Education and Vocational Training
DFID	Department For International Development
DGET	Directorate General of Employment and Training
DPEP	District Primary Education Programme
DTE	Directorate of Technical Education
DTET	Directorate of Technical Education & Training
ECD	Early Childhood Development
ECE	Early Childhood Education
EFA	Education for All
EOs	Employers' Organizations
EPB	Export Promotion Bureau
FICCI	Federation of Indian Chambers of Commerce and Industry
GCE	General Certificate of Education
GDP	Gross Domestic Product
GER	Gross Enrolment Rate
GET	Global Employment Trends
HDI	Human Development Index
HDR	Human Development Report
HRD	Human Resource Development
HRDC	Human Resource Development Center
ICT	Information and Communication Technology
ILO	International Labour Organisation
IT	Information Technology
ITC	Industrial Training Center
ITIs	Industrial Training Institutes
LDCs	Least Development Countries
LSS	Lower Secondary Schools
LTTE	Liberation Tigers of Tamil Eelam
MDGs	Millennium Development Goals
MoE	Ministry of Education
MoPME	Ministry of Primary and Mass Education
MOST	Ministry of Science and Technology
MOVTRI	Ministry of Vocational Training and Rural Industries
MSDVTE	Ministry of Skills Development, Vocational and Technical Education
MTDF	Medium Term Development Framework
NAITA	National Institute of Technical Education
NAVTEC	National Vocational and Technical Education Commission
NCERT	National Council of Education Research and Training
NCVT	National Council for vocational Training
NEC	National Education Commission
NGO	Non-governmental Organisation



NITESL	National Institute of Technical Education of Sri Lanka
NPA	National Plan of Action
NPE	National Policy on Education
NVTEA	National Vocational and Technical Education Authority
NAVTEC	National Vocational and Technical Education Commission
NVTS	National Vocational Training System
NVTTP	National Vocational Trade Testing Programme
NYSC	National Youth Services Council
OE	Occupational Education
OECD	Organization for Economic Cooperation and Development
PBEA	Pakistan Bedware Exporters Association
PCSIR	Pakistan Council of Scientific and Industrial Research
PEDP	Primary Education Development Project
PPP	Public Private Partnership
PRSP	Poverty Reduction Strategy Paper
PSD	Private Sector Development
RS	Rupees (Pakistani, Indian and Sri Lankan Currency)
RUB	Royal University of Bhutan
RY	Rufiyaa (Maldivian Currency)
SAARC	South Asian Association for Regional Cooperation
SCVTs	State Councils for Vocational Training
SDC	Skill Development Council
SIP	School Improvement Plan
SMEs	Small and medium-sized enterprise
SSA	Sarva Shiksha Abhiyaan (India)
SSC	Secondary School Certificate
TE	Technical Education
TEVT	Technical Education and Vocational Training
TEVTA	Technical Education and Vocational Training Authority
TITI	Technical Instructor Training Institute
TVE	Technical Vocational Education
TVEC	Tertiary and Vocational Education Commission (Sri Lanka)
TVET	Technical and Vocational Education and Training
UCSC	University of Colombo School of Computing
UMN	United Mission to Nepal
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Fund
UNESCO	United Nations Educational, Social and Cultural Organisation
USA	United States of America
UT	Union Territory (India)
VDC	Village Development Committee
VE	Vocational Education
VEC	Village Education Committee
VESD	Vocational Education and Skill Development
VTC	Vocational Training Center
VTCD	Vocational Training and Community Development
WE	Workplace Education



## **Executive Summary**

Vocational education and skill development (VESD) has been known to increase productivity of individuals, profitability of employers and assist national development. The growing importance of VESD in developing countries is therefore, not surprising. Currently, developed countries have reached their status by developing a 'knowledgeable' workforce, one that is both highly skilled in a particular occupation and also exhibits flexibility. With evidence of VESD benefits, this report aims to provide sufficient information on the existing situation in SAARC Member States (Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan and Sri Lanka) and provide recommendations on how to promote training and skill development.

Currently, the workforce of the SAARC region is characterized as having low skills and poorly prepared to compete with other nations in today's globalized world. The dependence on agriculture still exists in the countries (although, a declining trend can be observed). The prevailing situation of the agriculture sector is characterized by low productivity and lack of skills, a key challenge that SAARC Member States must overcome and allow the services and manufacturing sectors to dominate. Exceptional cases can be drawn in the region, such as India's IT sector, but generally, low skills dominate the region.

Investment in overall education is also revealed, and where possible, the breakdown of educational levels. The trend reflects growth in overall investment throughout the region, but with varying amounts. More attention and funding are required for VESD institutes to allow for improvements in curriculum, greater access and higher enrolment. This will help improve the quality of the labour force that currently exists as well as the one which will be developed in the future. With higher skills acquired by employees, firms will generally be more productive and in aggregate, improve the macroeconomic position of the country. At the micro-level, individuals will be able to earn higher wages due to higher competency and efficiency.

With the labour market in mind, the effects and role of government policies is also brought forward. Coordination between industries and the governments can help balance the labour market demand and supply situation. Examples of East Asian countries are cited, where export-oriented policies were adopted to boost export-oriented manufactures, creating higher demand for workers in this sector. Moreover, social implications of VESD are also discussed.

It would be a one-sided argument if the limitations of vocational education and skill development were not presented. This report highlights key problems faced by VESD in the region. Globalization and modern technologies are the two prime developments in recent years which have increased demand for skilled labour force for achieving progress and a competitive edge in the global markets. The report discusses in detail the education sector developments, vocational education and vocational training. Moreover, domestic issues such as access and government policies are also assessed. Suggestions upon these limitations are also made.

Labour market requirements are analyzed at the global and regional level. The move towards a 'knowledge-based economy' is becoming inevitable for developing



nations in order to compete with other countries. Therefore, different modalities of vocational education and skill development are also revealed, and recommendations are provided upon mobilization of additional investment in the region to help foster VESD.

Other recommendations based upon limitations, government policies, investment plans, coordination and overall VESD are also provided. It is proposed that the SAARC Member States should meet the challenges of globalisation through competitiveness and innovative policies and reform their vocational education and skill development systems. Investment in producing skilled workers who have acquired key skills and are capable of doing versatile nature of activities, creating lifelong learning opportunities, taking pro export trade policy initiatives, enhancing the quality of education, stimulating private investment in vocational education and training and improving access to education and training will make the SAARC Member States competitive in the global market place. To reinforce these measures, policies that drive innovation are also required with the aim to help promote VESD in the SAARC Member States.



# 1. Introduction

## 1.1. Background

Human resources development (HRD) is the process of increasing the knowledge, the skills, and the capacities of all the people in a society. In economic terms, it could be described as the accumulation of human capital and its effective investment in the development of an economy. In political terms, human resources development prepares people for adult participation in political processes, particularly as citizens in a democracy. From the social and cultural points of view, the development of human resources helps people to lead fuller and richer lives, less bound by tradition. In short, the processes of human resources development unlock the door to modernization.

The 21<sup>st</sup> Century provides an opportunity to develop a workforce by appropriately investing in education and training, achieve sustainable development and compete globally. In South Asia a large part of the labour force continues to utilize low productivity employment. This situation will change in the coming years. Two factors that will contribute to this change will be new technology that provides the potential for greater global trade and sounder economic policies and the way in which these actions are translated into strategies to promote employment-related human performance development across all sectors of the economy. A challenge in designing such employment strategies will be how sensitive and innovative the regional countries are to both the occupational needs of people with skills and also to people who lack the core skills necessary for employment. Thus investment in priority areas of education and skills development become very important for South Asia to reduce the gap between a knowledge-based workforce and labour intensive workforce. The gap between a knowledge-based workforce and a labour intensive workforce will definitely widen in the coming decade across South Asia, if additional investment is not made to develop rapidly knowledge and skills base.

In the area of basic educational development, many areas of the South Asia region are suffering due to a lack of investment in core general education skills that are transferable across occupations. For example, the hindrance in not having such skills is identified in the high illiteracy rates in South Asia that have added to the costs of doing business in the region as indicated in the 1996 World Development Report. This is not to infer that literacy is necessarily an indicator for workplace skill levels but rather is an indicator of the availability of a literate workforce. However, it does infer that a more comprehensive variety of human resource development (HRD) programmes, ranging from general education to vocational technical education and training activities will need to be introduced and valued in workplaces and communities in the coming years to foster broader employment opportunities. Unless such actions are introduced, even the creation of new jobs will be meaningless if the workforce lacks the skills to perform them.

The investment in education and training is the main key to progress from one level of economic development to another. It conveys the message that societies which do not gear themselves from now to learning will find it difficult to progress beyond their present level of economic and social development. Even the relatively rich economies seeking to capture some of the key industries of the 21st century, will



need to create the conditions and environment necessary for creativity and innovation essential for moving into and being competitive in the knowledge-based industries which will provide the highest value-added for economies.

The 12<sup>th</sup> South Asian Association for Regional Cooperation (SAARC) Declaration in Islamabad has recognized HRD in the South Asian region as a fundamental issue. With new technologies, globalization, emerging markets and other changes, HRD has received worldwide recognition as an important factor for achieving sustainable development and competitiveness in a global environment. This has necessitated that public and private investment for the development of HRD activities is given priority, particularly in areas which develop knowledge and appropriate skills.

## **1.2. Trends in South Asia**

National vocational training systems in South Asia are developing to help people to make transition to a more knowledge-based workforce in a variety of innovative ways. In India the Government's policy paper on "Technology Vision -2000" is planning to strengthen indigenous efforts in science and technology. Of special concern will be the formulation of policy that will help develop the current capabilities of technology-based national programs including human resource development issues for self-sustaining knowledge-based growth in people's lives. Other similar examples can be found in each country in South Asia.

Behind these actions is the recognition that capacity building of a workforce requires a broad array of trade skills associated with literacy, work attitudes, behavioural and developmental skills, skills that are generic to employment and transferable outside of a specific occupation. In expanding HRD services based on demand employers have begun to redefine many of the training policies and issues. Specific types of HRD training options from which employers' organization may draw support come from not only traditional human resource development topics, which primarily focus on individual improvement through training and counselling, but also through other interventions associated with Human Resource Management, Organizational Development, and Environmental Infrastructure. In brief, each of these employment linked interventions offers options that attest to the valuing of creativity in training design and delivery.

In almost all the countries, along with general education, emphasis is placed on promoting vocational education and skill development (VESD). Lessons learned from developed countries reveal that the benefits from VESD are enormous in HRD and overall national development. This study aims to review VESD SAARC Member States and identify priority areas for investment its development.

Recognizing, that some aspects of VESD are generally applicable to all the countries, therefore broad definitions are used to explain VESD. The VESD is synonymous to Technical and Vocational Education and Training (TVET), in this report both are used alternatively. Also, recognizing that 'skill development' refers to on-the-job training, due to the lack of data in this area in the SAARC region, on-the-job training is categorized with technical education and skill development institutes. Only in certain circumstances have the two streams (on and off the job) been bifurcated.

VESD is defined as the acquisition of knowledge and skills for the world of work. However, various terms have been used to describe elements of the field that are now conceived as comprising TVET. These include: Apprenticeship Training (AT), Vocational Education (VE), Technical Education (TE), Technical-Vocational Education (TVE), Occupational Education (OE), Vocational Education and Training (VET), Career and Technical Education (CTE), Workforce Education (WE), Workplace Education (WE) etc. Several of these terms are commonly used in specific geographic areas<sup>1</sup>.

Recent trends and policies relating to developing human resources in South Asia mainly reflect the impact of globalization. As elaborated in the ILO's *World Employment Report 1998-99*, demand for skilled labour has been rising as a result of globalization, and technological changes have led to changes in work organization. Globalization implies international competitiveness; firms have to compete not only on the basis of price but also on the basis of quality. Pressure of competition has prompted firms to achieve greater price competitiveness, greater flexibility, enhanced quality, quicker customer response, and the ability to introduce new products and services more quickly. And since the quality of human resources is an important determinant of competitiveness in all these respects, much greater attention is now being paid to developing human resources throughout the region.

Rapid technological changes now require individuals to learn and relearn skills throughout their working lives by ensuring its relevance and effectiveness. The overall responsibility for managing vocational education and training in the regional countries rests with the governments of the region.

Recent years have brought the importance of the relationship between education and training and employment into much sharper focus. At the same time, the first problem to contend with in this context is the resource constraint. Resources for education and training are scarcer in the majority of the countries in the South Asian region. This may conceivably have a negative impact on formal training institutions. Since lack of investment in new equipments and raw materials is likely to contribute to deterioration of training quality and vocational and technical training programmes, the increase in investment in areas of education, vocational education and training is therefore necessary for achieving the desired development objectives.

The unemployment problem has forced the policy makers of the region to pay increased attention to efficiency and effectiveness of existing training systems. Despite this problem of prioritization, countries in the region are reorienting their training systems to enhance the effectiveness and relevance of programmes. The education and training systems are constantly reviewed with a view to ensuring the relevance of curricula. The Government also encourages bringing in expatriate experts to upgrade the quality of the training provided.

In South Asian countries, the reform of the education and training system has been an on-going process, albeit slow. However, the accelerated pace of structural adjustment, especially affecting the organized sector, to meet the challenges of globalization, has added an element of urgency. The fact that the formal sector has

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<sup>1</sup> <http://www.unevoc.unesco.org/>



been dominated by the public sector, whose importance is gradually being eroded by restructuring programmes, has spurred efforts to enhance effectiveness and relevance of education and training. Improving the higher education system is also being targeted, with a view to meeting the needs of high-technology and business services. Such a move, however, has once again sparked off the debate on public subsidies to higher education, seen by some as an unjustified subsidy to the elite.

As far as skills upgrading of the workforce is concerned, the system followed in these countries is supply-led as opposed to demand-driven.

The response of the national authorities in several South Asian countries has led to several innovative approaches, and a conscious effort is being made to provide a supportive environment which fosters skills upgrading. The Indian Government's policy paper on "Technology Vision 2000" aims to strengthen indigenous efforts in science and technology. The quantum leap made by the software industry in India demonstrates the success that can be achieved. Ensuring a role for the private sector in managing over 2,000 industrial training institutes is another initiative which, if successful, could herald a new process of public-private collaboration in providing a dynamic system in the sub-region. In Bangladesh, the use of mobile instructional units to introduce entrepreneurial skills in the informal sector is equipping unemployed youth with practical skills to start their own businesses. In Pakistan, employer-supported Skill Development Councils (SDCs) are being encouraged to identify industry's skill needs in collaboration with the national vocational training system, while in Nepal the formation of the Council for Technical Education and Vocational Training is aimed at coordinating employment-related training needs in the country. Nepal has also taken steps to enhance productivity in the rural sector by adopting community-based training approaches for rural gainful employment. Sri Lanka is taking major steps to reorganize the skills training system with the National Vocational Trade Testing Programme, collaborating with government training providers to enhance the credibility of the system.

### **1.3. Objectives of the Study**

The study aims to:

- Assess the role of vocational education and skill development in national developments;
- Assess overall public and private investment in the education sector, particularly in vocational education and skill development in South Asia;
- Identify problems faced by the Member States due to lack of market driven skilled manpower, particularly in enhancing productivity and competitiveness in the global manner;
- Suggest modalities to mobilize additional investment to promote vocational education and skill development in South Asia;
- Suggest short, medium and long term investment policies and programmes for vocational education and skill development in South Asia.

#### **1.4. Terms of Reference**

The terms of reference of the study are:

- To review the education, vocational education and skill development policies and programmes of SAARC Member States to assess the trends and pattern of investment.
- To assess the importance of vocational education & training and its impact on enhancing productivity and competitive position of SAARC Member States.
- To analyze the trends of public and private investment in vocational education and skill development in SAARC Region.
- To identify priority areas for investment to develop demand driven skills in South Asia.
- To analyze the existing labour market situation in South Asia with a view to assess the quality of the labour force of the SAARC Member States and determine the skill gaps.
- To evaluate the labour market requirements view of emerging global and regional trends.
- To suggest modalities for mobilization of additional public and private investment to promote vocational education and skill development in the SAARC region.
- To suggest short, medium and long term policies, programmes and investment plans for promotion of vocational education and skill development in the SAARC region.

#### **1.5. Methodology**

A vast collection of secondary material was collected, read, reviewed and analyzed. Websites, reports, documents and case studies were all included. Individual country statistics as well as regional and global figures were assessed. Along with individual country reports, general reports were also included and applied to the SAARC member countries. However, investment information both public and private by level of education and vocational education and training of all the South Asian countries are not available. Some information is gathered from individual country's economic surveys', statistical profiles and national development plans and analysed. Data is often unavailable or unreliable, creating problems not only for this report, but also for the nation in terms of policy development and knowledge upon its own VESD sector.

A great acknowledgement of international agencies' reports, documents, assessments, and data (as well as their efforts) must be made: United Nations (and more specifically, UNESCO and UNDP), World Bank, International Labour Organization and Asian Development Bank. Care was taken when assessing individual national ministry statistics due to biased-ness/exaggerations. Wherever possible, statistics were reviewed from multiple sources to determine their reliability and accuracy. Finally, as always, reference has been made in all occasions where information was elicited.

#### **1.6. Outline of the Report**

Efforts have been made to cover all objectives and terms of reference comprehensively and completely. Section-2 provides an overall picture of the current situation in the SAARC Member States on education, technical education



and training, policies and programmes. The current labour market situation is then reviewed and analyzed. The importance and role of vocational education and skill development is presented in this section. Impact on productivity and competitiveness is then assessed, including relevant examples. Impact of globalization on skill development and mobilization of resources for skill development is also presented in the report. Nevertheless, limitations of VESD have not been omitted and are analyzed in the last part of this section. The section also comprises the labour market requirements. The main focus of this section is what type of VESD is needed to fulfil the market needs. An analysis of the knowledge-based economy is also presented here. This is followed by trends and patterns in investment in education and VESD regionally as well as country-wise and priority areas for investment have been identified. Section-3 provides a brief overview of each SAARC Member State, with the overall educational system, vocational education and skill development.

Section-4 provides conclusion and recommendations to promote vocational education and skill development in the SAARC Member States.

## 2. Review of the Education, Vocational Education & Training System

### 2.1. Education Profile of the Countries

Human resource development, particularly improved skill levels of the workforce, impact positively on economic growth, raising productivity levels and unemployment reduction (Solow, 1957). Wagner K. (2005) points out that vocational and professional training system would have a major positive impact on national competitiveness.<sup>2</sup> Since the mid-1980s a wave of 'new' growth theories focus on increasing returns, not only in physical but also in human capital. Human capital is a key input to both the 'use of ideas and the production of ideas' (Romer, 1993). Large stocks of human capital enable to adapt new ideas readily and acquire technological capability. ILO global report on information technology (2001) points out that the full benefits of the new wave of technological change cannot be reaped without creating a striking balance of skills. Promoting a knowledge economy puts a large premium on acquiring appropriate education and demand driven skills.

The training systems are product of the labour market institutions and incentive structures in which they operate and of the support they receive from the employers, workers and governments. Most skills developed over a lifetime are acquired on the job, mostly in enterprises in which people work in both the formal and informal economy. Lall and Weiss (2004) in a study point out.

- Technology-intensive and more sophisticated manufactured exports growing faster in the world, but South Asia lags significantly behind in technology intensive manufactured exports;
- Some of the countries of the region score relatively low on export sophistication reflecting specialization in low technology products, and within these, on products that are at the low commodity ends of the sophistication spectrum;
- Main drivers of competitiveness<sup>3</sup> in the region are weak and are not growing in response to international challenges.

The South Asian countries have a weak base for building competitive capabilities, and it is not improving over time in response to growing international challenges. The regional countries fair poorly in skills and technology in comparison with other regions such as East Asia and Latin America. The East Asian countries, such as South Korea and Singapore have achieved the most impressive performance in increasing the share of technologically advanced goods in manufacturing exports; however, South Asia is weak performer. As shown in Table 1 below South Asia is the least advanced region in terms of its share of technologically advanced goods.

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<sup>2</sup> She quotes the evidence of German-British industrial experience showing specific links between vocational training, products and competitiveness on the basis of matched plant comparisons

<sup>3</sup> Human resources, technological effort, technology inflows and supporting institution.

**Table 1: Share of Technologically Advanced Goods in Manufacturing Exports**

	1970	1975	1980	1985	1990	1995
<b>East Asia</b>						
South Korea	8.8	13.5	16.9	19.6	32.5	42.6
Singapore	9.4	23.0	25.8	34.3	52.0	68.5
<b>South Asia</b>						
India	4.0	5.6	7.4	6.7	9.2	7.7 <sup>1</sup>
Pakistan	1.7	2.6	1.7	2.6	2.0	2.0
<b>Latin America</b>						
Brazil	3.7	7.3	10.6	9.3	12.1	12.8
Mexico	14.6	11.1	5.3	19.3	15.3	42.4

<sup>1</sup>1994Source: M. Pigato, et. al., (1997). *South Asia's Integration into the World Economy*, World Bank, Washington D. C.

The gross enrolment rates, at different educational levels indicate that most of the South Asian countries rank poorly in tertiary education (Table 2).

**Table 2: Enrollment at Different Educational Levels (Gross Enrollment Rates 2003)**

	Primary (Rank)	Secondary (Rank)	Tertiary (Rank)
Bangladesh	96	47	6.2
India	108	53	11.9
Pakistan	68	23	2.8
Sri Lanka	112	86	5.3

Source: World Economic Forum, 2006. *The Global Competitiveness Report 2005-06*.

Similarly, the level of technical education at the tertiary level in the majority of South Asian countries varies from the lowest level of 12.7 percent (Bangladesh) to the higher level 24.6 percent (Sri Lanka), which is very low compared to the level of developed countries (Table 3).

**Table 3: Students Enrolled at the Tertiary Level and Technical Subjects 2000-01**

	Total Tertiary (All Subjects) (000)	Technical Tertiary <sup>1</sup> (000)	Technical Tertiary/ Total Tertiary (%)
Bangladesh	879	112	12.7
India	9834	1913	19.5
Nepal	103	16	15.5
Pakistan	340	71	20.9
Sri Lanka	65	16	24.6

<sup>1</sup>Science, engineering, mathematics, computing.Source: World Economic Forum, 2006. *The Global Competitiveness Report 2005-06*.

The index on the quality of education system, quality of public schools and quality of math and science education (Table 4) suggests that South Asian countries compares poorly with other countries such as Singapore. If, South Asia is to survive and prosper under the competitive conditions of the global economy then it must move into more technology and knowledge based products where global growth is concentrated (Lall and Weiss, 2004).

**Table 4: Quality of Education System (Index)**

	Quality of education system	Quality of Public schools	Quality of math and Science education
Singapore	6.1	6.1	6.5
Bangladesh	2.5	2.2	3.1
India	4.5	2.8	5.7
Pakistan	2.8	2.8	3.3
Sri Lanka	2.8	3.7	4.0

Source: World Economic Forum, 2006. The Global Competitiveness Report 2005-06.

## 2.2. Vocational and Technical Education for Development

In the global set up, countries with poor technical capacity cannot survive in an increasingly competitive world. The language of twenty-first century is the technical language. If South Asian countries do not develop adequate technical knowledge rapidly, they will not compete or integrate effectively with regional and world economies. It is therefore of utmost important that the region educate its workforce in the technical language of the future, which through efficient production could promote the economic growth, reduce poverty and inequality in the distribution of assets.

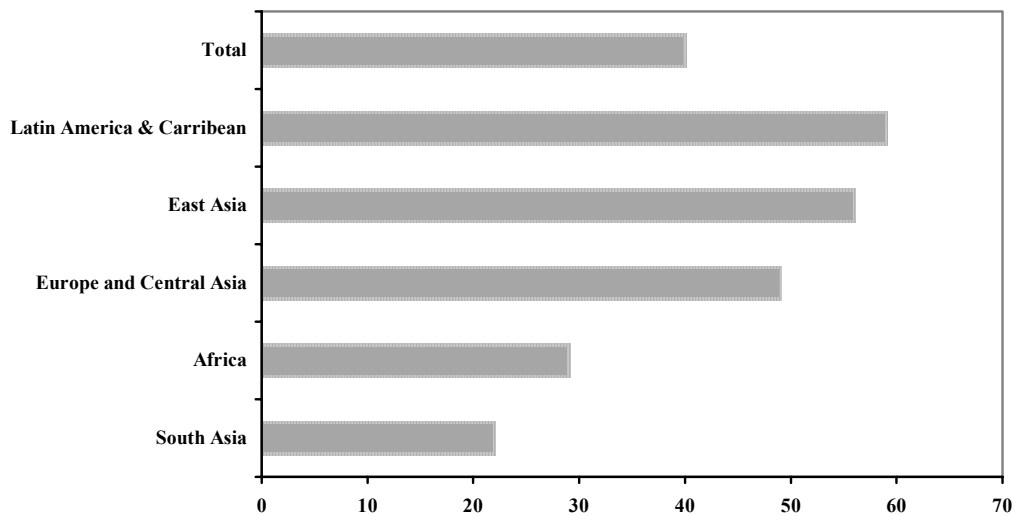
There is volume of literature explaining that technical education plays a central role in developing quality of human resource and thus stimulating growth. Analysis of the development process in various countries show that countries which put greatest emphasis on technical education and particularly at the middle level are the most successful in organizing a successful economic strategy. Development of middle level technical institutions provided the base for the development of the advanced industrial economies of today. The initial industrialization strategies of developed countries such as Germany, Korea, Taiwan, and Singapore reveal a positive correlation between economic growth and production of mid-level manpower. About four decades ago when Scotland was in the midst of recession while England, Ireland and other West European Countries were enjoying economic growth, an enquiry committee was commissioned to look at the causes of recession in Scotland. The report entitled, "*What's Wrong With Scotland*" identified lack of mid-level technicians as one of the major causes of the recession. Compared to the 300 technical schools/polytechnic institutes in England, which annually produced about 30,000 technical persons, the number of technical institutes as well as technical persons was insignificant in Scotland. It was the middle level technicians who brought about technological revolution and initiated a process of sustainable development in those countries.

In South Asia, more than 70 per cent of the enrollments in secondary education are in general education and in some counties vocational education accounts for less than one per cent. Realizing the situation, some of the regional countries have expanded their vocational education systems, while there are some countries still working with the majority of low skilled and unskilled labour. Some countries close to the South Asian region such as Jordan, Korea and Turkey have expanded their vocational educational systems considerably, their enrolments in vocational education forming more than 20 per cent of the enrolments in secondary education. Countries in East Asia like Thailand, Japan, China, and Indonesia also have high enrolments in vocational education. But on the other side, countries in South Asia

like Bangladesh, India, and Pakistan have a very small share of vocational secondary educational in their education systems, around one percent.

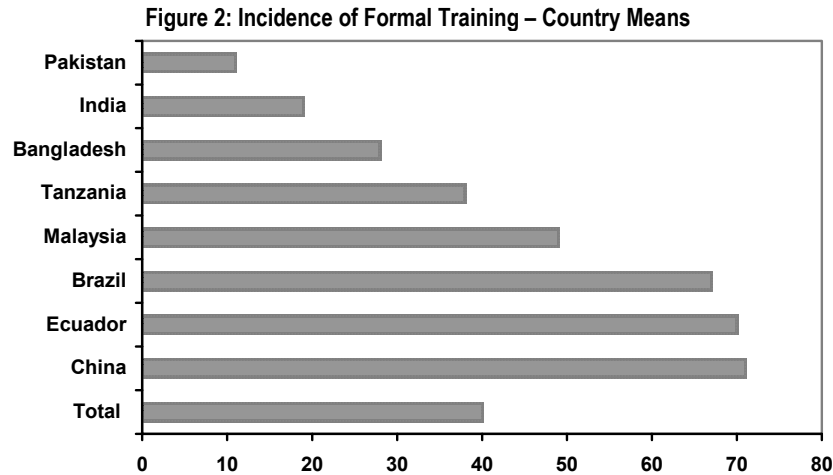
In these countries formal training is also limited. Only around 22 percent of manufacturing establishments provide in-service formal training. This is less than half the average for Europe, East Asia and Latin America. For example, the number of manufacturing establishments providing in-service training in Latin America and Caribbean (65 percent), East Asia (61 percent) and Africa (30 percent). Figure 1 gives the details on the incidence of formal training.

Figure 1: Incidence of Formal Training – Regional Averages



Source: Tan and Savchenko (2005)

On disaggregated basis, the incidence of formal training in the South Asian countries (Pakistan, India, and Bangladesh) is very low compared with countries like China (71 percent), Ecuador (70 percent), Brazil (67 percent) and Malaysia (49 percent). Figure 2 below gives the details.



Source: Tan and Savchenko (2005)

### 2.3. Vocational and Technical Education in South Asia

The South Asian countries have a long history of vocational and technical education and training; and they have vocational or diversified secondary education systems. India has had a diversified secondary education system for a long time. Even in 19th century India, there was a reasonably good vocational and technical system (Crane, 1965). It is more or less the same situation in the other countries of the region, many of them having had a long colonial and/or feudal rule; only after independence, and particularly since the 1950s increasing attention has been given to vocational education. Initial efforts at vocationalisation in Sri Lanka date back to the 1930s and in Pakistan 1950s. The very first educational development plan of Pakistan envisaged technical and commercial education as an integral part of general education, with diversification of the secondary education curriculum. The National Education Commission in Bangladesh (1972) recommended the diversification of secondary education from grade IX onwards. After 1978, quite a number of government senior secondary schools were converted into vocational schools.

The technical education and vocational training system encompass various forms and levels of training, which generally start after completion of the senior secondary level of schooling (grade VIII) and go up to the diploma level. The first tier of training programmes consists of certificate courses, which are designed to produce semi-skilled to crafts-level workers, and usually require a pass in the General Certificate of Education (GCE) ordinary level examination in the required subjects. These courses range in duration from 6 months to 4 years. The next tier of courses consists of diploma programmes, which currently cater to students who passed their GCE advanced level examination with relatively good marks in mathematics, physics, and chemistry. The objective of these programmes is to prepare the students to become versatile technicians capable of performing a broad spectrum of work between that of an engineer and a skilled worker. These programmes vary in duration from 3 to 4 years.

The South Asian economies, like many other developing economies have a pressing need to increase skill levels but face great difficulty in providing educated labour and modern skills due to market failures that yield poor access to postsecondary



education in the region. Most of the regional countries have adjusted to low skill levels as wages have stagnated and the educated poor cannot upgrade their only real asset. Postsecondary education in the region also suffers from inefficiencies. Tertiary education resources are not allocated according to performance criteria, resulting in little incentive to increase enrollment or enhance performance. In many cases, the curriculum is not in line with the economic and social requirements, leading to a continuing decline in educational relevance, access, efficiency, and financing. Addressing these constraints will require: (i) information awareness campaigns that encourage public-private partnerships to increase quality, relevance, and access to postsecondary education; (ii) distance education to promote greater flexibility at low cost to gain access to quality programmes; (iii) accreditation and standard setting within a national accreditation board; (iv) programme expansion in high-demand fields such as business, computer science, foreign languages, and engineering; and (v) introduction of some user fees.

The public institutions with little involvement of the private sector and NGOs offer the technical and vocational courses in the regional countries. The use of the capacity developed in these institutions is low and need special focus. It is important that collective efforts need to be made to develop technical and vocational education and proper utilization of the institutions and resources. In order to establish the required linkage, the following steps are likely to improve the existing situation:

- a. Training institutions may draw required inputs and contents of activities from the demand of employers;
- b. Resources allocated for the development of technical and vocational education programmes may be utilized in cost effective manner;
- c. Technical teachers training institutes / colleges may be strengthened;
- d. Training programmes may be worked out in consultation with Chambers of Commerce and Industry, employers and trade unions to develop demand driven skills;
- e. Cost of training may be borne by the public sector, private sector and parents, and
- f. Institutional arrangements to associate stakeholders in the management of technical and vocational institutions may be developed.

There are three major types of vocational/technical education and training programmes.

### ***Higher Secondary Vocational Education***

The higher secondary vocational education aims to develop skilled manpower through diversified courses to meet the requirements of the labour market and to prepare people for the world of work in general through a large number of self employment oriented courses. Through diversification into production and service-oriented courses, it is desired to reduce the aimless pursuit of higher education and thereby reduce pressure from the tertiary education. They can be grouped under the major areas of agriculture, business, commerce, engineering and technology health and Para medical, home science and humanities. The design consists of theory and practical issues relating to the vocational field, related subjects, language and general foundation studies, which includes entrepreneurship.

### **Technical Education**

While general secondary education is somewhat of homogenous nature, there is a diverse pattern of provision of vocational and technical education and training (VET) in many regional countries. The "Taiwan miracle" owes to its system of VET (Boyd and Lee, 1995). In several countries of the region many academic secondary schools that concentrated for a long period on preparing students for university entry, tried to become multi-purpose institutions to serve a broad spectrum of students and needs, including specific types of occupational training. In addition, various types and models of specialized secondary training institutions have been created in several countries to meet different middle level manpower needs. It includes at least two major forms: vocational and technical education in formal education systems (lower and senior secondary schools, post-senior secondary but less than college level institutions like polytechnics, and colleges at tertiary level), and training outside formal system of education (pre-employment training and on-the-job-training). The latter kind also includes apprenticeship-training systems, non-formal training centres, enterprise based training, etc. Polytechnics in many countries, industrial training institutes in India, technical colleges in Sri Lanka etc., belong to the post-secondary level (below tertiary level). Most countries have both exclusive vocational schools and diversified secondary schools with general academic, as well as, vocational courses.

The governments have a dominant role in the provision of school-based VET in most Asian economies. In South Asian countries, governments are the main provider of VET both at school level and also outside the school system. The private sector also plays some role in VET in the South Asian countries. However, the quality of private institutions in providing VET has been found to be generally poor compared to public institutions.

As far as, skills upgrading of the workforce is concerned, the system in these countries followed a supply-led as opposed to demand-driven approach prevalent in most Asian economies. The number of schoolchildren who receive vocational education is also extremely low as compared to the East and Southeast Asian countries. About 1.2 per cent in South Asia as compared to 43 per cent in the Republic of Korea and 28 per cent in Japan. Training systems in the South Asian economies suffer from limited flexibility, poor curricula and weak links with industry. One of the more serious flaws is that training is mostly focused on the organized sector. Given the capacity of these sectors to provide only limited employment opportunities and the fact that most of the labour force is involved in agriculture and the informal sector, this explains the forceful demand for improving the relevance and effectiveness of national training systems.

Training programmes outside the formal education system are also common in the South Asian economies. These are often supervised by Ministries of Labour, and run by independent bodies and financed by governments or employers, or by both. Entry requirements and the duration of training vary considerably. They often target school leavers, with or without school-leaving certificates, unemployed youth and employed workers who need to improve their skills. Vocational training courses of short duration are more work-oriented and flexible compared with vocational education. Many training programmes have also, like in vocational education, expanded their



apprenticeship type programmes by integrating school-based education with workplace-based learning in enterprises. Hence, many countries have witnessed a progressive convergence of their education and training systems and a standardization of education and training supply and occupational profiles in response to broad skill requirements.

Private education and training supply have been spurred less by pure market forces than by public policies that offered private agents incentives and subsidies to engage them in executing programmes. However, profit-making private institutions are unlikely to become the principal providers of education and initial training in most South Asian countries. In the present context of often severe income and social inequalities, the participation of disadvantaged population groups in education and training cannot be assured by privately run education and training. Also, education and training are often long time endeavours that are less conducive to be met by private profit making institutions, frequently operating in a short-term perspective. Nevertheless private institutions, and also NGOs, community organizations and other actors have been instrumental in adapting education and training to local economic and social needs and constitute a valuable source of learning opportunities supplementary to public provision.

The present system of technical education in the region is not well coordinated. Several parallel systems are in place and run by the government and the private sector, and NGOs; there were also systems of vocational training in some of the industries as well as in the roadside workshops. These countries have produced graduates in technical education without assessing the needs of the employers and market, as a result majority of these graduates are unemployed. The low skills resulted in low productivity and high cost of products making products of these countries non-competitive in the global market.

### ***Polytechnic Education***

Polytechnic education is imparted at various institutions. Polytechnic institutes, vocational schools, institutes of technical education, and technical colleges figure prominently in the educational systems in Japan, Korea, Taiwan, Singapore and India. Vocational and technical schools received serious attention in Japan even during the 19th century (Yamamoto, 1994). The minimum qualification for entry into a polytechnic is grade X certificate. The courses are generally of three-year duration but in few countries it ranges between three to four years. The training is mostly institutional (with some industrial experience), the curricula predominantly theory oriented and location is mostly urban. They aim to meet the manpower needs of the organized sector.

## **2.4. Employment and Labour Market Situation**

### ***Quality of Labour Force***

In the majority of the South Asian countries, high rate of unemployment and underemployment is because of the low level of knowledge and skills. The majority of South Asian countries facing problem of high unemployment rate, Bangladesh, India, Maldives, Bhutan and Sri Lanka with varying degrees (Table 5).

**Table 5: Unemployment Rates (Percentage of labour force)**

Country	Unemployment Rates (Percent of labour force)			
	1980	1990	2000	2004
<b>Afghanistan</b>	..	..	..	..
<b>Bangladesh</b>	0.97	1.95	4.41	4.32
<b>Bhutan</b>	..	3.04	4.52	5.40
<b>India (a) (UPSS)</b>	1.91	1.96	2.23	2.30
<b>(b) (CDS)</b>	8.28	6.03	7.32	9.13
<b>Maldives</b>	..	0.74	1.93	..
<b>Nepal</b>	..	..	8.81	..
<b>Pakistan</b>	3.60	8.61	8.28	7.69
<b>Sri Lanka</b>	10.91	14.14	7.62	8.29

Source: Khan, 2006. Unemployment and poverty: A South Asian Perspective

The overall quality of the labour force in the region is characterized as having weak skills, low educational levels, and low adaptability. Technical Education and Vocational Training (TEVT) at the technician and technologist levels is underdeveloped and cannot produce enough qualified skilled workers for either the domestic or foreign market. The labour force in the region is 565 million or 22.7 percent of the world's labour force (second after East Asia and the Pacific). India has almost 72 percent of the combined South Asian labour force, followed by Bangladesh (12.8 percent), Pakistan (9.74 percent), Nepal (2.0 percent), Sri Lanka (1.5 percent), Bhutan (0.1 percent), and Maldives (<1 percent).<sup>4</sup> Securing gainful employment and promoting industries is a key challenge for the government, workers and employers.

Due to low levels of educational attainment and lack of technical and vocational education, labour markets in South Asia are dominated by less educated and unskilled manpower. There has been a considerable rise in the number of educational institutions and enrollment of the bachelor's and master's degree programmes with an emphasis only on general academic education without developing specific skills. The sluggish demand for the graduates of these programmes in the job markets leads to unemployment among the educated and the job market remains dominated by the less educated. Unemployment, especially among educated youth, is high. A large number of school leavers lack the skills for jobs or self-employment. These youths could be employed in industry if they were trained in relevant technical and vocational skills.

Quality of labour force can be measured in various ways. The level of education attainment by the workforce is perhaps the most prominent feature in assessing the quality. Table 6 below reveals education attainment levels in some of the SAARC countries.

<sup>4</sup> World Bank, "Labour Markets in South Asia: Issues and Challenges," November, 2004  
[http://siteresources.worldbank.org/INTLM/Resources/390041-1103750362599/SAR\\_paper.pdf#search=%22labour%20market%20in%20south%20asia%22](http://siteresources.worldbank.org/INTLM/Resources/390041-1103750362599/SAR_paper.pdf#search=%22labour%20market%20in%20south%20asia%22)

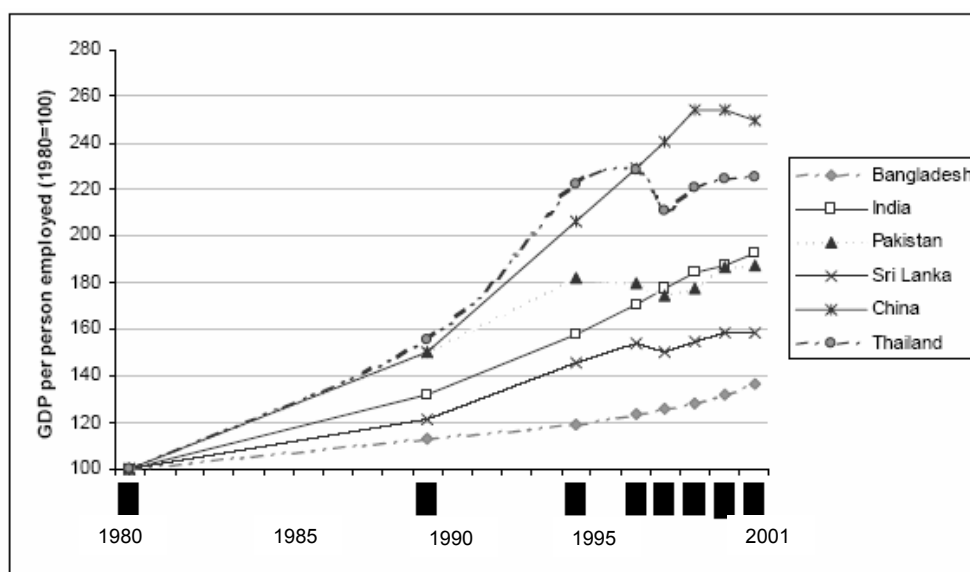
Table 6: Level of Education Attained by Workforce<sup>5</sup>

	Bangladesh	India	Nepal*	Pakistan	Sri Lanka
No formal education	see note 1	see note 1	61.11	46.36	2.78
Below primary	56.75	46.15	10.32	4.43	10.28
Primary	8.14	12.30	11.91	15.36	6.52
Below secondary	22.90	15.20	8.56	11.66	46.14
Secondary	8.55	11.40	5.14	13.04	18.99
Higher secondary	3.31	6.20	1.64	4.98	12.80
Degree & above	0.35	6.20	1.10	4.17	2.49
Others/Not stated	..	5.20	..	..	..
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: (1) Those with 'no formal education' are combined with 'below primary'.

Source: India: Report by National Sample Survey Organization (2002); Maldives: Poverty Assessment (1998); Nepal: Parajulia (1999) and NLFS (1999); Pakistan and Sri Lanka: staff estimates based on Pakistan LFS 2001/02 and Sri Lanka LFS 2001.

Further, labour productivity also reveals the quality of the workforce (Figure 3). As can be observed, although there is an upward trend, the selected SAARC countries lag well behind China and Thailand.

Figure 3: Productivity Trends (1980-2001)<sup>6</sup>

Source: Key Indicators of Labor Markets (ILO, 2003).

With globalization challenges, the upward trends in productivity need to be boosted. Education levels of the workforce must also be enhanced. Further, the role of remittances does play a positive role in the domestic economies, however, the fact that skilled locals often migrate in search of better opportunities and higher economic benefits, the native state is deprived of a competent workforce. Retaining such people and preventing brain drain should be one of the top priorities by Member States.

<sup>5</sup> Ibid p 28

<sup>6</sup> Ibid p 18

The Governments in South Asia are trying hard to reduce unemployment and respond to the changing labor market by combining short and medium-term strategies. In the short term, the Governments are exploring the possibility of expanding local and foreign skilled and semiskilled employment while, over the medium term, according high priority to manufacturing-based growth with increased foreign investment. This strategy requires highly trained labor, including technicians and technologists, who are in short supply.

Most countries in South Asia face challenges in terms of skills development: ensuring training that matches labour market needs; finding effective means to recognize individuals' skills; ensuring that the costs of training are not unfairly distributed; and ensuring that there is fair and equitable access to training and skill development so that the overall level of productivity in the country is improved, along with the employability of workers.

### ***Current and Emerging Regional and Global Trends of the Labour Market***

The scope of analyzing the labour market is far more complex than simply determining unemployment rates. The close relationship with productivity, poverty and overall national development has become more and more clear-cut over the past few decades. Externalities of educational policies and the social sector can also be determined, not only at the local level, but also globally.

A few statistics must be provided first in order to establish recent trends of the labour market. The overall global unemployment rate remained unchanged at 6.3 percent after two successive years of increase. People aged 15 and above engaged in work (self-employed, employed, employers, unpaid family members) at the end of 2005 amounted to 2.85 billion, up 1.5 percent over the previous year, and up 16.5 percent since 1995. The employment to population ratio (the share of the world's working age population – aged 15 and above) was 61.4 percent, lower than the 1995 ratio of 62.8 percent. Further, a variation between male and female trends can be identified: the share of employed male declined by 1.3 percent (to 80.8 percent overall) while the proportion of women employed increased by 0.5 percent (to 52.2 percent overall).<sup>7</sup> A comparative view of the regions, devised by the ILO is given below in Table 7.

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<sup>7</sup> International Labour Organization, "Global Employment Trends Brief 2006," January 2006, p.1

Table 7: Labour Market Indicators<sup>8</sup>

Region	Change in unemployment rate (percentage point)	Unemployment rate (%)			GDP growth rate (%)			Employment-to-population ratio (%)		Annual labour force growth rate (%)	Annual GDP growth rate (%)
		2000-2005*	1995	2004	2005*	2004	2005*	2006 <sup>p</sup>	1995		
World	0.0	6.0	6.3	6.3	5.1	4.3	4.3	62.8	61.4	1.6	3.8
Developed Economies and European Union	0.0	7.8	7.1	6.7	3.3	2.5	2.6	55.8	56.4	0.7	2.6
Central and Eastern Europe (non-EU) and CIS	-0.4	9.4	9.5	9.7	8.2	5.7	5.5	55.5	52.1	0.1	4.0
East Asia	-0.2	3.7	3.7	3.8	8.7	8.0	7.5	75.2	71.7	1.0	7.6
South-East Asia and the Pacific	1.2	3.9	6.2	6.1	6.1	5.1	5.4	67.2	65.8	2.2	3.8
South Asia	0.2	4.0	4.7	4.7	7.1	7.1	6.4	58.9	57.2	2.2	5.8
Latin America and the Caribbean	-0.5	7.6	7.4	7.7	5.5	4.0	3.8	59.2	60.9	2.5	2.8
Middle East and North Africa	-0.7	14.3	13.1	13.2	5.4	5.0	5.3	44.2	46.4	3.5	4.4
Sub-Saharan Africa	-0.3	9.2	9.9	9.7	5.4	4.5	5.5	69.0	66.7	2.4	3.9

Source: ILO, Global Employment Trends Model, 2005; IMF, *World Economic Outlook*, September 2005; see also note to table 1.

\*2005 are preliminary estimates; p = projections.

The ILO report, 'Global Employment Trends (GET) *Brief 2006*' identifies six key challenges faced by the labour markets. They include:

### 1) **Energy Prices**

With high-energy prices, global production is reduced and can negatively impact job creation. Decline in consumer spending and demand also worsens the labour market situation. Trade amongst nations decreases due to lowered investments and high transportation costs.

### 2) **Recovery after Natural Disasters**

Three crucial natural disasters over the past two years (Asian Tsunami, South Asian earthquake, and Hurricane Katrina in the USA) represent the damage that can be caused not only to physical infrastructure, but also to livelihoods of people in terms of job losses.

### 3) **Reducing Negative Globalization Effects**

With intense competition in the textiles and clothing sector, over 7 million people have lost their jobs (1990-2000), of which many have become vulnerable to poverty. Workers in Bangladesh, Pakistan and Sri Lanka have been negatively affected.

### 4) **Global Wage Inequality**

Wages in high skilled occupations increased faster than low skilled ones between the 1990-2000 time period. Reasons for this include the skills-

<sup>8</sup> Ibid p. 11

biased technological changes, increased trade among developed and developing countries, and a higher immigration flow of low skilled workers. Gender pay gaps also exist.

### **5) Sectoral Employment Shifts**

Agriculture plays a prominent role in the global economy, and especially in developing countries. In 2005, 40 percent of total world employment was engaged in the agriculture sector. However, recent trends show how the services sector is growing high pace. Continuing this way, it is likely to become the dominant industry. Although this change may seem to improve standards of living, the fact that the 'transition' between the two sectors is not always feasible, and the reliability on employment (and no longer self-employment by many farmers) may worsen economic conditions.

### **6) Migration**

People migrate for multiple reasons ranging from economic to social and even physical. Advantages of migration include positive contribution to destination countries, while remittances and lower employment in origin. However, negative implications include: loss of skilled workers and young, dynamic population for origin country, worsening their development opportunities. Expansion of the safety net for unemployed citizens losing out to the new workers in receiving countries is also needed. Migrants also experience human rights violations.

The ILO Report (2006) showing sectoral trends of employment indicate that employment opportunities in agriculture are declining over the years, whereas employment in services sector is rising. In South Asia, employment in the industrial sector has also increased (Table 8)

Table 8: Sectoral Shares in Employment<sup>9</sup>

Agriculture	Employment in sector as share of total employment				Female employment as share of total employment in sector
	1995	2003	2004	2005*	
<b>Year</b>					<b>2005*</b>
World	44.4	41.9	41.1	40.1	39.9
Developed Economies and European Union	5.1	4.0	3.9	3.7	33.6
Central and Eastern Europe (non-EU) and CIS	27.9	23.9	23.2	22.7	45.2
East Asia	54.4	52.6	51.5	49.5	47.2
South East Asia and the Pacific	55.3	46.0	44.3	43.3	39.4
South Asia	64.1	62.6	62.1	61.2	33.1
Latin America and the Caribbean	23.4	18.2	17.6	17.1	18.9
Middle East and North Africa	30.8	27.1	26.9	26.3	25.1
Sub-Saharan Africa	70.1	65.8	64.2	63.6	44.4
<b>Industry</b>					
World	21.1	20.3	20.5	21.0	31.2
Developed Economies and European Union	28.7	25.5	24.9	24.8	23.1
Central and Eastern Europe (non-EU) and CIS	27.5	26.7	27.2	27.4	32.6
East Asia	25.9	24.3	24.8	26.1	40.1
South East Asia and the Pacific	15.4	19.2	20.3	20.7	36.3
South Asia	13.4	13.5	13.7	14.1	26.3
Latin America and the Caribbean	20.2	20.4	20.2	20.3	24.5
Middle East and North Africa	20.3	24.2	24.8	25.0	17.9
Sub-Saharan Africa	8.2	8.9	8.7	8.9	26.2
<b>Services</b>					
World	34.5	37.8	38.4	38.9	45.0
Developed Economies and European Union	66.1	70.5	71.2	71.4	52.7
Central and Eastern Europe (non-EU) and CIS	44.6	49.5	49.6	49.9	52.6
East Asia	19.7	23.1	23.7	24.4	44.0
South East Asia and the Pacific	29.3	34.9	35.4	36.0	47.5
South Asia	22.5	23.9	24.2	24.6	24.2
Latin America and the Caribbean	56.4	61.4	62.2	62.5	50.0
Middle East and North Africa	48.9	48.6	48.3	48.7	26.7
Sub-Saharan Africa	21.7	25.3	27.1	27.5	45.9

Source: ILO, 2005.

### Skill Gaps

The fundamental issue in skills development is how to maintain a balance between the supply of skills with demand in the labour market. If demand is unsatisfied, skills bottlenecks impede growth and development. If the supply is not absorbed, unemployment and waste of scarce resources arise (Johanson and Adams, 2004).<sup>10</sup> To achieve a balance, a coordinated effort to integrate vocational education and skill development institutes with employers needs to be developed. The Asian Development Bank (ADB) has suggested a method to identify skills and its demand<sup>11</sup>:

- (i) Participation by employers in articulating skills in demand;
- (ii) Establishment of capacity to analyze market trends in terms of job creation and absorption, wage levels, waiting times for employment, etc.;

<sup>9</sup> Ibid, p.12

<sup>10</sup> Asian Development Bank, "Improving TEVT Strategies for Asia," 2004, p. 42  
[http://www.adb.org/Documents/Books/Tech\\_Educ\\_Voc\\_Training/issues-and-trends.pdf](http://www.adb.org/Documents/Books/Tech_Educ_Voc_Training/issues-and-trends.pdf)

<sup>11</sup> ibid

- (iii) Tracer studies on the labour market outcomes of graduates over time so that adjustments can be made in the training (supply dimension), and
- (iv) Efficient dissemination of information to the public about employment trends.

Similarly, the International Labour Organization identifies areas of key skills required by employers in the Asian region<sup>12</sup>:

- (i) **Knowing How to Learn**  
This involves the capacity to collect, analyze, organize and apply information. It also reflects upon application of knowledge.
- (ii) **Reading, Writing, and Computation**  
Basic literacy is no longer sufficient for highly skilled jobs. Employees are expected to have sound reading and writing abilities, preferable with higher mathematical skills.
- (iii) **Communication Skills: Speaking and Listening Effectively**  
This skill is important to enterprises dealing directly with customers. Employees should be well mannered and able to retain/make new clients.
- (iv) **Adaptability Skills: Solving Problems and Thinking Creatively.**  
Essential to all industries; workers must be able to make sensible judgements and move on with the job. Creative thinking not only helps them in promotions, but also the firm in competitiveness.
- (v) **Development Skills: Managing Personal and Professional-growth**  
Self-esteem, motivation, and a positive attitude at the workplace are desired by employers.
- (vi) **Effectiveness: Interpersonal Skills, Teamwork & Negotiation Skills**  
Along with being able to work independently, teamwork is necessary. Skills are further transferred through teamwork along with enhancement in self/group productivity and effectiveness.
- (vii) **Influencing skills: Organized Effectiveness and Leadership**  
Developing a positive culture within firms and improve overall performance.

There are other factors that contribute towards bridging the supply and demand gap. For example, a decentralized VESD system is better able to link training with industrial and domestic policies. The decentralized system allows institutions to take decisions on the curriculum, teaching method, management and utilization of financial resources in cost effective manner. Some interventions to regulate the systems however are needed.

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<sup>12</sup> HDR in Asia and pacific (handout)



## 2.5. Significance of Vocational Education and Skill Development

Vocational education and skill development plays a crucial role in the modern world. With ever-changing technologies, fierce competition among nations and rising domestic problems, (more) investment in VESD is necessary not only for individuals, but for the overall development of the nation. VESD, a component of the overall framework of human resource development, requires greater priority in this time period. At the Second International Congress on Technical and Vocational Education (TVE) held in Seoul, Korea (April 1999), the discussions led to the following conclusion:

“We have considered the emerging challenges of the twenty-first century, a century that will be an era of knowledge, information and communication. Globalisation and the revolution in information and communication technology have signalled the need for a new human-centred development paradigm. We have concluded that Technical and Vocational Education (TVE), as an integral component of lifelong learning, has a crucial role to play in this new era as an effective tool to realize the objectives of a culture of peace, environmentally sound sustainable development, social cohesion, and international citizenship.”<sup>13</sup>

Sustainable development is highly dependent on human resource development. Further, the Millennium Development Goals (MDGs) for sustainable development are also directly linked to policies on VESD. It is not possible to reduce poverty, create jobs and improve health situations without focusing on VESD, which further improves gender disparities and living standards. Moreover, improvements in health through technology require skilled workers to manage it; the same skill imparted from technical institutes. The Seoul conference also concluded:

“TVET can play an instrumental role in developing a new generation of individuals who will face the challenge of achieving sustainable socio-economic development. A number of new subjects (issues) therefore need to be incorporated into TVET teaching and learning or be further emphasized for the sake of the future of all of us as we struggle to learn throughout life. A well trained technical workforce is essential for any country’s efforts to achieve sustainable development.”<sup>14</sup>

These statements further highlight the ILO’s motive ‘*promoting decent work for all.*’ VESD not only improves one’s likelihood to find employment, but collectively, it develops an overall skilled workforce. This workforce boosts the development of the nation by expanding and advancing in its respective sectors. With continuous focus and modifications of the VESD curriculum, sustainable development can be achieved.

<sup>13</sup> UNEVOC-UNESCO, “Orienting Technical and Vocational Education and Training for Sustainable Development,” Bonn, Germany, 2006, p.1

<sup>14</sup> Ibid p.2

## 2.6. Comparison with General Education

In the human capital framework, general education creates ‘general human capital’ and vocational and technical education ‘specific human capital.’ The former is portable across one’s life and from job to job while the latter one is not.<sup>15</sup> Many favour general education, imparted through secondary and tertiary institutions for it is more flexible. On the other hand, VESD supporters argue that this system ensures readily available and suitable candidates required by an employer. Further, it can be viewed that general education is a more long-term oriented stream whereas; VESD can be seen as a short-term strategy. The issue is not whether general or technical education is more important but instead, what the balance between the two should be? Both are essential for a developing nation and this has been proved by the history of some currently developed nations.

A balance between the general education and technical education must be made. With the presence of both streams, long term and short term plans can be realized, paving the way to sustainable development. Further, with continuous efforts to update education curricula, and design modular courses and open framework between initial education and continuing education and higher education, lifelong learning will evolve and further stabilize the employability of educated and trained workers.

## 2.7. Impact of VESD on Productivity and Competitive Position

VESD is important for economic growth, but the relationship is not linear. Each country has to decide the extent of VESD that has to be developed, depending upon the level of development and demand for skills. As Foster (1965) reveals, in the initial stages, technical and vocational instruction is the ‘cart’ rather than the ‘horse’ in economic growth and its development depends upon zeal and perceived opportunities in the economy.<sup>16</sup> However, the effects of VESD on productivity and competitiveness have been positive for many nations, going further to impact wages and standard of living for individuals.

When people acquire skills they make themselves more productive - able to produce more output for a given amount of time and effort. This applies both to wage employment and self-employment in the informal sector. Those with skills are able to produce more and generate more income. Moreover, when people acquire skills they typically make each other more productive. Since most work is teamwork, the productivity of one worker generally depends on the productivity of others. The more training a worker has – on the job or off – the more the worker can learn from others about doing the job effectively and the more productively the workers can interact in production, innovation, distribution and sales. Caillods (1994) reveals that vocational education and training are indispensable instruments for improving labour mobility, adaptability and productivity, thus contributing to enhancing firms’ competitiveness and redressing labour market imbalances. With workforce skills, enterprises become more productive and profitable, helping national economies raise production and create wealth.<sup>17</sup>

<sup>15</sup> Tilak, Jandhyala B. G., "Vocational Education and Training in Asia," p. 1

<sup>16</sup> Tilak, Jandhyala B. G., "Vocational Education and Training in Asia," p. 15

<sup>17</sup> Asian Development Bank, "Improving TEVT Strategies for Asia," 2004, p.25



The impact of VESD also has implications on the nation's capital. A higher level of human capital enables machinery and plant to be used more efficiently, raising the rate of return on investments (Ashton et al. 1999).<sup>18</sup> This suggests that the more trained and educated the workforce, the greater the returns on human capital as well as physical capital. The trend is a generalization, and within this trend variations are bound to occur due to differing absorptive capacities of countries. Further, the need to constantly upgrade education and skills to keep in line with constant technological changes is also required to remain competitive.

With globalisation, the importance of VESD is further increased. In the new environment human resources determine the competitive position of a nation. The opening up of an economy to trade allows for shifts of capital; changes in capital impact, changes in demand for trained human resources. Skill resources attract foreign direct investment and prime examples can be sighted. In India and Pakistan, out-sourcing by developed countries for example United States, United Kingdom has become a vibrant business. With skilled labourers able to work with technology, establishment of call centres have taken place.

East Asian countries, such as Singapore and South Korea, are excellent examples showing the effects of VESD on competitiveness. Vocational education and skill development was given high priority by their respective governments, and great advancement in human resources was achieved. Heavy investments into the education sector were made to accomplish this. Capital inflows began to occur, creating the demand for further skilled labour in the rapid industrialization process. The cycle kept continuing, paving the path towards development in the nations. Currently, they work hard to continually modify their educational programmes due to intense competition with other countries of the region.

The role of VESD as well as general education from the primary to tertiary level is highly important in determining a country's economic status. The impact is made through the workers, whether skilled or not. Hence, productivity can ultimately determine the competitive position of the nation. Looking at the SAARC Member States low wage, low skilled, and low value added is the general trend. Only India has gone up the value chain in the information technology field. The overall low-level productivity trend must be minimized and countries need to engage in higher wage, higher skilled, a higher value added production. Acquiring higher skills is the key to competitiveness in the global and interdependent market.

The vocational education and training (VET) strategies should ensure a well functioning training market and a broad skills base. The VET plays a key role in human capital accumulation for the achievement of economic growth, employment and social objectives. It has been established that VET is an essential tool in providing workforce with the skills, knowledge and competences needed in the labour market and knowledge based society.

The VESD creates conditions to improve skills of those in the labour force through continuation of policies that engage all young people in vocational training and/ or higher education, ensuring at the same time that they acquire skills and

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<sup>18</sup> Ibid p. 26

competences relevant to the labour market and to their future lives. Furthermore, VET serves people already in workforce by ensuring possibilities for further development throughout their careers. It provides a broad knowledge and skills base relevant to working life, highlighting at the same time excellence at all levels.

VESD has a dual role in contributing to competitiveness and in enhancing social cohesion. The VESD policies address all sections of the population, offering attractive and challenging pathways for those with high potential, while at the same time addressing those at risk of educational disadvantages and labour market exclusion – especially early school leavers, those with low qualifications or no qualifications at all, those with special needs, people with an immigrant background and older workers.

The vocational education and training provides skills, competences and mobility to the labour force.

Competitive business environments and strained national budgets pose challenges for ensuring necessary *investments in skills*. Public and private investment in VET should be improved through the further development of balanced and shared funding and investment mechanisms. Against this background, training systems should be efficient in providing the expected outcomes. This calls for better governance of training systems and responsiveness to the changing skill requirements of the labour market -training should be more demand-driven.

## **2.8. Impact of Globalization on Skills Development**

Although there are many benefits of globalisation for developing countries in terms of job creation and opportunities for improved standards of living, many challenges have inevitably entered the scenario. With globalisation, competitiveness is a key factor – countries must continually adapt to changing technologies and techniques in order to remain in the game and prosper. Greater competitiveness brings with it the need for higher productivity, and hence, continually advancing vocational education and skill development. New skills are necessary to keep up with competitive nations and therefore, continuous focus on VESD is required.

This trend of globalisation has, in combination with technological developments, affects the world population in different and unequal ways. It has resulted in rapid economic benefits for some countries while causing acute social problems for others. Prime examples include the East Asian Tigers (Singapore, Hong Kong, Taiwan and South Korea) who made their economies export-oriented by developing an extremely well trained and productive workforce. Training curriculum and techniques are regularly modified and new strategies are included. On the other hand, Bangladesh's textile sector can be seen as a victim of globalisation. With China being able to exploit economies of scale and take advantage of improved technologies, its position in the textile sector along with the manufacturing sector is extremely formidable. Bangladesh faces fierce competition and is often unable to maintain its stand in this sector, resulting in high unemployment and worsening of poverty. This shows that with globalisation and technological changes, governments' are under constant pressure to keep upgrading VESD in their countries.



As revealed earlier, vocational education and skill development can have dramatic effects on the labour force, standard of living and overall development of the nation. However, with all its benefits, it is observed that VESD is not always given importance in developing countries. What's more surprising is that since training is in fact an instrument of public policy, why is there neglect and limited attention given to it by governments' in their development goals? Further, the target groups, in specific, rural and poor people in search and need of employment are not always benefiting from the existing systems.

There are two basic sets of concerns about VESD and poverty reduction. The first focuses on the failure of most targeted training interventions to have any appreciable, sustained impact on livelihoods while the second on the alleged failure of national vocational system to reorient themselves to meeting the skills needs of the economically vulnerable groups.<sup>19</sup> In defence of the system, certain people argue that training systems tend to have a lesser impact than other forms of support, such as micro credit, education, and health services. Others believe that VESD can positively impact the economically vulnerable, but a reform in the existing technical education systems is desperately needed.

The inefficiency of existing public institutions imparting vocational education and training are criticized heavily in developing countries. Access to such entities is limited, often omitting the extremely poor and rural people and only benefiting people (mainly, males) in urban areas. NGO-run institutions are given more praise for 'being closer to the people' but nevertheless, they suffer from resource constraints and are unable to expand and help others as much as desired. With limited or no benefits being provided to the poor, the role of technical education is surely marginalized not only in the peoples' perspectives, but also in overall development.

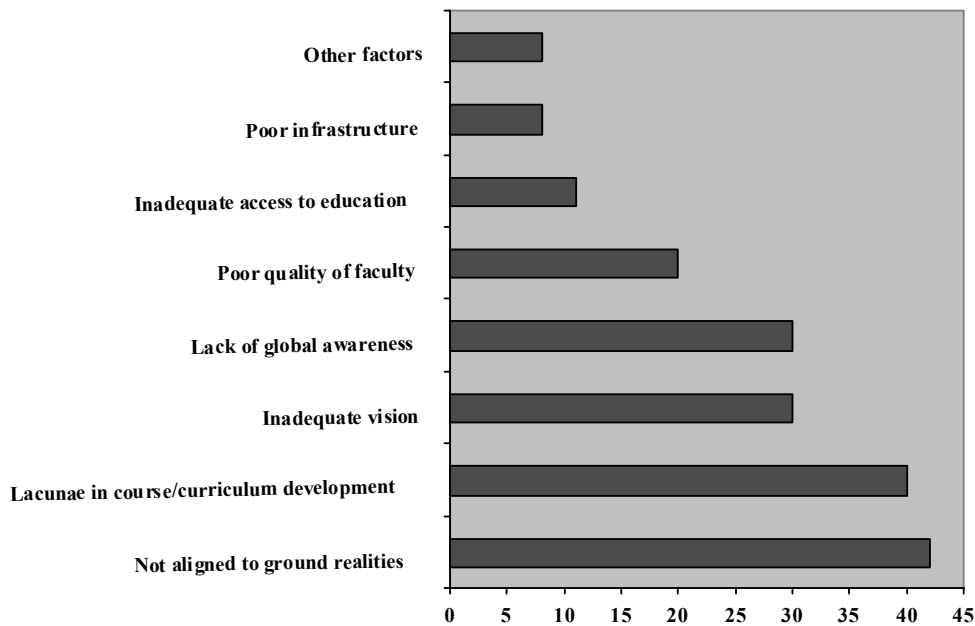
A survey by the Federation of Indian Chambers of Commerce and Industry (FICCI) of 55 enterprises in 2001 assessed the quality and relevance of vocational/technical training from an industry perspective (Figure 4). Close to 60 percent of the respondents felt that institutions were not geared up to meet the challenges of the global economy and over 43 percent felt that academic institutions were not aligned to the needs of industry. Eighty seven percent felt that institutions should have greater exposure to industrial practices. They stressed the importance of a collaborative approach between what industry wants and what the institutions produce.

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<sup>19</sup> Bennell, Paul, "Learning to change: Skills development among the economically vulnerable and socially excluded in developing countries," ILO, 1999

<http://www.ilo.org/public/english/employment/strat/publ/etp43.htm#2.1>

Figure 4: Employers' Concern with Vocational Education & Training System



## 2.9. Views from Employers' Organizations

A recent survey by ILO/SAAT on HRD issues was conducted among 5 major Employers Organizations in Bangladesh, India, Nepal, Pakistan and Sri Lanka representing over 11,000 individual employers. Following most common HRD areas identified for interventions in the South Asia region by the employers organizations:

- a. Training in professional management areas
- b. Training in specific skills development
- c. Incentive programmes linking wages with productivity
- d. Health, safety, environment & quality Issues
- e. Productivity Improvement
- f. Identification of training needs
- g. Assistance in solving personnel problems
- h. Wage negotiation, collective bargaining
- i. Training of Trainers
- j. Improving work culture
- k. Training facilities

## 2.10. TEVT Stakeholder Survey

A TEVT stakeholders survey, including students, parents, business people, and government official, indicates that there is a strong demand for most courses offered to develop technical education and vocational training. The findings indicate considerable demand for skilled workers in various areas. A mismatch in the quality of training across all industries is more significant than the output numbers. Future training courses should be determined in close collaboration with industry. The output of training institutions should be determined through a region-based assessment of workforce requirements.



The survey revealed that skills training provided by VET do not meet professional standards of industry. The courses are viewed as inflexible and inefficient. Industry representatives oppose the opening of more VET of poor quality, and prefer fewer but quality-driven VT institutions with established skill standards. The representatives acknowledged that training is critical, but most prefer a combination of VT and on-the-job training. Sixty percent are willing to consider the training of apprentices provided the latter have adequate basic skills. Most students in electrical courses opt for self-employment and want entrepreneurial training. Parents interviewed also prefer self-employment for their children. Most of the students surveyed emphasize the need for micro credit as they anticipate having difficulty starting entrepreneurial activities without access to micro credit. The survey clearly indicates the need for financial support to the trained youth to assist them with self-employment. Such support is considered an appropriate strategy in view of the limited job opportunities in the public sector.

The findings indicate a greater demand for long term TVET. This is confirmed by the poor employment record of graduates of short-term (three to six months) courses of VET. Stakeholders perceived that longer courses are more likely to lead to employment and self-employment as the training provides advanced skills. The students feel that VT courses need improvement. The parents stated that the duration of VET courses is inadequate. Most trainers and students consider VT training inadequate for obtaining employment and stated that on-the-job training is necessary. Industry representatives also confirmed their lack of confidence in short-term courses. They are reluctant to accept apprentices because trainees of such short courses do not have an adequate foundation in basic skills. Small business owners saw no link between themselves and VT. However, most are prepared to take adequately qualified apprentices. They suggested a shift from quantity to quality. The findings also indicate that the primary determinants for the success and failure of a VT programme are its management, quality (understanding user requirements), and marketing. Almost all respondents feel that the training tools and equipment found in VETA are unsatisfactory.

The key issue in the TEVT sector is poor external efficiency—the mismatch between training and job opportunities. Skills training programmes lack relevance to the world of work; as a result, trainees are poorly prepared for the job market even after completing training. The mismatch is a consequence of the weak linkage between the training providers and end users. Improved flow of information between the labour market and skills training is needed to reduce these inefficiencies. Generally, VT courses are developed without the benefit of information from training needs assessment or tracer studies. There is little consultation with employees to determine their skills requirements. The statistics for determining internal efficiencies (e.g., dropouts, repeaters, cost per trainee, textbook per student, graduates) and external efficiencies (e.g., completers, employed and self-employed, etc.) are fragmented and out of date. This inadequate data source means that many of the skills training courses offered are irrelevant to industrial skills requirements and the trainees' employment prospects. The partnership between the private sector and the public training authorities is fundamentally weak; each operates independently of the other, resembling closed systems. As a result, the coverage of skills standards is inadequate and adversely affects the preparation of the inventory of training standards critical to quality programming.

The skills training courses offered are mostly traditional, inflexible, and narrow so that trainees easily lose interest, resulting in heavy dropout. Skills tests lack adequate and appropriate design and coverage. The accreditation process, a key quality control instrument for programmes and methods, is undeveloped. These quality problems are exacerbated by the poor facilities and training environment of VTCs, which are, divorced from the efficient structures of industry or typical job sites. In addition, teaching and learning materials are scarce. Curricula and materials are poorly developed with little coordination between the various providers. The modern concept of quality is not fully understood in the VT sector, i.e., that priority should be given to the skills needs of industry and the absorptive capability and aptitudes of trainees. Instead, most instructors use traditional classroom-oriented pedagogic techniques with little attention to practical application of concepts. Industry trainers are not motivated to contribute to the improvement of skills training courses or in offering more apprenticeship opportunities for trainees.

## **2.11. Type of Vocational Education and Skill Development Needed**

### ***Labour Market Requirements***

It has been argued that skills enable workers to be more productive and able to earn more. With higher productivity, enterprises benefit in the form of higher profits. At the macro level, higher skills, wages and profits collectively lead towards higher production, greater competitiveness and hence, national development.

A skill development system that contributes to high value and widespread acceptance in the labour market should have the following features (Keltner, Finegold and Pager, 1996 and Wagner K., 1999) and depends on a number of factors, such as:

- The breadth of training, which enables individuals to work in any department;
- The specification of a detailed national curriculum that is well understood across the sector;
- The active role of employer associations, Chambers of Commerce and trade unions in assessing the needs and assessment of skills development and training needs;
- The sharing of costs among employers, individuals, and the state, so that each contribute to the overall investment in the workplace; and
- Ensuring quality of the on-job-learning.

As previously discussed, with globalization and higher technology in the world, individual nations need to gear up their workforce in order to be competitive and continue/become important players in the global economy.

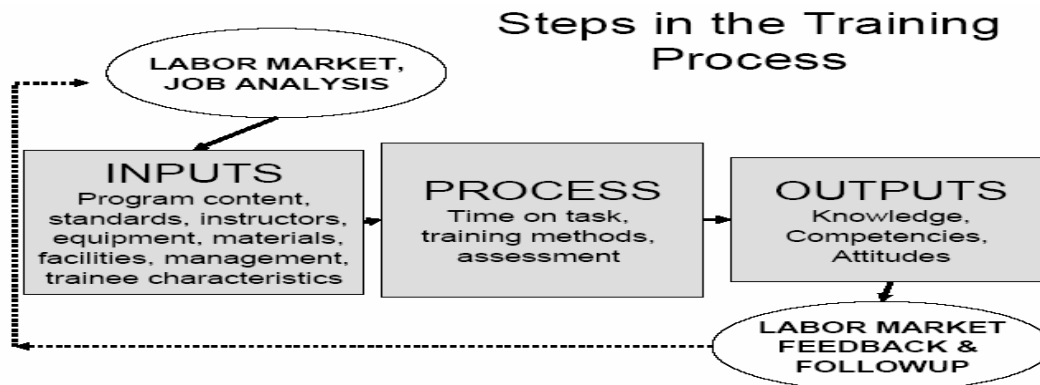
The acceleration of technical change in recent decades requires higher skilled workers. “Without a workforce that is continuously acquiring new skills, it would be difficult to reap most of the returns from technological progress” (Booth, 1). When technologies are changing rapidly, necessitating a high rate of labour turnover across industries and occupations, adaptability is crucial for keeping labour and capital employed and maintaining competitiveness. When people acquire

skills, they commonly also make themselves more adaptable (*Ibid.*). The advancement of knowledge, innovation and the diffusion of new methods of production are aided by higher levels of education and training. (Ashton, *et al.*, 8)<sup>20</sup>

The demand for skilled workers rests upon the VESD systems of individual nations. The importance of institutes (formal and non formal) as well as on-the-job training are all means to acquire/develop a skilled workforce. However, the fact that technology is continually changing must be re-emphasized. The reason to do this is to highlight the importance of ‘flexibility’ as well as higher skills. Further, job retention is crucial for both, employees and employers. The importance of organizational management and modification must also be stressed.

Such factors create a major challenge in any VESD system – in order to impart useful and thorough training upon a specific occupation, while incorporating flexible components as well. The balance of supply and demand of workers (and types) is a key issue. Figure 5 is used to visualize the problem as well as identify a general solution.

Figure 5: Training Process<sup>21</sup>



The most important step in balancing labour supply and demand in the market is the link drawn from outputs to inputs. This is where monitoring and coordination takes place in order to provide updated training at the input stage during the next cycle. When countries do not monitor the destinations of VESD graduates, they are bound to use the same training/education to the new group of students. If the graduates are unable to find jobs due to lack of sufficient training and modified/new technology, the new group will suffer in the same manner if taught a similar obsolete/insufficient curriculum.

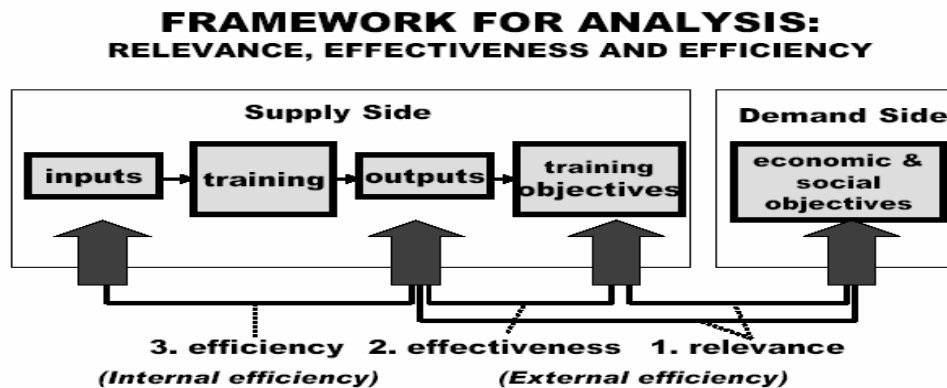
VESD systems in SAARC countries with the exception of Sri Lanka to an extent tend to have weak linkages with employers, often resulting in imbalances in the labour market and high unemployment. Further, mismatches between job and occupier

<sup>20</sup> Johanson, Richard, “Technical Education and Vocation Training Strategies in Asia Region,” 2004, p. 3

<sup>21</sup> Johanson, Richard, “Technical Education and Vocation Training Strategies in Asia Region,” 2004  
p. 31

often prevail, promoting inefficiency. The following framework (Figure 6) designed by Johanson further helps identify and analyze problems in VESD systems.

Figure 6: Analytical Framework of Training<sup>22</sup>



Globalisation, technological change and continual updating of skills all suggest the path towards a 'knowledge-based economy' in the SAARC region (following the global trend). Knowledge-based economies are defined as 'economies, which are directly based on the production, distribution and use of knowledge and information.'<sup>23</sup> High technology is implied in this structure, as well as a skilful workforce helping the nation to be competitive regionally and globally. Investments are made in education and training, research and development and new managerial work. Knowledge and technology play a fundamental role in national development and competitiveness.

The knowledge-intensive and high technology sectors of the economy tend to become prominent. In the SAARC region, India's pharmaceutical and IT sectors are key examples. Outsourcing in India, Pakistan and Bangladesh are also worth mentioning. The advancement of the automobile industry in India also incorporates highly skilled workers. With the neo-classical production function in mind, increase in capital now no longer diminishes returns. Technological change raises the relative marginal productivity of capital through education and training of the labour force, investments in research and development and the creation of new managerial structures and work organization.<sup>24</sup> Coupled with knowledge, growth cannot only be sustained but further be expanded.

The path of building a knowledge-based economy therefore starts from the acquisition and organization of information, leading to its assimilation in society, which alone can lead to generation of knowledge. A knowledge-based economy complements and accelerates the change from an input-driven to a productivity-driven growth strategy, thus providing the means for sustainable competitiveness and economic growth in the medium and long term.<sup>25</sup>

<sup>22</sup> Ibid, p 39

<sup>23</sup> Organization for Economic Co-operation (1996), "The knowledge-based economy," General Distribution OCDE/GD(96)102, Paris, p. 7

<sup>24</sup> Organization for Economic Co-operation (1996), "The knowledge-based economy," General Distribution OCDE/GD(96)102, Paris, p. 11

<sup>25</sup> Government of Pakistan, Planning Commission, "Medium Term Development Framework 2005-2010," 2005



The above implicitly states the need to penetrate knowledge into the overall society. Positive externalities, in the form of information sharing, imparting of education by the ones already educated and motivation and influence from others can help drive the economy to meet the new technological challenges and help overall national development.

## **2.12. Mobilization of Resources for Skill Development**

### ***Trends and Pattern of Investment***

An important aspect of vocational education and training refers to its financing. Vocational education by definition is costlier than general education. Unit costs of vocational education are roughly 60 percent higher than that of general secondary education, while those of pre-employment vocational training are 5-6 times higher. In South Korea per student secondary technical education costs more than ten times the general secondary education (Middleton and Demsky, 1989); in China the unit costs were 50-100 per cent higher in vocational and technical schools than in general secondary schools (Dougherty, 1990); and according to the estimates referring to 1980s and earlier period, vocational education in South Asian countries was found to be 2-60 times higher than general education (Tilak, 1988). As a result, public expenditure on vocational education has been remarkably low, compared to general secondary education.

In all the South Asian countries dwindling educational budgets do not support allocation of sufficient resources for vocational education development. In the mid 1990s, Bangladesh invested 8.4 per cent of the total public expenditure on education in vocational and technical education, India and Nepal 4.4 per cent and Pakistan 2.6 per cent (Haq and Haq, 1998), compared to Taiwan's 8.2 per cent in 1995 (Tilak, 2001). Many OECD countries spend 11-18 per cent of the total educational expenditures on vocational education.

Faced with the insufficiency of public resources, the diversification of sources of funding for technical and vocational education has become inevitable in a large number of developing countries. As a result, private technical and vocational education has developed by leaps and bounds. However, it is increasingly obvious that it plays a major role only in tertiary activities (the service and commerce sectors). The government still mainly finances the heavy investment required for workshops and equipment to meet the heavy industry requirements.

Data on the public financing of vocational education and training of the South Asian countries is sketchy and in most of the cases is not available. A proper analysis therefore is not possible. State level finance data on vocational education are usually reported together with data on general secondary education, while finance data on vocational training are reported together with data on other training. Dis-aggregation of the financing data is extremely difficult and time consuming and outside the purview of the study. In addition, vocational education and vocational education and

vocational training do not fall under the ambit of one agency and therefore comparability of data across agencies is difficult.

Financial resources are necessary to allow education systems to exist, expand and be effective. With funding, the government is able to build more schools, hire more teachers, allow for free education (primary level) and ensure quality education. Expenditure in this sector further reveals governments' commitment towards education. However, data on public and private resource allocated to all levels of education, which is complete, reliable and comparable, is often missing or improperly reported. Further, data from public sources is more likely to be found than from private and non-government entities.<sup>26</sup>

Details on private sector expenditures on vocational education and training (VET) are not available. However, some Asian countries have developed institutional arrangements for funding VET. For example, training is provided by enterprise in Singapore through the operation of the Skill Development Fund established in 1979 and financed through a levy on employers amounting to two percent of salaries of all employees earning less than \$750 per month (Haq and Haq, 1998). It is obligatory for the companies in Korea to finance public vocational and training programmes (Lijima and Tachiki, 1994). Enterprise-based training is the most important form of VET in Japan.

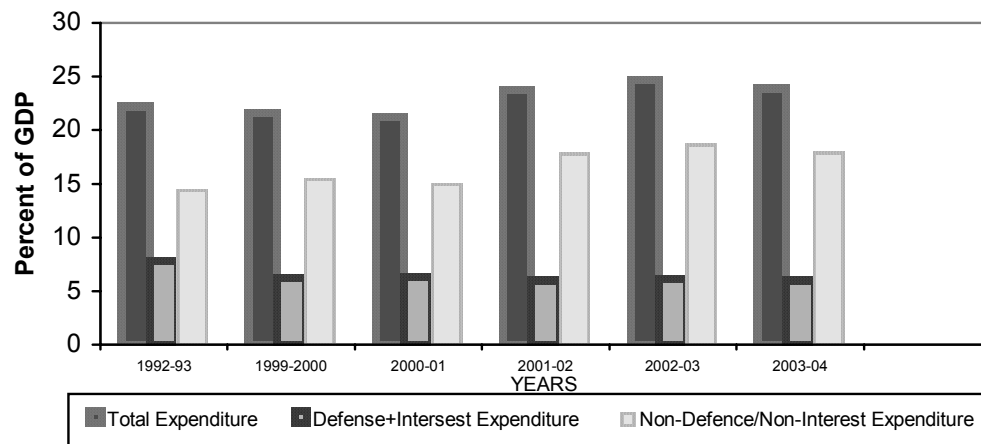
### **2.13. Public and Private Investment in Education, Vocational Education and Training**

Developing a technology driven knowledge economy for rapid and sustainable growth and for achieving high value-added manufacturing and sophisticated services requires significant increase in public and private resources. The experience of East Asian Economies suggests that these countries along with public private partnership have invested heavily resources in accruing new technologies and appropriate skills. In these countries, manpower development programmes were expanded with adequate financing.

Analysis of budgetary expenditures of the South Asian countries suggests that because of low revenue base and high non-development expenditure, the majority of the regional countries have been constrained to increase budgetary allocations for the provision of social, economic, community services, particularly vocational education and training. Trends in public expenditure on non-defence, non-interest expenditure indicated that South Asian countries as a group failed to allocate sufficient resource for the development of knowledge and required skills in the region. The analysis of consolidated government budgets of the regional countries indicates that the public expenditure (non-development and development) witnessed no appreciable increase in the non-defence, non-interest expenditure during the period 1992-93 and 2003-04 (Figure 7).

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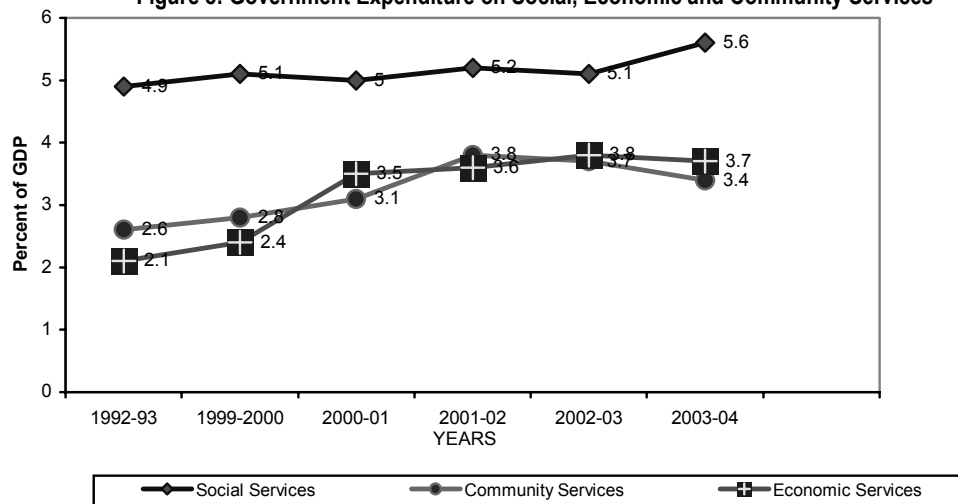
<sup>26</sup> UNSECO, South and East Asia Regional Report 2003, p. 65

**Figure 7: Trends in Government Expenditure (Percent of GDP)**


Source: Budget documents of SAARC Member Countries (Various years)

#### 2.14. Expenditure On Social, Community and Economic Services

The neglect of public investment in sectors of human development has undermined growth and productivity potential of the South Asian countries. The low literacy rate, low skills, health coverage etc have contributed to the rise of poverty, low growth, low competitive position and many governance issues. The expenditure on social sector, community, and economic services in the South region, during the period 1992-93 and 2003-04 has witnessed no visible increase, particularly social sector expenditure. However, these expenditures are still are very low compared to the requirements. Expenditure on the provision on social services has during the period under reference increased marginally. Figure 8 gives the details.

**Figure 8: Government Expenditure on Social, Economic and Community Services**


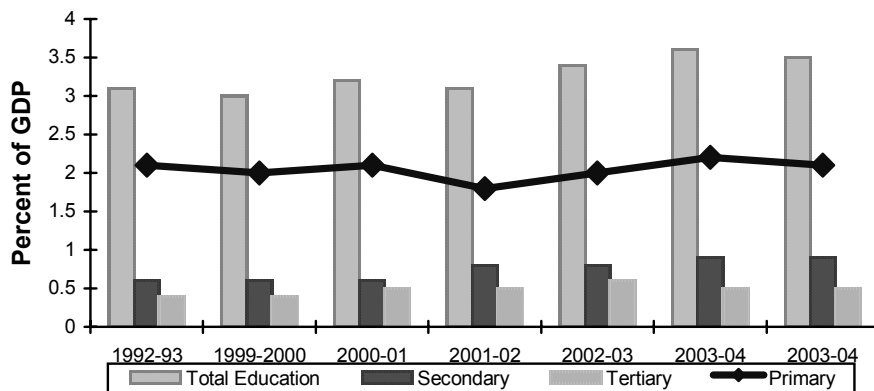
Source: Budget documents of SAARC Member Countries (Various years)

On the average expenditure on education in the region remain less than 4.0 percent of the GDP. Of which, during the period 1992-93 and 2003-04 public expenditure on the provision of education services remain concentrated to the provision of primary education. The secondary education received relatively low public resources around



1.0 percent of the GDP and the tertiary education around 0.5 percent of the GDP. The public spending on higher education (college, university and vocational education and training and research and development) during the period 1992-93 and 2003-04 have increased at a very slow rate (Figure 9).

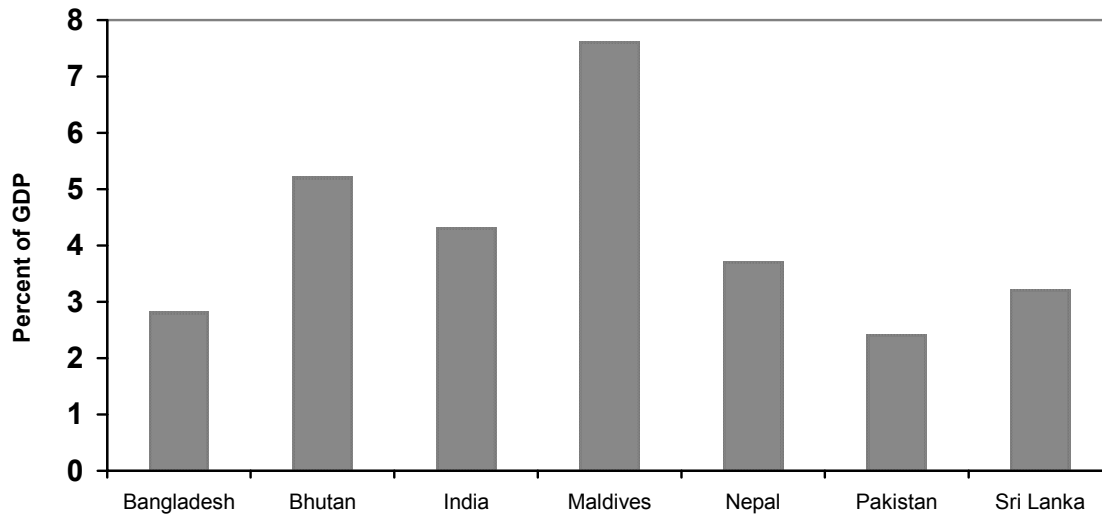
Figure 9: Trends in Education Expenditure (Percent of GDP)



Source: Budget documents of SAARC Member Countries (Various years)

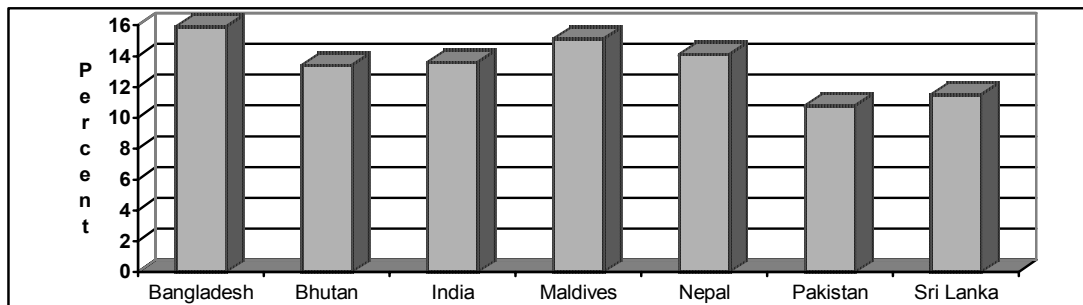
Measuring total expenditure on education as a percentage of GDP reveals the proportion of national income devoted to the education sector. Education expenditure as a percentage of total government expenditure shows the priority given to this sector in relation to other. However, the former measure tends to be more comparable at the international level, since the latter is vulnerable to differences in the size of the public sector in each country. As observed above, significant variations can be found within the SAARC Member States; with this in mind, variations between the education systems and effectiveness now also make sense.

A comparison of regional countries indicates that Maldives provides the highest resource for the development of education, followed by Bhutan, India, Nepal, and Bangladesh. The level of public expenditure on education in Pakistan is the lowest in the regional countries. Figure 10 below shows the trend.

**Figure 10: Public Expenditure on Education as Percentage of GDP (2003-04)**


Source: **South Asian countries budget and other documents (various issues)**

As a proportion of total consolidated government expenditure, Bangladesh and Maldives allocates the highest resource of their budget for the development of education, followed by Nepal, India and Bhutan and Sri Lanka, while Pakistan allocates the lowest resources for the development of education in the region (Figure 11).

**Figure 11: Public Expenditure on Education as a Percentage of Consolidated Government Expenditure (2003-04)**


Source: **South Asian countries budget and other documents (various issues)**

The formal programmes of TVET are by and large, directly or indirectly, state delivered. Even when private institutions are involved, they are mostly state financed. The entire enterprise, traditionally and by design, is highly subsidized, the students paying only a fraction of the public cost in the form of tuition fees. The private cost is borne largely by the learners but on grounds of equity, certain sections get stipend and scholarships. The employers contribute hardly any thing by way of cost though they are the most direct beneficiaries. The social pressures and equity considerations gravitate against the argument of de-subsidization as a vast majority of TVET learners come from relatively weaker sections of the society.

Following section gives country-wise information on public expenditure on education, vocational education and training. It is important to note that as stated above, the availability of data in this regard is non-existent, old, or unreliable. Nevertheless, care has been taken to find the most updated data from reliable resources.

## Bangladesh

**Table 9: Government Expenditure on Education**

	2000-01	2001-02	2002-03	2003-04
As % of GDP	2.4	2.2	2.2	2.6
As % of Total Expenditure	10.2	10.9	12.8	15.8

Source: Budget documents, and Economic Survey (various issues)

**Table 10: Public Expenditure by Level of Education<sup>27</sup>**

Revenue (recurrent) Expenditure								
Fiscal Year	as percent of GDP	Percentage Distribution						Total
		Primary	Secondary & Higher	Technical	University	Other Ed. System		
1991-92	1.14	48.5	36.8	2.4	8.5	3.7	100.0	
1995-96	1.30	44.2	42.5	2.1	8.0	3.3	100.0	
1999-00	1.37	39.5	48.4	1.4	8.0	2.7	100.0	

Development Expenditure								
Fiscal Year	as percent of GDP	Percentage Distribution						Total
		Primary	Non-Formal Education	Secondary & Higher	Technical	University	Other Ed. System	
1991-92	0.21	62.1	1.5	10.7	3.3	10.1	12.3	100.0
1995-96	0.83	57.6	2.3	34.9	0.4	3.0	1.8	100.0
1999-00	0.84	49.2	5.9	33.4	5.1	5.9	0.4	100.0

Source: World Bank 2003.

As can be seen above, the trend of public expenditure as percentage of GDP in Bangladesh has been rising (although, marginally) since 1991. Emphasis on technical education has been made only in the development expenditure. However, in the general budget, room for technical education has declined.

## Bhutan

**Table 11: Government Expenditure on Education (Million Ngultrum)<sup>28</sup>**

	2002	2003	2004	2005
Total Expenditure	10240.0	10211.1	10931.9	12785.9
Education	1434.0	1476.5	1725.1	1837.8
Percentage	14.0	14.5	15.8	14.8

Source: Government Budget documents (various issues)

<sup>27</sup> Mujeri, Mustafa K., "Financing Education: National Priorities and Future Directions, A Right to Development Perspective," July 2003, p. 15

<sup>28</sup> Asian Development Bank, Key Indicators 2006, Bhutan, p. 165



Although an increase of overall spending in education can be witnessed from the statistics above, the break-up by levels of education is not available. The data does indicate that in 2005, the share of education expenditure declined by 1 percentage point. With great need to expand and advance education in Bhutan, the decrease is surprising; even though the nominal amount has increased, so should the overall proportion for education expenditure.

### India

In line with the commitment of augmenting resources for education, the allocation for education has, over the years, increased significantly. The Five Year Plan outlay on education has increased from Rs 151.20 crore in the First Five Year Plan to Rs 43,825 crore in the Tenth Five Year Plan (2002-2007), higher than the Ninth Plan outlay of Rs 24,908.38 crore by 1.76 times. The expenditure on education as a percentage of GDP also rose from 0.64 per cent in 1951-52 to 4.3 per cent in 2003-2004.<sup>29</sup>

Financing of technical education has also been given special consideration. The government plans to continue partially/financing NGOs working in the VESD field. Further, Rs. 350 crore has been allocated for the centrally sponsored scheme of vocationalization of secondary education in the Tenth Plan. However, with high costs to maintain technical institutes, the government is under great pressure to 'do more' to preserve the current system and undertake further expansion and advancement.

**Table 12: Government Expenditure on Education (Million Rupees)<sup>30</sup>**

	2001-01	2001-02	2002-03	2003-04
As % of GDP	4.0	4.1	4.3	4.3
As % of Total Expenditure	15.5	17.4	17.3	16.2

Source: Budget documents, and Economic Survey (various issues)

### Maldives

**Table 13: Government Expenditure on Education (Million Rupees)<sup>31</sup>**

	2002	2003	2004	2005
Total Expenditure	3135.5	3551.9	3779.1	5830.9
Education	636.8	723.6	755.1	834.7
% of total	20.3	20.4	20.0	14.3

Between 2002-2004, Maldives was on average spending at least one-fifth of its expenditure on education. However, in 2005, the percentage declined (although the monetary value increased), because of higher total expenditure. Therefore, although there's a decline in the share overshadowed by heavy spending in general public services, the trend of a rise in spending in education is evident in the Maldives.

<sup>29</sup> Government of India website, Education Sector <http://india.gov.in/sectors/education2.php#1>

<sup>30</sup> Asian Development Bank, Key Indicators 2006, Maldives

<sup>31</sup> Asian Development Bank, Key Indicators 2006, Maldives



## Nepal

In comparison to other South Asian countries, Nepal is one of the leaders in prioritizing education. It is second amongst the SAARC Member States in terms of the percentage spent on the education sector of total government expenditure (Table 14). Financing trends can be categorized into the following.

Table 14: Share of Education Sector<sup>32</sup>

Headings	1990	1995	2000	2001	2002	2003
% of government budget	9.1	13.1	14.1	13.8	16.3	14.0
% of foreign Aid in education budget	10.3	26.0	21.0	18.9	15.4	16.7
% of GDP	1.8	2.4	2.5	2.8	3.2	3.0
% of GNP	1.7	2.3	2.4	2.6	3.0	2.8

Source: MOF, Economic Survey, 2003 and 2004

The table shows that in Nepal the education sector share as percentage of government budget, GDP, and GNP has decreased slightly after 2002. Only the share as percentage of foreign aid in education budget has increased by 1.3%.

## Pakistan

According to the Poverty Reduction Strategy Paper (PRSP) GDP in 2004-05 was projected at Rs. 4875 billion. The public sector allocation for education amounts to 2.86% of the projected GDP. With its objective to develop a 'knowledge-economy,' a budget of Rs. 332.72 billion has been allocated towards the education sector. Direct allocations are shown below.

Table 15: Government Expenditure on Education

	2001-01	2001-02	2002-03	2003-04
As % of GDP	1.8	1.8	1.9	2.3
As % of Total Expenditure	8.5	7.8	8.4	10.5

Source: Budget documents, Economic Survey and PRSP progress reports (various issues)

Table 16: Direct Allocations for Education (2005-10)<sup>33</sup>

		(Rs. Billion)
S.No.	Area / Sector	Total Proposed Allocation (2005-10)
<b>A</b>	<b>Direct Allocations for Education*</b>	
1	School Education and Literacy	71.60
2	Higher Education	99.20
3	College Upgrade	15.30
4	Technical / Vocational Skills	32.70
5	Research & Development	48.70
	<b>Sub Total A</b>	<b>267.50</b>

<sup>32</sup> Government of Nepal, Ministry of Education, "Nepal in Educational Figures 2005," Kathmandu, Nepal, 2005

<sup>33</sup> Government of Pakistan, Planning Commission, "Medium Term Development Framework 2005-2010," 2005, annex I



The proposed budget for vocational education and skill development is as follows.

**Table 17: Allocation for Technical and Vocational Education<sup>34\*</sup>**

Item	Quantity	Rs. Billion
		Cost
Technical stream in secondary schools	2,000	4.800
Salary of Teachers and workshop attendants		7.300
Polytechnic institutes	60	7.75
Free Technical Text books to students	200,000	0.400
Improvements of existing institutions	650	0.650
Training of teachers	3,000	0.180
Skills training centers at tehsil level	800	3.200
Civil works & furniture etc for districts and agencies	120	1.200
Commercial Training Institutes	114	2.475
Technical and Vocational Training Institutes	105	3.510
Vocational Education Institutes	110	2.315
<b>Total</b>		<b>33.78</b>

### **Sri Lanka**

**Table 18: Government Expenditure on Education (Billion Rupees)<sup>35</sup>**

	2002	2003	2004	2005
Total Expenditure	403.0	417.7	487.3	591.9
Education	37.2	39.1	42.3	61.1
Percentage	9.2	9.4	8.9	10.3

Over the past few years, the education sector in Sri Lanka, has somewhat maintained its role in the total government expenditure (between 9.2-10.5 percent annually during the period 2002-05). This indicated toward a low trend among the SAARC member countries. Reasons for such levels include: competition of sectors – there is free universal health care and many poverty oriented safety nets obtaining considerable funds; high defence expenditure; low public revenue, and low teacher salaries.<sup>36</sup>

<sup>34\*</sup> Government of Pakistan, Planning Commission, “Medium Term Development Framework 2005-2010,” 2005, annex I \* (Note that the total Rs. 33.78 billion includes allocation for schools and colleges amounting Rs. 28.18 billion)

<sup>35</sup> Asian Development Bank, Key Indicators 2006, Sri Lanka

<sup>36</sup> World Bank “Treasures of The Education System in Sri Lanka,” June 2005, p. E5



## 2.15. Policies and Programmes

The South Asian countries have adopted reforms aimed at making technical and vocational education more flexible, of a higher quality and capable of responding better and more rapidly to the needs of the labour market while, at the same time, lowering costs. These reforms are organized around five main aims: structural reform; reform of curriculum; revision of certification procedures; reform of financing; and the transformation of management methods for both education systems and schools.

These types of reform strive to combine general and vocational education so as to upgrade students' qualifications and offer training possibilities over an entire lifetime. The thrust of reforms is to teach young people how to learn, and how to develop their analytical skills to facilitate their integration in the workforce. In many regional countries, curricula are in the process of being revised in close cooperation with business representatives. The trend is to re-organize courses according to job category. These reforms aim at lessening the clear-cut distinction between general education and technical and vocational education, between initial education and further training. They also aim at building bridges, enabling easy transition between general and vocational training, and preparing for lifelong learning.

Ideas on how curricula should be set up are also changing. There is more and more concern for the concept of competence. Competences are defined in close collaboration with employers. They serve to define target objectives – overall knowledge, technical ability, and the criteria required to obtain qualifications – and set up training guidelines. A specific feature of these competences is that they are measurable, cumulative and, once validated, can lead to a certification recognized on the labour market.

Most reforms also envisage the strengthening of ties between educational institutions and the workplace through apprenticeship programmes – along the lines of the dual training system. Today, businesses are expected to provide work exposure, and work experience is now an integral part of the curricula of technical and vocational programmes required for certification.

The provision of vocational training in most of the South Asian countries includes several elements which can be the responsibility of the ministry of education, the ministry of labour, the private sector and the business community. The compatibility of these various players cannot be taken for granted. More over, the skills acquired in the different sectors are rarely recognized outside of the system that produced them. Several countries are in the process of setting up coherent structures to assess qualifications, which would allow individuals to validate the skills, which they have acquired, to negotiate them in different business sectors or regions, thus facilitating mobility and access to lifelong training.

The South Asian countries also place considerable emphasis on investing in skills development to make labour force globally competitive. Their policies envisage a major increase in the number of institutions (Polytechnics, Technical and Vocational



Institutes) increase in the annual intake for skills and technical education. Briefly the reforms focus on:

- The breadth of training, which enables individuals to work in any department.
- The specification of a detailed curriculum that is well understood across the sector.
- The active role of employer associations in defining what is studied, to ensure it remains relevant to their needs, and in overseeing the system through the Chambers of Commerce that provide an independent assessment of all trainees against the national standards.
- The inclusion of practical as well as theoretical components on the examinations so individuals must demonstrate that they are able to perform of all of the key functions in the business before passing their apprenticeship.
- The involvement of trade unions and works councils, which ensure that training, follows the national requirements and safeguards the interests of the trainee from exploitation in the workplace.
- The sharing of costs among employers, individuals, and the state, so that each contributes to the overall investment in skills.
- The requirement that establishments taking on apprentices must have qualified trainers to oversee the quality of the on-the-job-learning.

In the changing world environment it is important that industry and employers must be closely involved in identifying training programme, setting of programme standards, validating curricula, and making other decisions relating to TEVT. This would raise their interest in recruiting graduates from TEVT institutions. Heads of training institutions should undertake strategic planning and management and collaborate more with industry and employers to make programmes more responsive to the market.

The South Asian countries, in recent years, with varying degrees initiated policies and programme to acquire technology, and develop knowledge and demand driven skills to produce skilled manpower for accelerated development of human resources, including strengthening institutions providing Vocational and Technical Education with the following broad objectives:

- a. To produce educated, qualified and skilled manpower required for the socio-economic development;
- b. To increase the present enrolment capacity of the technical and vocational institutions;
- c. To diversify technical and vocational education to meet the technical manpower needs in areas of emerging technologies such as information, genetic engineering, and other industry-based knowledge, training and skills;
- d. To encourage private involvement and initiatives in the delivery of technical and vocational education programmes;
- e. To initiate and conduct research on technical and vocational education, and job market for creating adequate data-base for technical and vocational education policy formulation and implementation strategies; and

- f. To strengthen staff development programmes at the Technical Teachers Training College and open up post-graduate diploma and masters programmes in technical education.

With a view to ensuring that skill development is demand driven the policy framework includes the following:

- Private sectors involvement to increase its participation in vocational education and technical training.
- Greater access to credit, exemptions on import duty on training equipment by certified institutions and agencies could be offered as incentives.
- Adequate institutional arrangements should be made for maintaining quality and standardization of various formal and non-formal skill development programmes.
- The government should provide stipends to the apprentices who may get training as fresh graduates from a polytechnic or in-service training in a recognized industrial unit or institution.
- Adequate public funds are ensured to develop demand driven skills through certificate courses, diploma course and polytechnics graduates and strengthening training institutions and salaries and incentives to the teachers of these institutions.
- Committing increased resource allocations for higher education emphasizing on enrolment at tertiary level education science and technology and research and development.
- Design service rules for upgrading teachers' knowledge and qualifications and create a structure for their upward mobility within the TEVT system. The capacities of conventional universities are limited and mostly oriented toward academic pursuits leading to white-collar jobs. This needs to change to systematically link TEVT and the higher education system for vertical mobility toward life-long learning and alternative career paths.

#### **2.16. Policies Focused on Improving the Attractiveness and Quality of VESD**

- Improving guidance throughout life to take better account of the opportunities and requirements of VESD and of working life, including increased career guidance and advice in schools and for families, in order to ensure informed choice;
- Open VESD systems which offer access to flexible, individualized pathways and create better conditions for transition to working life, progression to further education and training, including higher education, and which support the skills development of adults in the labour market;
- Close links with all stakeholders, and increased opportunities to learn at the workplace;
- Promoting formal and non-formal learning to support career development;
- Maintaining gender balance in the provision of vocational education and training;
- Developing and highlighting excellence in skills, for example by applying world-class standards or organizing skills competitions.



In improving the attractiveness and quality of VESD, more emphasis may be placed on good governance of VESD systems and providers in delivering the VESD through:

- Responsiveness to the needs of individuals and the labour market, including anticipation of skills needs. Particular attention should be given to the needs of small and medium-sized enterprises (SMEs);
- Highly qualified teachers and trainers who undertake continuous professional development;
- National quality assurance and improvement in line with the Council on Quality Assurance in VESD;
- Improving public and private investment in VESD through the development of balanced and shared funding and investment mechanisms;
- Increased transparency of VESD systems;
- Stronger leadership of institutions and/or training providers within national strategies;
- Active partnership between different decision makers and stakeholders, in particular social partners and sectoral organizations, at national, regional and local levels.

## **2.17. Policies and Priority Areas of Investment in VESD**

### ***Priority Areas:***

- Basic Education
- Vocational and Technical Education
- Higher Education
- Institutional Strengthening
- Distance Education

### ***Competitiveness Policies***

#### **Producing Skilled Workers**

Three types of programmes need to be concurrently in place to have greater impact throughout life: Programme focusing on learning at an early age especially starting from the pre primary level to inculcate the love for learning, ability to think, analyse and create; second, programmes that develop personal and social competencies and; third, programme at the primary level to encourage young minds' interest in math and science, and language and IT skills should be developed.

#### **Creating Lifelong Learning Opportunities**

Rapidly changing technology and knowledge intensive industry is the hallmark of globalization requiring regular development of competences and qualifications of the young as well as adult workforce. Unsuccessful programme should be dropped and funds should be redirected to areas of knowledge and skills needed to master newly emerging and rapidly changing technologies. Modular courses that offer shorter bouts of training should also be emphasized to ease the process of acquisition with the changing needs.

The vocational education and skill development system on the whole should have a flexible and open framework reducing barriers among vocational education, initial and continuing education, and training and general education, establishing links



between vocational education and general education, specifically with higher education to produce graduates with quality to innovate.

The learning opportunities need to be accompanied by appropriate guidance and counselling service to keep abreast the candidates of the latest job market information and education options.

### **Taking Trade Policy Initiatives**

On the demand side the SAARC countries should create pro export tools to expand their foreign sales focusing on fast growing, emerging markets. The tools may include seminars and briefings in the Member States on markets that are identified as opportunities for Member States' products and services. Also the SAARC member countries could conduct product specific market research identifying markets for the products.

### **Providing Quality Vocational Education and Training**

Quality of vocational education and training has a profound role in supporting development of human capital. Several aspects of education and training contribute to quality. Relevance of curricula through systematic involvement of all key partners in development at different tiers should be assured.

Since knowledge intensive activities require highly skilled workforce, vocational education in the SAARC countries should be linked with labour market requirements of the knowledge economy to produce a labour force at parity with the global needs.

The Member States should develop mutually recognized qualifications and common principles for certification to facilitate mobility of labour force within the country as well as within the region. They should also devise ways to legitimize non-formal training.

A learning conducive environment should be developed in training institutions through adequate and updated equipment and an effective training methodology.

Competence of teachers at the vocational education and skill development institutions should be developed according to the changing technology and needs of the labour market. Training to upgrade their pedagogical and practical skills should be given.

### **Stimulating Private Investment**

The Member States should encourage private investment in higher education, continuing vocational education, and adult education through tax benefits and rewards for on-the-job training opportunities.

### **Improving Access**

Access to education and training systems should be facilitated with a view to promote social cohesion. Programmes should be tailored that address the needs of low skilled disadvantaged groups, such as rural people, workers with disability, minority groups, and women.



The Member States should open up their education and training systems to each other so that citizens could move freely between countries of the region and receive education and training where it is offered the best.

## ***Innovation Policies***

### **Investing in Research and Development**

For SAARC countries to continue to produce goods and services that could stand in the international market long-term commitment to research and development (R&D) are needed. The capacity to invent and convert ideas is possible only when basic and applied research is carried out in the region in its vocational institutes and institutions of higher learning. Research and development at the vocational institutions could lead to product and process improvement, use of local material, repair and maintenance of high tech products, manufacturing of parts for high tech products, etc. While industries would be more willing to invest in applied research because of its practical, the Member States should look for partners to invest in basic research necessary for technological innovation.

### **Establishing a Forum for Exchange of Views and Experiences, and Raising Awareness**

The SAARC countries should set up a forum for the development of vocational education skill development similar to *Cedefop* of European Union. The forum shall be a learning platform to discuss trends in vocational training and labour market in the different sectors of the economy by bringing in the knowledge of the experts of the key industries of the Member States. A monthly newsletter of the forum shall exchange views and experiences of the workforce and the employees alike. The forum shall provide the members with an opportunity to network with employers and organizations of their country and the region.

The following section gives country-wise information on SAARC member states policies and programmes on education, vocational education and training.

### **Bangladesh Policies and Programmes**

At the primary level, the government initiated a programme of incentives for children to attend school through free textbooks and food. This was later modified in order to be more effective, replacing food by a stipend of Tk.100 for one child and Tk.125 for more than one child in school per family. Forty percent of the students from very low incomes are intended to be covered. Further, Ministry of Primary and Mass Education (MoPME) is supported by a multi-donor group through the Primary Education Development Programme II (PEDP II) - a six-year Programme of support, which aims to strengthen educational access, quality and efficiency. At the secondary and higher levels, Ministry of Education (MoE) has developed a medium-term framework for the secondary education sub-sector, focusing on quality improvements, policy measures and specific actions needed to reform the system.<sup>37</sup>

With the end of the National Plan of Action I (NPA I) in 2000 the government has been implementing the NPA II, covering the years of 2003-2015. It is a follow up of the previous plan along with modifications and new goals. The goals focus upon

<sup>37</sup> Government of Bangladesh, Planning Commission, Poverty Reduction Strategy Paper 2005, p.125

areas such as the quality of education, equality, elimination of gender disparity in primary levels and other mechanisms for educating the population. It is worth mentioning that Bangladesh has made significant progress in eliminating gender disparity at the primary level and has also achieved the levels of enrolment as set in NPA I. NPA II continues to concentrate upon areas of investment within the education system, better planning, implantation and monitoring of basic education and integrating education with poverty alleviation and overall development.<sup>38</sup>

### **Bhutan Policies and Programmes**

Vision 2020, the MDGs, EFA along with domestic policies (5 year plans) are all directed towards the development of Bhutan, or in other words, 'Gross National Happiness.' To achieve full enrolment, schemes such as mid-day meals and distribution of stationeries/textbooks free of charge are designed to attract and retain students.

To improve education quality, the government made initiatives to accelerate the intake of teachers through improvements in teacher remuneration and expansion of training capacities as well as appointment of temporary teachers. This further allows for the teacher-student ratio to improve in the favour of better education.

A curriculum known as the New Approach to Primary Education, introduced in the mid-1980s and extended to all primary schools in 1993, seeks to provide a curriculum based on Bhutanese values and circumstances and to develop skills that are useful to those who leave school at the end of their primary education. The survival rate in primary school increased from 35 percent in 1987 to 64 percent in 1998. As a result of these improvements, the adult literacy rate rose from 17 percent in 1977 to 23 percent in 1980, 38 percent in 1990, and 54 percent in 1998.<sup>39</sup>

The education sector strategy to realize Vision 2020 has set itself the following dateline:

2007	<ul style="list-style-type: none"> <li>• Universal primary enrolment</li> <li>• Full enrolment of junior high school (class 8)</li> <li>• Full adaptation of secondary school curricula to the Bhutanese context</li> <li>• Introduction of an operational distance education programme</li> </ul>
2010	<ul style="list-style-type: none"> <li>• Attain student competencies equivalent to average level by international standard</li> </ul>
2012	<ul style="list-style-type: none"> <li>• Full adult literacy</li> <li>• Full enrolment of high school (class 10)</li> </ul>
2020	<ul style="list-style-type: none"> <li>• Attain student competencies equivalent to excellence level by international standard</li> </ul>

### **India Policies and Programmes**

Recognizing the fact that India will have large number of people seeking employment has encouraged the Government to re-examine its national vocational training system (NVTs) in new ways. The Directorate General of Employment and Training (DGET) under the Ministry of Labour, Government of India has been encouraging the strengthening of the national vocational training system (NVTs). One example of

<sup>38</sup> Government of Bangladesh, Ministry of Primary & Mass Education, National Plan of Action 2003-2015

<sup>39</sup> Asian Development Bank, Country Assistance Plan, Bhutan.



such a programme is the Craftsmen Training Scheme which is being carried out through industrial training institutes (ITIs) throughout India. The output of this scheme has led to a variety of interventions including a closer relationship with employers' organizations and the operation of many ITIs by the private sector. Developed to meet the training needs of young people, the industrial training institutes currently number 3,000 ITIs, 1000 of which are operated by the state government and 2,000 by the private sector.

The model of a growing ITI system, partly operated by the private sector and monitored by the public sector, offers an interesting example of how agencies can share resources and expertise in areas of employment training. In addition, the model provides the opportunity to document a process by which the public sector to some degree is moving away from the supply side of training delivery. It also offers the NVTs as an agency the opportunity to rethink its position in regard to the monitoring and certification of instructors in the context of a broader role with the private sector.

The behind-the-scene actions that have led to the support of ITIs by Employers' Organizations (EOs) in India are part of a larger picture that highlights the concern by EOs in regard to vocational training. A prime force in facilitating the support for ITI intervention must be the recommendations developed by the various HRD or vocational training standing committees that are part of EOs in India. The momentum generated by these committees in developing ideas and programmes of action through various workshops, study tours, and articles is typical of the type of discussions carried on throughout South Asia on vocational training. Vocational delivery needs to be coordinated through a single autonomous vocational training delivery agency.

The government has introduced many policies and programmes to boost the education standard, increase its coverage and augment enrolment levels and overall literacy. The 5-year plans incorporate these motives, and the current 10<sup>th</sup> Plan (2000-2007) includes aims such as universal access, free education, full enrolment at the elementary level and universal retention. The Scheme of Sarva Shiksha Abhiyan (SSA) was launched in 2001 and its goals build upon the 10<sup>th</sup> Plan to promote compulsory education for children aged 6-14 and eliminate gender gaps in schools. There is also a mid-day meal scheme to attract students and increase the enrolment rates in school. This programme was initiated in 1995 and has been expanding since then.

The District Primary Education Programme (DPEP) can be seen as an arm of the central education system using an 'area-specific approach' to improve enrolment, access, retention, and overall education at the district level. This programme is more sensitive to the community's issues and needs and acts as a bridge with the overall education system. Reconstruction of schools and teacher appointments are also made under this programme. Many other programmes exist to work towards the goals identified in NPE.

### **Maldives Policies and Programmes**

Ten years of formal schooling is the minimum standard throughout the Maldives. A system for the provision of technical skills needed for achieving and sustaining social economic development is being established.<sup>40</sup> With Vision 2020 alongside other policies such as EFA and MDGs, the Maldives hopes to accomplish this goal and advance its population in order to make the nation more self-sufficient in terms of the labour force.

The Sixth National Development Plan (2001-2005) includes strategies to promote Early Childhood Care and Development, expand Information and Communication Technology (ICT) in education, enhance educational policy formulation and management, and strengthen vocational, technical, adult and continuing education. The post-secondary Educational Development Project aims to improve access and quality of postsecondary education in the region. Further, the Employment Skills Training Project intends to promote Maldivian nationals to participate in the work force in varying occupations and capacities.

### **Nepal Policies and Programmes**

The Tenth Plan of Nepal (2002-2007) considers all levels of education and aims to promote both, formal and informal means of imparting it. The plan, among many other objectives, intends to:

1. Increase the number of the Early Childhood Development Centres
2. Raise net enrolment of primary level to 90 percent
3. Develop an integrated curriculum for grades 1-12 and establish at least one community higher secondary school in each constituency
4. Establish two additional technical institutions and two poly-technical colleges
5. Develop Open University and universities at the regional level to raise the gross enrolment rate to 6 percent and provide scholarships and loans to the poor and intelligent students

With these goals, the government hopes to raise the overall standard of living, meet the skill demands and strengthen the overall education system. Overall, access to education and elimination of gender disparity in education are also a part of its vision.

### **Pakistan Policies and Programmes**

In Pakistan a project idea is being implemented that is also aimed at redesigning the training for employment through the NAVTEC (National Vocational and Technical Education Commission). Carrying out this idea has led to the linking, of the private sector and the national vocational training system through the development of Skill Development Councils (SDCs). The SDCs were originally constituted as a contracted autonomous body established with the assistance of the World Bank, International Labour Organization, Employers Federation of Pakistan and the National Training Bureau, Ministry of Labour Manpower and Overseas Pakistanis,

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<sup>40</sup>UNESCO, Education for All, Plan of Action (Maldives), 2001



Government of Pakistan. The basic objective of each council is to enhance vocational training through flexible demand oriented and cost effective training with the participation of employers. These objectives are carried out through the major functions of the Skill Development Councils which are to:

- a. Provide a productive link between employers and training: providers.
- b. Identify training needs of the geographical area in which the SDCs is working.
- c. Analyse and prioritise training needs through government, private training institutions establishments and in-plant training modes.
- d. Validate, adapt and determine training standards and curricula contents.
- e. Promote and implement programmes to promote vocational training, apprenticeship, and in-plant training in reaction to industrial needs.

Issues which the councils are currently reviewing have to do with making themselves financially self sustainable and in establishing models to use in working with public sector and for-profit training providers. Other issues stimulated by the development of SDCs include how the SDCs and the NVTs can coordinate their activities more effectively, and how the NVTs can refocus its energy into skill standards, instructor training and short-term flexible courses that lead to employment in either the formal or informal sectors.

The Government of Pakistan announced the new National Education Policy 1998-2010 on 27<sup>th</sup> March, 1998. It pledges to double the literacy rate, universalize primary education, replicate the non-formal schools to reach the un-reached, widen the learning time by reducing school holidays, improve the assessment system through introduction of National Testing Service, and initiate the decentralization process through the formation of District Education Authorities.<sup>41</sup>

The ten year Perspective Development Plan (2001-11) and the EFA National Plan of Action (2001-2015) both intend to achieve the goal of universal primary education. The ten-year plan along with the five-year National Plan of Action is able to integrate EFA into other areas of concern, such as the improvement of physical infrastructure and accessibility to school facilities to promote enrolment and literacy. Non-formal education schools are also given attention – the Prime Minister’s Literacy Commission has set up over 75,000 schools. This seems as a critical means of fostering basic education in the region.

### **Vocational Education and Skill Development**

The vocational education and skill development (VESD) is imparted at different levels. Pre-vocational education, a parallel stream to the sciences and humanities group, is offered at vocational high schools. Vocational training programmes (pre-requisite class X), is offered in the public and private sectors to develop skills for trades such as computer hardware, electrical work automobile-work etc. The highest level, technical education programmes, aims at producing middle-level engineering technicians are offered at polytechnics and colleges of technology.

<sup>41</sup> Asia Pacific Cultural Organization for UNESCO, National Literacy Policies, Pakistan 2004

The technical training of various skills is imparted through polytechnic, vocational training centers, apprenticeship schemes, various training and vocational institutions under various ministries and departments, commercial training institutions and ‘Ustad-Shagird<sup>42</sup>’ system in the informal sector. The formal institutions produce a very small proportion of total increments to the skilled workforce and not necessarily in accordance with the demand and of requisite quality. Skill Development Councils (SDCs), employers led bodies, set up in each province for training needs assessment and meeting the needs through making training arrangements with public and private sector training providers are expected to help in this direction.

The technical education and vocational training is imparted both at the federal and provincial governments level. These institutions focus on enhancing the enrolments. The majority of these institutions lack required machinery and equipment for training and professional teachers.

In 2005, a National Vocational and Technical Education Authority (NVTEA) have been set up to undertake assessment of training needs, forecast technical changes and demand. The institution will help to develop knowledge economy during the implementation period of Medium Term Development Framework (2005-10). The public sector is expected to spend Rs. 333 billion (16 percent of the GDP) to achieve the objective of knowledge economy. Private sector contribution of Rs. 40 billion will be in addition. Technical and vocational enrolment in the country is around 1.3 percent of the total enrolment in 11-17 age groups. It is planned to increase it to 4.2 percent by 2010 and 7 percent by 2015.

At the provincial level, Punjab and NWFP have already started trials of “coordinating different department under a single umbrella body”; while Sindh and Balochistan have a system that different department has different responsibilities. Linkages between the government and TEVT schools and the private sector are yet to be strengthened (Table 19).

Table 19: Vocational and Technical Training Institutions in Pakistan (2004)

Province	Type of Institute	No. of Centre	Capacity
TEVTA Punjab	Technical and Vocational	402	83,000
Punjab Training Council	Vocational	60	15,000
DMT Sindh	Vocational	33	3,740
TE and VT NWFP	Technical and Vocational	35	3,300
DMT Balochistan	Vocational	12	1,730
Skill Development		Contractual basis	25,000
Federal	Ministry of Labour	2	1,500
Federal	Ministry of Education	2	1,400
Private Sector and Apprentice			70,000
<b>Total</b>		<b>546</b>	<b>204,670</b>

TEVTA = Technical Education and Vocational Training Authority

DMT = Directorate of Manpower and Training, Lahore

Source: ADB (2005)

<sup>42</sup> Traditional Teacher-Student system.



### **Sri Lanka Policies and Programmes**

The National Education Commission (NEC) was established to:

- Make recommendations on education Policy in all its aspects, with a view to ensuring continuity in educational policy and enabling the education system to respond to changing needs in society,
- Develop National Vocational and Vocational Education system.
- Link vocational education and training with the general education system for developing skills with general education, and
- Review and analyze periodically the National Education Policy and plans in operation and where necessary to recommend changes in such policy and plans to properly integrate vocational education and vocational training.
- Invest in priority areas of human resource development, and review the outcome periodically to adjust skill development needs according to the market need.

The government since 1997 has implemented policy proposals recommended by the National Education Commission. The Commission now is engaged in a review of progress of implementation of reforms with a view to developing policies and plans for the future, in keeping with national needs and global trends in the sphere of education.<sup>43</sup>

Developments of Schools by Division as well as Teacher Development programmes are in place. Sri Lanka hopes to fulfil the EFA goal of full enrolment in primary education and wants to retain its students to continue at the secondary and tertiary levels. Further, IT education is to be imparted to teachers in order to better educate their students and familiarize them with technology at an early stage.

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<sup>43</sup> Government of Sri Lanka, Ministry of Education, website  
<http://www.moe.gov.lk/modules.php?name=Content&pa=showpage&pid=6#s211>

### 3. Review of the Existing Situation in SAARC Member States

This part of the study reviews the existing situation in each SAARC member state in the educational perspective along with the system of vocational education and training. The seven case studies suggest commonalities among the regional countries, including the way the educational structure is organized. However, some lessons can be learned from the specific interventions made for promoting education and skill development as best practices.

#### 3.1. Bangladesh

Bangladesh has made considerable progress in achieving high economic growth rate of nearly 5 percent. The growth has been accompanied by labour force and employment growth, which has risen about 4.5 percent per year between 2000 and 2003. The underemployment rate is high and rising – from 17 percent in 2000 to 38 percent in 2003. High and rising rates of unemployment may be related to increasing participation of women, who may not wish to work full time, lack of availability of productive work. Another reason for underemployment may be shortages of skills – while employers are hiring a small pool of skilled workers full-time, they are not satisfied with the skill levels of the rest of the workforce, and are reluctant to hire them full time. The growth strategy identifies goals of promoting vocational training and skill development to support the growth process, which will help reduce poverty and vulnerability. To sustain the current growth rate, Bangladesh will need to create at least two and one-quarter million jobs per year to accommodate a near doubling of the labour force from its present size of 55 million to 100 million in 2020. Given a saturated agriculture sector, industry must create 16 million jobs by 2020 – a 5.5 percent annual increase. The largest portion of the new jobs needed over the next two decades will have to come from the service sectors including trade, construction, transportation and communication.

The development strategies in Bangladesh emphasize investments in education as one of the main pillars of developing human capital and accelerating human growth.<sup>44</sup> The priority given to education stems from the constitution along with the commitments made by the government in terms of Education for All (EFA) and the Millennium Development Goals (MDGs), alongside local policies. Although the Planning Commission claims that the country is ‘on track’ in attaining these goals (achievement rates in the case of primary and secondary enrolment were 3.4 percent and 13.2 percent against the required target rates of 3.1 percent and 10.3 percent respectively<sup>45</sup>) there is still a long way to go since a large proportion of the population remains illiterate and unable to reap the benefits of education.

#### **System of Education**

The educational institutes in Bangladesh can broadly be categorized into three groups: government institutions, private institutions and *madrasahs* (religion-based institutions). Primary, technical and tertiary education is provided predominantly by

<sup>44</sup> Mujeri, Mustafa K., “Financing Education: National Priorities and Future Directions, A Right to Development Perspective,” July 2003, p.2

<sup>45</sup> Government of Bangladesh, Planning Commission, Poverty Reduction Strategy Paper 2005,



public schools and colleges, whereas the private sector plays a prominent role in the secondary sector as well; *madrasahs* are widespread in both, primary and secondary education. The recent, non-formal education system via NGOs and the public sector is also becoming a source of primary and secondary education in the nation.

Although available, but to a limited extent, pre-primary education is the initial stepping stone towards attaining education in Bangladesh. This is followed by primary schooling (grades I-V for ages 6-10 years) and then secondary education (grades VI-X with varying ages). At the end of grade X, students sit a public examination, and if successful, receive a Secondary School Certificate (SSC); pupils at *madrasahs* are given a different public examination.

With successful completion of secondary schooling, students have the option of entering either higher secondary education for 2 years or technical and vocational institutions. Once a Higher Secondary Certificate is acquired, students can opt to continue their education by enrolling into higher education institutions (to pursue diplomas, certificates, honours etc.)

The working age population (aged 15 to 64 years) has grown rapidly by 20 percent since 1996 to reach about 77 million in 2003. It is expected to reach over 130 million by 2030. Most of the labour force has little or no education, although this is changing. Gender and regional disparities remain. In 2002-03, 50 percent of the labour force had no schooling (Table 20) although education levels have been increasing. About 17 percent of the labour force has only Class I-V education, down from the approximately 23 percent in 1995-96. About 33.3 percent of the labour force has achieved Class VI and above, up from about 28 percent in 1995-96. A lack of education is more apparent among females in the labour force, and people in rural areas generally have lower educational levels than urban areas. The Labour Force Survey data shows that only about 13 percent of the employed labour force has gone beyond Grade 10 in school.

**Table 20: Educational Attainment of the Economically Active Labour Force (percent)**

	1995-96			2002-03		
	M+F	Male	Female	M+F	Male	Female
No education	46.6	44.3	58.8	50.1	48.0	57.6
Class I-V	23.3	26.4	19.2	16.8	17.4	14.9
Class VI-VIII	9.2	9.6	7.0	10.8	11.0	10.1
Class IX-X	6.4	6.9	4.9	8.6	8.9	7.6
SSC/HSC & Equivalent	8.9	9.0	7.4	9.0	9.6	6.8
Bachelors or above	3.6	3.8	2.8	4.6	5.0	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Mahajan (2006)

The general direction is moving away from traditional activities. A large number of women work in export-oriented industries that collectively provide more than two-thirds of the country's foreign exchange. Consequently, the dynamics of modernizing economy warrant that particular attention should be paid to skill development to ensure that Bangladesh can continue to tap into sources of growth in a global economy.

A study carried out by Bangladesh *Unnayan Parishad* found that the companies surveyed were not interested to recruit graduates from the Universities who were trained by the pre-making education system, they were in need of business executives, financial analyst, technically skilled people etc., which the present system of university education were unable to provide. 71 percent of the companies proposed that they were prepared to collaborate and co-operate and give financial support, if the universities come forward to redesign their education system in a way that will fulfil their specific requirements.

The main challenge for the skill development system is to overcome its inadequate orientation to the labour market. Formal providers of technical and vocational education and training do not have strong linkages with private sector employers that drive the changing patterns of labour demand, nor do they have proper incentives to build those connections, which would ensure that skill development courses are relevant and useful to both graduates and employers.

There are few people in the labour market with technical/vocational qualifications; the 2002-03 Labour Force Survey estimated only 53,000 such men and 5,000 such women. While the economy and labour force are growing, there is a mismatch between the demand and supply of skills. There are several reasons for this (a) employers perceive that the graduates coming out of the vocational system are not meeting their needs. They feel that the system is continuing to produce graduates for old and marginal trades, which have no market demand, while newer trades with substantial needs for skilled labour have been left unmet; (b) increasing overseas employment, and the possible market for skilled workers abroad also offer some justification for investing in the system; and (c) there is an urgent need to increase the levels of in-service training, and a well designed VET system can also help in addressing this shortcoming. Finally, it should be understood that investing in the system does not necessarily entail increasing public financing of the system, but putting in place reforms and interventions to improve effectiveness and relevance of the system.

The policy framework aiming at to align skill development with dynamics of labour market by: (i) fostering higher economic growth supplemented by measures to benefit the poor from the growth process; (ii) directing higher investments in the social sectors to promote human resource development of the poor; and (iii) promoting targeted income and employment generating programmes for the vulnerable poor and the disadvantaged groups.

In terms of employment, the informal sector accounts for 80 percent of the 44 million people employed in the total economy; and 76 percent of workers employed outside agriculture, forestry and fisheries. Despite accounting for just 21percent of GDP, the agriculture sector accounts for 52 percent of the labour force, up from 49 percent in 1996. With a low level of income and pervasive poverty, development priorities in Bangladesh increasingly focus on efficient growth policies and provision of basic services to the poor. Poverty analysis in the country underscores the multi-dimensionality of the process which in turn has significant implications for designing effective poverty alleviation policies (CIRDAP 1993 and BIDS 1996).



Policy reforms and structural adjustments, primarily aiming at reducing Government interventions and enhancing economic efficiency to create a conducive macro-environment for sustained growth, has created new opportunities as well as challenges for poverty alleviation efforts in the country. In particular, emphasis on the increased role of the private sector and fostering of macroeconomic incentives for productivity gains within a competitive paradigm requires innovative strategies and adjustments in institutions to mitigate the adverse impact of policy reforms on the poor, especially during the transition period. The grassroots institutions, with their experience and closeness to the poor, are the ones that are ideally located to perform the critical task of making such a process smoother and effective. In this regard, the NGOs in Bangladesh with their network, experience, and flexibility have been playing a key role within the existing policy environment governing the civil society.

The scope of further enhancing the contributions of NGOs in tackling the developmental challenges, particularly in addressing poverty, depends on a number of factors e.g. more clear understanding of the strengths and limitations of both the Government and the NGOs in addressing poverty issues, the contributions that NGOs can make as development partners, identifying potential areas for mutual collaboration and establishing the necessary framework to support and sustain such collaboration. For success in developing a more fruitful partnership, necessary changes in policies and practices are required for both the Government and the NGOs that set the environment within which NGOs operate.

### ***The Vocational Education and Training (VET) System***

#### **The Structural Framework**

Formal vocational education and training begins after Class VIII. The VET system is comprised of three levels of skills development below that of higher education degree, namely basic skills, certificate and diploma levels. The first level, basic skills, is a two year course focusing on manual skills, which is offered both inside and outside of schools. Prospective students must have completed grade VIII. At the certificate level, the two-year Secondary School Certificate, SSC (Voc), covers a similar set of skills and also requires grade VIII completion. Students may proceed beyond the SSC (Voc) to the Higher Secondary Certificate, HSC (Voc), requiring an additional two years of secondary schooling after grade 10. Business Management courses are also offered as a two-year Higher Secondary Certificate, HSC (BM), but as a distinct stream. At the post-secondary level, there are four-year diploma-level courses, which are offered through polytechnic institutions (such as the Textile Institutes). The basic skills and certificate level courses can be classified as vocational education, while the diploma level courses can be classified as vocational (post-secondary) training (Table 21).

In an attempt to increase the capacity of the system over recent years, the Government has facilitated a significant expansion of private sector places. Until 1990, private sector participation had been negligible. However, by the late 1990s, the private sector was supplying about 40 percent of total capacity, and by 2005, this proportion had gone up to 61 percent (Table 21).

**Table 21: Training Capacities in Public and Accredited Private Institutions, 1998 and 2005**

Level/course	1998					
	Number of Institution		Intake Capacity		Private Share	
	Public	Private	Public	Private	Institutions	Students
Basic Skill Level	64	3	23,500	1,500	4%	6%
Certificate Level						
SSC (Voc)	62	510	5,380	25,800	89%	83%
HSC (BM)	-	220	-	8,800	100%	100%
HSC (Voc)	51	-	1,520	-	0%	0%
<b>Vocational Training</b>						
Diploma Level	36	7	13,155	1,160	16%	8%
<b>Total</b>	<b>213</b>	<b>520</b>	<b>43,555</b>	<b>28,460</b>	<b>71%</b>	<b>40%</b>
Level/course	2005					
	Number of Institution		Intake Capacity		Private Share	
	Public	Private	Public	Private	Institutions	Students
Basic Skill Level	76	414	12,370	13,300	84%	52%
Certificate Level						
SSC (Voc)	110	1,303	23,570	63,450	92%	73%
HSC (BM)	-	955	-	50,000	100%	100%
HSC (Voc)	64	-	5,560	-	0%	0%
<b>Vocational Training</b>						
Diploma Level	54	143	15,020	13,230	73%	47%
<b>Total</b>	<b>304</b>	<b>1,860</b>	<b>56,520</b>	<b>89,980</b>	<b>86%</b>	<b>61%</b>

Source: DTE, BTEB

The private sector growth has been driven by public financing, especially of vocational education. The Government has facilitated this increase by providing salary subventions, which meet 90 percent of salary costs for staff who teach SSC (Voc) and HSC (Voc) and HSC (BM) courses in private institutions.

In spite of this growth, enrollments remain well below the Government's stated policy goal of 20 percent of the share of all secondary students. Out of about eight million students enrolled in secondary schools, less than 250,000 are enrolled in vocational education, equivalent of three percent of total secondary school enrolment.

### The Pre-employment VET System

Primary responsibility for overseeing the pre-employment system rests with two agencies: the Directorate of Technical Education (DTE) and the Bangladesh Technical Education Board (BTEB). DTE is responsible for setting the overall policy framework of the entire vocational education and training system. BTEB, a statutory agency, is responsible for maintaining the qualifications framework of VET: setting training standards to the relevance of labour market, student assessment, certification of results, and accreditation of institutions. BTEB cover all accredited institutions, both government and non-government institutions.

Training capacity in the VET system has doubled to 145,000 since 1998. However, this is less than two percent of enrollments at the secondary level. Most of the increase has been due to growth in the private provision of training – both in terms of institutions as well as training capacity. Much of this growth in the private provision of training has been driven by public financing, especially of vocational education. Private providers, especially those that are not subsidized by the government, tend



to focus on training in less expensive areas such as computer and language courses. Girls still make up less than a third of total enrollments in the system. Several NGOs also provide basic skills and training to target groups such as youth, the underprivileged, and the rural population. Most are very small in terms of enrolment and facilities and usually provide short-term training (ranging from 4-6 months duration) in income generating activities such as tailoring/sewing, embroidery for women and electrical, radio/TV, and carpentry for men.

### Training within Industry

The incidence of training among firms is low, only 25 percent of manufacturing establishments in Bangladesh provide their employees with in-service formal training. This is significantly lower as compared to individual East Asian countries, such as Malaysia and China. Furthermore, Bangladesh employers extend in-service training to only a marginal fraction of its workforce – around two percent. About 18 percent of enterprises report having in-house programmes and 13 percent report external training. Firms tend to report vocational schools (31 percent) as the most important sources of external training.

### Financing of Vocational Education and Training

Public spending during the last 5 years has continued to give priority to health and education sectors, and sectoral reforms are underway to improve skills and delivery of related services. The total spending on social sectors amounts to a little under 5 percent of the GDP. However, adequate finance, which is effectively spent, is always a major issue for VET. For many public sector training providers, inadequate funds are the main problem but there is far more to it than that. Simply making available more funds is not enough. The Government is the major financier of vocational education and training. Government funds are used to finance public sector institutions and to provide subsidies to private providers at the vocational education level. Students also contribute to VET financing by paying tuition fees. However, students' fees in public institutions are usually not substantial sources of institutional funding and are largely offset by the fact that students receive stipends and scholarships. Though all private vocational training institutions are completely self-funded through fees, most private vocational education institutions rely heavily on the government subventions that finance 90 percent of teacher salaries, as happens in the general secondary school system.

The Ministry of Education receives a budget to operate public sector VET institutions managed by DTE, as well as a budget for subventions to meet salary costs of private vocational education schools. Ministry of Education accrues roughly 70 percent of total government budget allocated on VET – about US\$20 million or 0.8 percent compared to US\$400 million spend annually on secondary education (Table 22).

**Table 22: TVET Budget Allocations across Ministries, 2001 and 2006 ('000'Taka)**

	2000-01	2002-03	2004-05	2005-06
Directorate of Technical Education	463,828	396,406	495,754	771,100
Bureau of Manpower, Employment and Training	137,589	77,856	175,618	193,824
Ministry of Agriculture	71,495	63,331	72,724	81,170

Note: The table excludes finance to DSHE for subventions to private institutions.

Source: Ministry of Finance, Demands for Grants and Appropriations, (various years)

Other major recipients include the Bureau of Manpower, Employment and Training (BMET), and the Ministry of Agriculture. BMET is administered by the Ministry of Expatriate Welfare and Overseas Employment. The Ministry of Agriculture is responsible for colleges running diploma courses in agriculture. Non-development Budget is shown in Table 23 below.

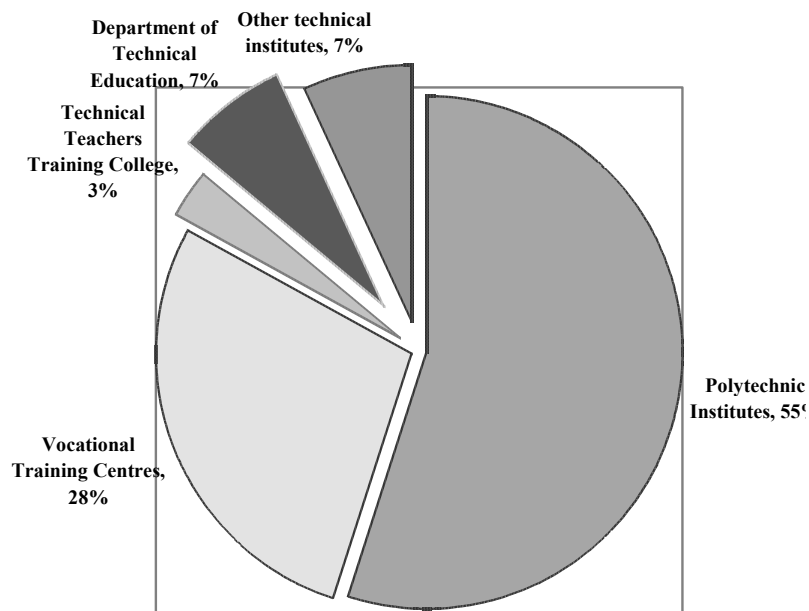
**Table 23: Consolidated Fund Expenditures and Allocation (Non-development Budget) ('000' Taka)**

	2000-01 Actual	2002-03 Actual	2004-05 Revised	2005-06 Budget
Department of Technical Education	12,232	9,544	67,990	89,369
Technical Teachers Training College	19,497	9,578	10,679	14,329
Polytechnic Institutes	278,265	216,896	246,669	399,233
Vocational Training Centre	120,871	133,754	132,066	214,571
Other Technical Institute	32,964	26,634	38,350	53,598
<b>Total – TVET</b>	<b>463,829</b>	<b>396,406</b>	<b>495,754</b>	<b>771,100</b>
Increase on previous year (%)	3.3	-9.6	19.6	55.5
<b>Total – Secondary and Higher Education</b>	<b>17,552,669</b>	<b>20,055,166</b>	<b>25,746,341</b>	<b>33,172,950</b>
TVET as % of Secondary & Higher Education	2.6	2.0	1.9	2.3

Source: Ministry of Finance, Demands for Grants and Appropriations, (various years)

About 55 percent of public spending has been allocated to vocational training institutions, while vocational education institutions comprise the second largest spending category (28 percent). A significantly smaller proportion of funding is allocated to the Department of Technical Education and to the line item 'other technical institutions'. The smallest share (3 percent) is received by the Teachers Training Colleges. The breakdown of spending by type of institution is given in Figure 12.

**Figure 12: Proportion of Budget Allocated to Institutions, By Type**



Source: Ministry of Finance, Demands for Grants and Appropriation 2004-05.



Government subventions constitute the majority of income for private vocational education institutions. Close to 55 percent of income is through government grants while tuition fees constitute less than 17 percent of total income. On the other hand, private vocational training institutions raise most of their revenues from fees. Close to 80 percent of revenue of private vocational training institutions are generated through fees, as compared to 20 percent in the case of public institutions. However, none of the institutions raise a significant share of resources from sale of goods and services or providing training to the private sector.

There is considerable scope to review and amend the structure of fees – however, institutions will also need to demonstrate that they can place students into appropriate employment so that students bear some of the cost of training. Training institutions, including those in the public sector and those who are subsidized by the government, should have freedom to set fees. This would encourage providers to develop a more dynamic, even aggressive, approach to exploiting the potential of the local environment. Employers can also be encouraged to contribute towards the cost of training.

### **Private Finance**

Private institutions are able to raise revenue through tuition fees, the production and sale of goods, and by providing training services. The revenue is earned in addition to government support for salaries. Table 24 below shows the composition of sources of funding by public and private.

**Table 24: Composition of Sources of Funding, By Public v. Private and Type of Course**

Source of Financing		Public			Private		
		Vocational Education	Vocational Training	Total	Vocational Education	Vocational Training	Total
Government grants	Amount	805.1	953.3	824.9	755.8	-	743.2
	Share %	75.2	69.0	75.0	54.6	-	51.0
Tuition and other fee	Amount	52.8	277.7	80.6	200.2	1428.1	278.3
	Share %	4.9	20.1	7.3	14.5	76.8	19.1
Sale of products	Amount	33.7	82.9	39.5	101.4	14.5	99.2
	Share %	3.2	6.0	3.6	7.3	0.8	6.8
Income from training	Amount	52.3	-	52.3	127.0	120.8	133.7
	Share %	4.9	-	4.8	9.2	6.5	9.2
Others	Amount	126.5	68.1	103.2	198.9	295.8	202.0
	Share %	11.8	4.9	9.4	14.4	15.9	13.9
Total		1070.5	1382.0	1100.4	1383.3	1859.2	1456.4

### **Outcomes of the VET System**

Employment probabilities of graduate are very low, partly because of poor labour market linkages reflected in a lack of employers' participation in managing the system. The quality of the system seems low as evidenced by low capacity utilization and low passes rates. In both vocational education and vocational training institutions, close to half the capacity remains unutilized. At the same time, pass rates in standardized examination have also dropped significantly over the past few years.

A recently conducted survey of over 300 public and private VET institutions shows that in both vocational education as well as vocational training, close to half the student capacity is unutilized. These numbers do not vary significantly between public or private institutions for vocational education, though in the case of vocational training, public institutions have a higher proportion of capacity utilized (Table 25)

**Table 25: Capacity Utilization in the VET System**

	Vocational Education			Vocational Training		
	Public	Private	Total	Public	Private	Total
No. of Institutes	48	252	300	9	17	26
Total Student Capacity	20,416	38,146	58,562	7,020	3,800	10,820
Total Registered Students	9,617	17,990	27,607	4,451	1,991	6,442
% Unutilized	52.9	52.8	52.9	36.6	47.6	40.5

### **Recommendations**

Adequate finance, which is effectively spent, is always a major issue for VET, although there are signposts from international experience. For many public sector training providers, inadequate funds are the main problem. It is important that:

- Funds should be used to develop demand-driven systems and should avoid perpetuating supply-driven models.
- Funds should be stable and sustainable.
- The basis for allocating funds to institutions or to systems should be transparent, widely known and understood.
- A wide range of training providers should be allowed to compete for funds.
- Funds raised from sources other than the government should not be diverted to government revenues and spent for other purposes.
- Funds should be administered by industry-managed bodies. Employers, through their associations and individually, should be involved in making decisions about the allocation of funds at all levels.
- Responsibility – including the freedom to make financial decisions – and accountability for operations should be devolved to the lowest level practicable.

### **3.2. Bhutan**

Until the early 1960s, practically no formal schooling existed in Bhutan except for the teaching of religion and classical Dzongkha in monastic schools in monasteries and dzongs. The number of Bhutanese who had studied outside the country was extremely limited, with most of the few who had been sent as children to schools in India. Over the last two decades, the country has made considerable progress in education. A formal education and technical training system has been established, and students have been sent abroad in significant numbers for specialized training.

Education is considered as one of the fundamental needs required to achieve Gross National Happiness, the framework for the overall development of Bhutan. The Bhutanese people realized that to achieve development, the modern system of education must be adopted and fostered, alongside monastic education. Many community primary schools have been established throughout the country over the past decades, reaching even the remotest areas.<sup>46</sup> Nevertheless, increase in

<sup>46</sup> The Centre for Bhutan Studies, “Youth in Bhutan: Education, Employment, Development,” January, 2005



enrolment rates and decline in drop-out rate is still needed; drop-outs have led to previous students falling back into illiteracy, wasting the public budget that was allocated for them. Many socio-economic problems are correlated with enrolment and drop-out, ranging from demographics to culture.

### ***Education System***

Bhutan's education system is based on a 7-year primary cycle followed by 4-years of secondary education leading to tertiary education. Basic education in Bhutan is defined as 11 years of education (primary + 5 years of secondary education till class X). Children begin their schooling at the age of 6 when they enter the first grade of primary, known as Pre-Primary class (PP). At the end of Primary cycle, children are required to sit for a national level examination set by the Bhutan Board of Examinations but administrated and assessed by the school. In a few years time examination at this level would be replaced by standardized Tests (National Education Assessment). At present, about 87% of students, reaching the end of the Primary (Grade VI) continue to the next level of education, while others repeat and few drop-outs.

The secondary education cycle comprises of four years. The four years are either offered at the Middle Secondary Schools (MSS) or two years (Classes VII and VIII) at the Lower Secondary Schools (LSS) and remaining two years at the MSS. Students have to appear at the National Examinations at the end of class VIII, X and XII. In few years examination at class VIII level would be administered and assessed at the school level like the class VI examination. About 95% of those entering the secondary education complete class X (basic education). After the basic education about 40% based on merit are enrolled into class XI in the Higher Secondary Schools (HSS). About 25% join the class XI in the private Higher Secondary Schools. Rest of the students would have to look for training and other opportunities.

At the end of the higher secondary education students enrol at the only under grade college in the country, or based on merit are sent on scholarship outside the country for professional studies such as medicine, engineering, agricultural sciences and business studies. The remaining students enrol in training institutes within the country or find employment. While education up to grade X that constitutes basic education is intended to be universal, post-basic education is presently more restrictive and aligned to cater to the human resource requirement of the country.

The Royal University of Bhutan (RUB), through its federated system of colleges, provides the tertiary education in Bhutan. The RUB has eight colleges spread across the country.

### ***The Legal Framework of Education***

Education is recognized both as a basic right and as a pre-requisite for achieving the wider social, cultural and economic goals. Though Bhutan at the moment has no legal framework or an education act, the government has strong commitment to pursue universal basic education. Education is provided free to all the children even beyond basic level. More importantly, education is considered as one of the fundamental needs required to achieve Gross National Happiness.

A major policy shift in recent times is to make secondary education more relevant by introducing a basic skills training programme in the form of clubs and introducing career counselling to orient youth to the world of work. At the same time, significant effort has been made to bring technical education under a national framework to provide coordination, standards and relevance. The Royal Government of Bhutan has created a new Ministry (The Ministry of Labour and Human Resource Development) to tackle this issue in the ensuing years.

### ***Major achievements***

#### ***Access to education***

Before the introduction of modern education, the only form of education provided in Bhutan was monastic education. During the commencement of planned development in the early 60's Bhutan had only 11 schools and approximately 400 students.

The rugged terrain and scattered settlements have challenged the school enrollments. Further, long hours walk to school is believed to be the main cause of non-enrolment and dropouts in primary schools. The commitment as well as the policy of the government is to cut down the walking distance by establishing additional community primary schools closer to the community. Where students had to walk more than half an hour, mid day meals are provided through World Food Programme (WFP) support. The community primary schools are very small schools with minimum facilities: three classrooms, two units of staff quarters, one toilet and a storeroom. The average enrolment in a remote community is between 50 to 120 students. More than 35 such schools are planned to be built annually. In places, where it is impractical to construct schools nearer the communities, boarding schools have been established. To accommodate the increasing primary graduates construction of substantial numbers of secondary schools are planned in the 9th Five Year Plan (2003-07).

The rising demand for education and the limited resources compelled the government to implement a number of cost-saving measures such as involving the communities and district authorities in assisting in the construction of community primary schools in their localities. The government provides the design and materials and the community supply the labour. In order to make education accessible to everyone, free tuition, text books, sports items, meals and boarding facilities, where required are provided by the government.

In order to make education diversified and to provide options for parents who can afford, private entrepreneurs are encouraged to establish private schools. Presently, there are 19 private schools, inclusive of nursery, primary and secondary schools in the whole of the country.

#### ***Equity in education***

Although, primary enrolment is not compulsory general public has overwhelmingly appreciated the importance of education. The government is struggling to provide enough places to meet the increasing demand for education. The requests for establishment of schools originate from the community through the gups (Village heads). There is no evidence of gender preference for school enrollment. Girl



student enrollment at the primary level is 48.4%. The upcoming trend is that the girls are out numbering boys in urban schools.

#### Quality of education:

Ever since the start of the modern education the medium of instruction has been English. Dzongkha is taught as a subject. The government places great importance on the quality of teachers, only trained teachers is employed. Annually, about 320 teachers graduate from the two national teacher-training institutes. At a national level, the teacher pupil ratio is 1:31. A system to continuously up date the qualification and professionalism of teachers have been instituted through National Based In-Service Programs (NBIB), Dzongkhag (district) Based In-Service Programme (DBIP) and School Based In-Service Programme (SBIP). Another avenue for the teachers to enhance their qualification is through Distance Learning modules, a regular programme conducted by the National Institute of Education. Furthermore, a system is in place to continuously provide managerial and leadership training programme for the head teachers.

To address the teacher shortage and the need to combine different class levels in the small schools, where the enrolment is low, due to scattered settlements, the multi-grade teaching strategy has been adopted. A regular Programme towards enhancement of the multi-grade teaching techniques through special arrangement in some of the bush schools has been formally instituted and is expected to accrue tangible impact in the delivery of quality education even in the remotest part of the country.

#### **Challenges**

Bhutan progress to compete in the world market largely depends on its ability to develop knowledge and skills basis along with achieving Universal Primary Education. The country has already achieved remarkable progress in Primary Enrolment. But its progress on tertiary education and relevant technical education and vocation training is very slow. These limitations likely to affect its future growth and development prospects. Creation of human capital infrastructure is real challenge for the government, particularly identifying priority areas and allocation of public resources for their development.

#### **Education and Competencies for Life**

The enhancement of formal education curriculum with the introduction of basic skills development programme and youth programs has far reaching impact. The importance of information communication technology (ICT) has been recognized and incorporated into the school curriculum. The national objective as specified in the plan is to enhance the quality of education in order to achieve competency in language, communication skills and mathematics comparable to international standards; and also to improve and expand youth guidance and career counselling and vocational education and vocational training towards a for wholesome development of the youth and their employability.

#### **The Role of Primary Education**

Much thought has clearly gone into developing an education system, which is consistent with the Government's overall development objectives. The emphasis is on universal primary education and developing vocational education and training

from the very beginning. People need basic formal schooling to acquire a broad base of knowledge, attitudes, values and skills on which they can subsequently build, even if they do not receive further formal instruction will receive priority. There remain, however, two fundamental questions. First, is the five-year primary education cycle adequate for providing the basic literacy and education needed in adult life. Second, what government initiatives are needed to reach the vast number of children (up to 80 per cent of the age group) who are not receiving basic education.

Considering Bhutan's mainly agrarian economy, the current five year primary education cycle is probably adequate for imparting basic literacy and numeracy. The curriculum attempts to balance the training of cognitive skills (through subjects such as languages, mathematics and social studies) with instruction in practical subjects such as farming and animal husbandry. The Government also plan to include instruction on health, hygiene, and nutrition in the primary school curriculum, once the textbooks currently under preparation become available. Nevertheless children are normally no more than 11 or 12 years of age when they leave Class V, and are hence liable to forget what they have learned. To help utilize and reinforce reading habits, local communities should be encouraged to organize periodic refresher courses and to distribute suitable reading materials. The Government is also considering raising the minimum age for admitting children to primary education

Perhaps the more crucial question at this stage is how to make primary education accessible to a wider segment of the population without putting excessive burden on the government budget. From a strictly financial point of view, it would appear unwise to attempt to attain universal primary education too quickly. If, for instance, primary school enrolment were to increase from the current 27 per cent to 50 per cent of the age group over the next five years, the financial implications of this increased enrolment in primary education alone would mean the GDP would have to grow by as much as 8 per cent per annum in real terms over the next five years to keep the share of total outlays on education from rising above the already relatively high 3.7 per cent of GDP of 1980/81.

The problem of growing demands for education on budgetary resources cannot easily be resolved. Two possible courses of action are open-finding additional sources of financing and reducing per student costs by improving the efficiency of the education system. Local communities are already effectively mobilized to contribute free labour for the construction and maintenance of primary schools. Based on the affordability criteria, the government is now considering asking certain communities unities to contribute to the cost of operating their primary schools by providing food and paying for the children's textbooks and supplies entirely paid for by the Government at present. Moreover, a system of fees balanced by scholarships could be introduced selectively at the primary level. Any decrease in unit costs of secondary and higher education can release significant additional funds for providing primary education, while the potential economic gains to individuals with post-primary level education are large and could justify some fees. Possible approaches to increasing efficiency include sessions and increasing the ratio of students to teaching staff. Because teacher salaries constitute as much as 70 per cent of the recurrent expenditure in primary education, student-teacher ratios need to be maintained at as near to the acceptable norms as possible.



A recent World Bank study challenges the conventional wisdom that a decrease in class size implied improvement in education quality. In fact, studies have shown that variation in the size of the class within a range of 20 to 40 make little or no difference in the average achievement level of students. Considering that the average ratio in Bhutan is a relatively favourable 31, this suggests that some saving could be achieved here with no significant loss in educational quality.

### ***The Role of Secondary Education***

Secondary education in Bhutan is offered in junior high schools and central schools. Enrolment is restricted, and is guided by the projected manpower requirements of the country in order to avoid creating a pool of educated unemployed. At the secondary level efforts are also made to develop required market skills. At the end of the fifth, eighth and tenth year of schooling, students take examinations that determine eligibility for (though not necessarily confer entrance into) subsequent levels of education.

The Government sets the ceilings for the numbers of students that can be admitted to each level. They are based on manpower projections, which indicate that Bhutan's incremental high-level manpower needs, particularly skilled manpower. On the basis of the Class V examination, the first 1,500 are eligible to enter secondary schools; the remainder may enrol in technical schools, join the army, return to their villages or apply to the various on-the-job training schemes conducted by government departments. On the basis of the examinations conducted at the end of Class VIII, the best 600 students may be admitted to Class IX. After Class X examination, about 120 students are selected for admission to the Junior College at Kanglung, near Tashigang.

Although it is unclear whether the secondary enrolment ceilings are too restrictive for establishing an adequate base for manpower training, at present this issue is immaterial as the number of qualified candidates at each level is below the approved ceilings. In this light, it appears appropriate for the government to concentrate its limited resources on primary education, while trying to increase secondary and higher level enrolments to the ceilings. Over the longer term, it will however, be necessary for the government to keep the ceilings under periodic review, to ensure that projected future higher-level manpower needs can be met, not only for the public sector but also for the economy as a whole.

As many Bhutanese students have traditionally gone on to degree programmes in Indian Colleges and Universities following the "Plus Two Programmes", the education system in Bhutan is closely affiliated with that of India. The coverage of the Indian secondary school examinations has effectively determined the curricula and the choice of textbooks for secondary education in Bhutan. In order to acquire greater flexibility for orienting the education system to suit Bhutanese conditions and needs, the Government is planning to establish a National Board of Secondary Education and training during the Fifth Plan period. The Board will be responsible for developing and reviewing the school curriculum, establishing its own school certificates and holding its own qualifying examinations at the end of Classes X and XII, the Government of India has promised full cooperation by directing the Equivalence Committee of the Indian Universities Association to recognize the

certificates of the Board on par with those of the Indian system for purposes of admitting Bhutanese students to colleges, universities and other training institutes in India.

### **Technical and Vocational Education**

Technical and vocational training under the Department of Education was started in early 1976. It was the only coordinating body between the user organization and the institutes. This body was established with the following objectives.

- a) To plan programme, implement and co-ordinate the technical and vocational training in the country.
- b) To analyze the needs of technical personnel at different levels.
- c) To strengthen and update technical and vocational training system.
- d) To identify new programmes to be started in line with the needs of the country and implement them as and when necessary.
- e) To monitor the training programmes, and evaluate them.

Technical and Vocational Education Division have played a vital role in exercising its mandate. In fact, the Division directly or indirectly coordinated the number of technicians and draftsmen employed across the country. The Division also played an active role in training the dropout students from primary level and attaching them to various departments as in-plant trainees. It was also the certifying body for the in-plant trainees, on completion of the training, they are directly employed as semi-skilled and skilled workers depending on the duration of the course received.

There are at present about nine institutes catering to the vocational/technical education needs of the country as follows:

#### **Technical**

- a) Royal Bhutan Polytechnic
- b) Royal Technical Institutes
- c) National Trade School
- B. Others
- d) Health School
- e) Royal Institute of Management
- f) Royal Commercial Institute
- g) Royal Veterinary Institute
- h) Royal Forestry Institute
- i) Agricultural Training Institute

The Technical and Vocational Education Division of the Department of Education administer the first three. The rest are administered by the different government sectors concerned.

The courses offered in these institutes have over the time evolved with the particular requirement of these respective agencies. The courses offered in these institutes are as follows:



### **Royal Bhutan Polytechnic (RBP)**

- a) Diploma in Civil Engineering
- b) Diploma in Electrical Engineering
- c) Diploma in Mechanical Engineering
- d) Survey
- e) Draughtsman

### **Royal Technical Institute (RTI)**

- a) Motor Mechanics
- b) General Mechanics
- c) Electricians
- d) Building Construction

### **National Trade Training Institute (NTTU)**

- a) Masonry
- b) Plumbing

### **Health School**

- a) Health Assistant
- b) Auxiliary Nurse Midwife
- c) Basic health Worker
- d) General Nurse Midwife
- e) Assistant Nurse
- f) Pharmacist Technician
- g) Laboratory Technician
- h) Dental Technician
- i) X-ray Technician
- j) Eye Technician
- k) Physiotherapeutic Technician

### **Royal Veterinary Institutes**

- a) Pasture Training
- b) Diploma in Animal Husbandry

### **Royal Commercial Institute**

- a) Stenography
- b) Typing
- c) Computer Programming
- d) Middle Level Accounting
- e) Junior Level Accounting

### **Royal Forestry Institutes**

- a) Forestry
- b) Forest Guard

### **Agriculture Training Institute**

- a) Diploma in Agriculture

## ***Technical Training***

The Royal Bhutan Polytechnic at Deothang and the Kharbandi Technical School near Phuntsohng currently carries out technical training. The Polytechnics runs a five-year programme for the training of diploma-level technicians in civil and electrical engineering. The entrance requirement for the first two years of the programme, which constitutes a pre-diploma course, is a class VIII pass. The entry requirement for the next three years, a diploma course, is a Class X pass. About 60 students are admitted each year. The Technical School runs a five-year certificate



programme for the training of skilled craftsmen in the electrical, general mechanic and auto mechanic trades. The entry Qualification for candidates is a class V pass, and the admission is about 80 students per year. In addition, training courses lasting six months to two years are conducted under the National In-plant Training System to develop semi-skilled workers in various trades as required by government departments and public enterprises. Entrance requirements vary according to the trade. The minimum entry qualification is envisaged to be a class V pass, although at present less qualified candidates are admitted to help meet immediate manpower needs.

### ***Teacher Training***

There are presently some 1,390 teachers in the formal education system. However, this figure conceals serious inadequacies in teacher training. Only about 35 per cent of the teaching staff are fully qualified, and as many as 30 per cent have had no training at all. About 50 per cent of the teachers are non-nationals on fixed term contracts. There are two teacher-training institutions in the country. The Teacher Training Centre at Paro, established in 1975, has a two-year course for pre-primary teachers. The annual intake of students at this center is about 25 per year, and the minimum qualification for admission is a Class VII pass. The Training Institute at Samchi was established in 1968 for the training of primary school teachers. Annual admission is 40-50 pupils. The minimum qualification for admission to the Institute is a Class VIII pass (this is now being raised to a Class X pass) and the duration of the course is also two years. Currently, all secondary school teachers are trained outside the country, but during the Fifth Plan period, the Government proposes to expand the institute at Samchi into a primary and secondary school teacher training college, the National Institute of Education. In addition to training new primary and secondary school teachers, the Institute will also conduct a regular programme of in-service training for existing teachers.

### ***Planning and Management of TVET***

With the continuous growth of industries and development of new technologies, the demand for trained manpower continuously increases in both quantity and quality. The country has in some areas failed to fulfil the demand and this is due to the following reasons:

- a) Continuous change in administrative level manpower.
- b) Inadequate quantity and quality of staff both in the division as well as in the Institutes.
- c) Lack of vocational guidance in schools.
- d) Inadequate data on manpower needs.
- e) Insufficient authority to act as a co-ordinating agency between the institutes and the user organizations.
- f) Inadequate training facilities in the Institutes due to budget constraints.
- g) Public impression of technical/trademark as demanding

### ***Implementation of Plan***

As a result of partial failure of Technical Vocational Education Programme, the Government has taken measures to carefully review the situation and asked the Department of Education to prepare a comprehensive Plan for the development of



vocational education and vocational training in the country and identify priority areas for investment to rapidly develop the required capacities.

### **Recommendations**

- a) Establish a National policy making body for technical and vocational education.
- b) Establish a National testing and certification body.
- c) Equip the TVE Division and the Institutes with required trained personnel.
- d) Create awareness among the general public through media and counselling.
- e) Organize meetings between the users and the institutes from time to time.
- f) Replace the Institutes training equipments with up-to-date model as fast as possible.

### **3.3. India**

In keeping with its billion-plus population and high proportion of the young, India has a large formal education system. Its target group (children and young persons in the 6-24 years age group) numbered around 411 million in 2003, or about 40% of the country's population.<sup>47</sup> The National Policy on Education, 1986 (NPE), modified 1992, lays the foundation for planning and envisages the goals in the education sector. The MDGs along with EFA are also a priority in the Indian educational policies and its emphasis on vocational training has helped foster development in the region, as evident by the IT sector.

An enlarging population, excessive internal heterogeneity in terms of ethnicity and language along with the growing economy puts India in a crucial situation. The policies devised must incorporate all these factors to ensure progress and development of the country.

#### **System of Education**

Education begins at the elementary level, which is divided into primary (class I-V) and upper primary (class VI-VIII) and is followed by the secondary level, comprising high school (class IX – X) and higher/senior secondary school (class XI – XII). Further education consists of undergraduate and post-graduate degrees as well as diplomas. Professional studies are also pursued while many other students opt for vocational education and skill development.

Education is imparted by public, private and religious institutions as well as by NGOs. The regional language is the medium of instruction at the primary stage of education in most of the states/Union Territories. However, apart from Hindi speaking states, teaching of Hindi is compulsory in most of the non-Hindi speaking states/UTs, though the classes for which the teaching of Hindi is compulsory differ from state to state as do the facilities for studying in a medium other than regional language.

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<sup>47</sup> Government of India, Ministry of Human Resource Development, Department of Higher Education



## **Review of the Education and Vocational Training System**

The educational and vocational training in India operates at all levels from pre-school to post doctoral. In the formal education system, the preschool years range from 1 to 3 followed by 10 years of high school and 23 years of higher secondary. The tertiary education is of mostly 3 to 4 years for under-graduate studies followed by Masters, M.Phil and PhD degrees. There are many Universities and institutions for the post-doctoral research and training. On the non-formal side the age group addressed 9 to 40 under two separate programmes for school age children and adults, respectively. The Open learning system has also started functioning in the country with the establishment of the National Open School and National Open University to provide the leadership and direction.

The educational structure in India is generally referred to as the Ten + Two + Three (10+2+3) pattern. The first ten years provide undifferentiated general education for all students. The +Two stage, also known as the higher secondary or senior secondary, provides for differentiation into academic and vocational streams and marks the end of school education. In some states, the +Two stage is located in intermediate, junior or degree colleges but is not regarded as a part of the tertiary stage of education.

Technical manpower in India is developed through a system of publicly and privately financed training and educational institutions, informal sector apprenticeship-type training arrangements, and the in-plant training programmes conducted by public and private sector enterprises. The formal system of technical education operates at five levels-certificates, diploma, degree, post-graduate and research degree programmes.

Certificate level programmes produce skilled workers and are operated at about 1,900 Industrial Training Institutes (ITIs) run by the Directorate General of Employment and Training (DGET) in the Ministry of Labour. Nearly 3,25,000 students are trained annually in about 140 trade areas. The entry requirement to these programmes is 10 years of basic education. Vocational education certificate level courses are offered in agriculture, business, commerce, health and paramedical, home science and humanities areas, in addition to engineering trades. Another 1,500 vocational schools offer these courses, admitting about 72,000 students annually. The National Council for Vocational Training and the Directorates of Vocational Training in the States look after the planning and operation of these programmes at the national and state levels respectively.

Diploma programmes producing middle-level supervisory staff are offered in about 950 polytechnics. Admission to this programme requires 10 years of basic education. The courses are of three years' duration in the engineering disciplines. About 20% of the polytechnics offer programmes in other fields also. In all, programmes are offered in about 90 engineering and non-engineering disciplines admitting about 1, 26,000 students annually. A few institutions conduct post-diploma and advanced-diploma programmes in selected areas.

Degree level programmes in engineering are conducted at the 5 Indian Institutes of Technology (IITs), the IISc and four technical universities, 17 Regional Engineering Colleges (RECs), a few 'deemed university' institutions and University departments



and about 350 State-level Engineering Colleges (SECs). The 5 IITs, IISc and technical universities also offer postgraduate and research degree programmes with a bias to technology development and admit about 1,300 students for research and graduate programmes each year. These are national institutions and are fully funded by the Government of India. Of the 17 RECs, 14 offer postgraduate and research degree programmes. They have an annual intake of about 5,000 for Bachelor's Degree and 1,400 for postgraduate courses. There are about 350 State-level Engineering Colleges, which mainly offer undergraduate programmes with an annual intake of about 68,000 students. About 90 of these institutions also offer post-graduate programmes with an annual intake of about 8,500 students. In addition, there are nearly 50 institutions, including the 4 Indian Institutes of Management providing management education to over 4,000 students annually.

### ***Vocational Education and Skill Development***

Secondary and higher secondary education are important terminal stages in the system of general education because it is at these points that the youth decide on whether to pursue higher education, opt for technical training or join the workforce.<sup>48</sup>

Training is imparted in 32 engineering and 22 non-engineering trades approved by the National Council for Training in Vocational Trades to young people within the age group of 15 to 25 years. Public, private and NGO run institutions are available throughout the country. Judging from the unemployed labour force, students tend to prefer general education at the tertiary level. However, general education is often given secondary preference by employers since VESD graduates tend to possess the skills necessary for the jobs without undergoing 'on-the-job training', thus saving employer resource. Therefore, currently, students need to make wiser choices in terms of what stream of education to pursue, keeping in mind the domestic labour market.

The Craftsmen Training Programme relates to theoretical training on any area of craftsmanship with little exposure to practical training. This training is being imparted in 43 engineering and 24 non-engineering trades in order to reduce unemployment among the educated youth by equipping them with suitable skills for industrial employment.<sup>49</sup>

There are three major types of vocational education and training programmes. Technical industrial arts and crafts schools offer a vocational subject alongside general education. Higher secondary vocational education prepares students for occupational work, whether self-employed or wage employment. The third type, technician education, consists of both engineering and non-engineering courses preparing the students for employment in the organized sector.

The vocational education stream is quite small enrolling less than three percent of students at the upper secondary level.

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<sup>48</sup> Government of India, Planning Commission, 10<sup>th</sup> Plan, volume 2

<sup>49</sup> Government of India, Planning Commission, 10<sup>th</sup> Plan, volume 2, p.50

### ***Vocational Training***

On the supply side community Polytechnics, training about 450,000 people a year within communities, Jan Shikshan Sansthan offering 255 types of vocational courses to almost 1.5 million people, mostly women and the National Institute to Open Schooling (NIOS) offering 85 courses through over 700 providers recognized by the NIOS.

Outside of institutions, training in the informal sector is provided through traditional apprenticeships but they have significant weaknesses. More young people acquire competence through traditional (informal) apprenticeships to about 50-70 percent employees in micro-enterprises. These apprenticeships are based on traditional technologies and ideas from previous generations, and the quality of training is only as good as the skills of the master and the master's willingness and ability to pass on those skills. The theoretical aspect of learning is weak or absent; only the simplest skills are learnt, resulting in low quality products.

There are significant differences between public and private provision of training. Only about 15 percent of students are enrolled in engineering-related trades, compared to over to 80 percent in ITIs/ITCs. The average duration of courses is also shorter than ITIs/ITCs and student teacher ratios are significantly higher. While some institutions receive funds from the government, most are financed through fees.

In India, vocational education falls under the charge of the Ministry of Human Resources Development (MHRD). The Ministry oversees vocational courses being offered in school Grades 11 and 12 under a Centrally Sponsored Scheme called 'Vocationalisation of Secondary Education' since 1988. Only the schools affiliated to Central Board of Secondary Education (CBSE) offer the courses in accordance with the Board's Scheme of Studies and the course structure. The courses are of two-year duration and cover 6 major disciplines. Vocational education streams are aimed at preparing students for entry into the labour market. There are 6800 schools, almost all in the public sector, enrolling close to 400,000 students in the vocational education scheme – utilizing just 40 percent of the available student capacity in these institutions.

The vocational education courses offer a total of over 100 courses in various areas – dairying, farm machinery & equipment (Agriculture), accounting and auditing (Business and Commerce), electrical technology, air conditioning and refrigeration (Engineering and Technology), X-Ray technician, health care and beauty culture (Health and Para Medical), and preservation of fruits and vegetables, food services and management (Home Sciences and Humanities).

Vocational training in India broadly refers to certificate level crafts training and is open to students who leave school after completing anywhere from grades 8-12. Programmes administered under the Craftsmen Training Scheme (CTS) are operated by Industrial Training Institutes (ITIs) and Industrial Training Centres (ITCs). This scheme falls within the purview of the Directorate General of Employment and Training (DGET), under the Ministry of Labour and Employment (MOLE).



Students are selected into the vocational stream on the basis of state-level standardized examinations in Grade 10. While a comparison of student performance in this examination for those going into different streams has not been done, the premium placed on general secondary and higher education by students and their parents, students joining the vocational system generally are those who perform poorly in the Grade 10 examination.

At a higher level, the technical education and vocational training system in India produces a labour force through a three-tier system:

- Graduate and post-graduate level specialists (e.g. Indian Institutes of Technology (IIT) and engineering colleges) trained as engineers and technologists.
- Diploma-level graduates who are trained in polytechnics as technicians and supervisors.
- Certificate-level craft people trained in ITIs as well as through formal apprenticeships as semi-skilled and skilled workers.

There are two notable training programmes under the auspices of the Labour Ministry for primarily skilled workers for the organized industrial sector.

### ***Training for Crafts Level Occupations***

Certificate level crafts training provide training to about 400,000 places a year. It is open to 5 million or so students a year who leave school after completing Grade 8-12. About 80 percent of the students take admission in engineering courses, and the remaining in the non-engineering trades. Programme administered under the Craftsmen Training Scheme (CTS) are operated by Industrial Training Institutes (ITIs) and Industrial Training Centers (ITCs). Students who eventually complete crafts courses sit for an All India Trades Test, conducted under the aegis of the National Council for Vocational Training (NCVT) but administered by the States. Individual states administer tests for state-approved trades that are not affiliated with the NCVT. Successful students receive a National Trade Certificate (NTC).

The CTS operates through 5253 ITI/ITCs with places for 740,000 students, mostly in two-year courses. The craftsman training is offered in nearly 5000 government run or privately managed Industrial Training Institutes. There are, in all, 64 trades of which 38 belong to the engineering group. The graduates of these courses find placement in organized public and private sector industrial and business establishments. Some of them go for self-employment also. The ITIs offer both X+ and VIII+ level courses in nearly equal numbers. Most of the courses range in duration from one to two years.

The National Council of Vocational Training is the supreme coordinating and policymaking body, which awards certificates to students on completion of courses. The curriculum is highly practice oriented and the elements of general education are kept at minimum. An ITI graduate is not eligible for university education. Enrollment numbers have increased from less than 10,000 in the early 1950s to over 700,000 at present. This growth has been fuelled mainly by the growth in the number of ITCs. There are two types of institutions:

- ITIs – financed and managed by state labour ministries and providing places for about 400,000 students in 3,358 institutes.

- ITCs – owned, financed and managed by private organizations or NGOs and providing placed for about 340,000 students in 1,895 centers. The state governments have no direct control over the functioning of these institutions, they are accredited to either the NCVT or and SCVT.
- Other training institutions that are privately owned or managed by NGOs but are not accredited to either the NCVT or an SCVT.

Table 26 below gives the details.

**Table 26: Number and Capacity of ITIs and ITCs, 2005**

	Total All India	
	Number of Institutions	Total Capacity
Total	5,253	738,098
ITIs	1,895	396,712
ITCs	3,358	341,386
Capacity per Million Population		
Total		719
ITIs		387
ITCs		332
Ratio of private to public		
Institutes		1.8
Seats		0.9

Source: DGET, data are as at January 2005.

### **Higher Secondary Vocational Education**

The higher secondary vocationalisation programme aims to develop skilled manpower through diversified courses to meet the requirements of mainly the unorganized sector and to prepare people for the world of work in general through a large number of self employment oriented courses, not precluding wage employment orientation of many courses. Through diversification into production and service-oriented courses, it is desired to reduce the aimless pursuit of higher education and thereby reduce pressure from the tertiary education. There were more than 150 courses in different states, which are grouped under the major areas of agriculture, business and commerce, engineering and technology health and para-medical, home science and humanities. The design consists of theory and practice relating to the vocational field, related subjects, language and general foundation studies, which includes entrepreneurship. There are more than 5,000 full time teachers teaching these courses.

### **Technical Education**

This sub-system consists of a well-knit chain of polytechnics, which provide broad based education in engineering as well as some non-engineering areas. The minimum qualification for entry into a polytechnic is grade X certificate. The courses are generally of three-year duration but a few range between two to four years. There are nearly 500 polytechnics with the annual admission capacity of 65000. The training is mostly institutional (with some industrial experience), the curricula predominantly theory oriented and location mostly urban. They aim to meet the manpower needs of the organized sector.



### ***Apprenticeship Training Scheme***

The scheme aims to regulate the programme of training of apprentices in the industry so as to conform to the prescribed syllabi of the Central Apprenticeship Council and to utilize fully the facilities available in the industry for practical training with a view to meet the requirement of skilled workers in industries. There are four categories of apprentice programme: Graduate Apprenticeship for engineering graduates, Technician Apprenticeship for diploma holders from polytechnics, Trade Apprenticeship for the graduates of ITIs and Technician (Vocational) Apprenticeship for the graduates of higher secondary vocational courses. There are 71 subjects and 12,000 technician apprentices training at a time. The technician (vocational) apprenticeship is a recent inclusion with only twenty designed areas so far, with the expansion of trade list expected in near future. The trade apprenticeship programme has an intake capacity of over 190,000 of which about 150,000 are actually utilized. There are 140 apprenticeable trades, which run for durations of one to four years. Appropriate rebate is allowed for the graduates of the craftsman-training scheme. The Central Apprenticeship Council awards certificates to the graduates on successful completion of the training.

In addition to the two major training programmes presented above, the Ministry of Labour also runs advanced vocational training system and vocational training programmes particularly for women in separate institutes.

### ***Labour Market and Employment Situation***

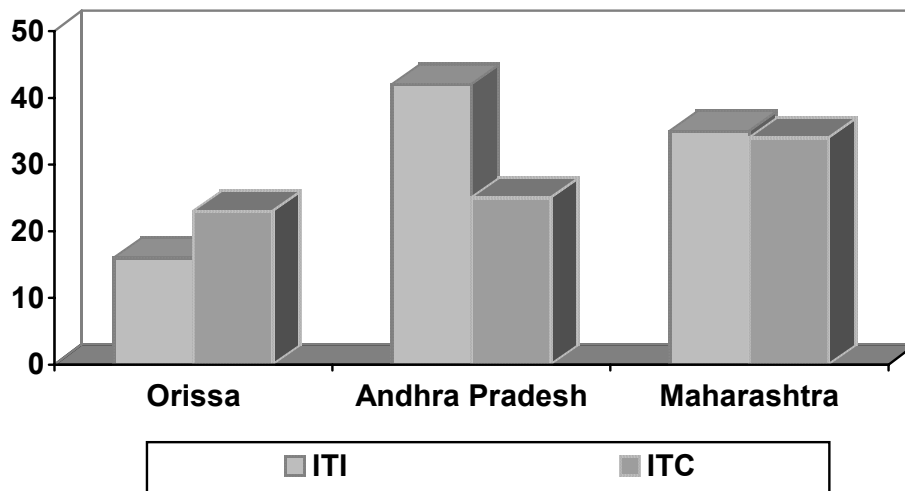
Over 90 percent of employment in India is in the 'informal' sector, with employees working in relatively low productivity jobs. In the sector, both demand as well as supply-side constraints has inhibited skills development. On the demand side, few employees see the importance of skills training. Many identify lack of access to capital, cumbersome bureaucratic bottlenecks, and lack of access to quality equipment as their main challenge.

Even three years after graduation, over 60 percent of all graduates remained unemployed. Although a significant proportion of apprentices find employment, close to two-thirds is not employed in the trade for which they were trained – a third of these had been trained in obsolete trades. There appear to be three reasons for this: (a) limited growth and labour demand in the manufacturing sector, (b) mismatch between the skills attained and those actually in demand, and (c) mismatch between the skills taught and the graduates' own labour market objectives.

In most cases, graduates from the vocational streams did not suit employer's needs. Most employers felt that ITI graduates did not perform well enough in the use of computers, practical use of machines, communications and teamwork practices. Employers also felt that graduates lack practical knowledge and need significant on-the-job training to bring their skill levels to match the needs of the industry.

According to the study, employment of ITI/ITC graduates in the organized sector is very low. In none of the states did more than 50 percent of the graduates find wage employment, or become self-employed, or work in a family business (Figure 13). Unemployment rates were high in Andhra Pradesh, compared to Orissa and Maharashtra.

Figure 13: Employment of ITI and ITC Graduates in 3 States



Source: ILO 2003.

The DGET study compared the ratio of graduates from public and private training institutions to the number of people currently employed in different trades in the organized sector. For a large number of trades, this ratio was over 0.5 – implying that every year training institutions were turning out over half the stock of trade workers in the organized sector. This implies that graduates in many trades would have to find employment in the unorganized sector or, if they were not willing to do this, find themselves unemployed, mainly because of the following reasons<sup>50</sup>:

- Rapid developments in technology have made many occupations and trades – such as turners, machinists and grinders, and draftsmen, - obsolete, while others need to be modified.
- Many traders have lost their relevance in the face of automation. Engineering trades (fitting, electronics, electrical and mechanical, welding, tool and die-making, and turning) are in high demand from students but syllabi are out-dated and trainers are out of touch with changes in technology and work organization.
- Courses should not be based on narrow specializations. Technicians need to be trained through integrated courses dealing with two or more skills and be capable of managing three or four operations at a time.

### ***The Role of NCERT in TVET***

The National Council of Education Research and Training (NCERT) is concerned so far only with the Higher, Secondary and Vocationalisation programmes in formal schools. Its Department of Vocationalisation of Education<sup>51</sup> is the nodal agency for all aspects relating to curriculum development, staff development, research, evaluation and monitoring and international contacts. The scope of the Department extends over the entire country but it has only an advisory and guiding role to perform. Having attained sufficient experience and expertise the department is now actively associated with the development of various types of vocational courses for the under-graduate stage of education under the auspices of the University Grants

<sup>50</sup> World Bank 2002.

<sup>51</sup> which is in the process of being converted into a Central Institute of Vocational Education?



Commission. In relation to the vocational training component under the Ministry of Labour the NCERT is represented on the National Council of Vocational Training which is the apex decision making and coordinating body for its institutions throughout the country. Similarly, in respect of Technical Education Programme, the NCERT is represented in the All India Council of Technical Education, a statutory body to look after technical and management education in the country. The NCERT is also directly involved with the programme development of the Indira Gandhi National Open University and National Open School.

### **TVET**

The contact mode and the closed system delivery is, still by far, the most prevalent modality while significant beginning has been made through the national open learning institutions. The programmes generated by NCERT which are taught in more than 5000 higher secondary schools as well as those in polytechnics and industrial training institutes, all use the contact delivery mode. However, the technical support institutions for all the above categories of institutions have accepted the significance of multi media approach in general and distance learning model in particular for imparting technical/vocational education and training. With particular reference to the higher secondary courses, the NCERT has developed some teaching-learning video films in electronics, automobile repairs and indigenous handicrafts such as tie and dye, Kat weaving etc. Sufficient stock of such materials is being built before schools are encouraged to use them for self-paced and individualized learning.

The extent of post secondary TVET programme is not precisely quantified in India. A rough estimate would put the number as being close to a million in all programmes of one to three years duration. This number is more an indicator of the scale of operation rather than a statistical compilation. Broadly speaking, about 25 to 30% of the age cohort going to various types of education and training institutions may be estimated to be under TVET. This, however, does not include various formal or informal apprentice mode of learning or enterprise based training. The numbers would be fairly large but it would be proper to risk an estimate.

According to the Constitution of India, the central government and the state governments share responsibility for vocational training. The DGET is the nodal department for formulating policies, laying down standards and other technical requirements for vocational training. It also governs a number of specialized training-related institutions. The ITIs, both public and private, operate under the general guidance of the DGET.

The management of the system is shared between central and state authorities – the National and State Authorities for vocational training – the National Council of Vocational Training (NCVT), and State Council of Vocational Training (SCVT). NCVT a non-statutory body – operate as advisory institutions. The most important NCVT functions involve: establishing and awarding National Trade Certificates in engineering and non-engineering trades, prescribing standards for syllabi, equipment, space, duration of courses and methods of training; arranging trade tests and laying down standards of proficiency required for the National Trade Certificate; recognition of training institutions for the purposes of issuing National Trade Certificates and laying down conditions for such recognition. The State Councils for

Vocational Training (SCVTs), as well as Trade Committees have been established to assist the NCVT. They advise the state government on training policy matters and are supposed to co-ordinate vocational training in each state.

Vocational training devotes 70 per cent of time to practical instruction while the rest is theory. The Central Staff Training and Research Institute (CSTARI) at Kolkata are responsible for preparation of draft curricula and their revision from time to time. The DGET's Curriculum Development Section coordinates this work. It scrutinizes draft curricula and obtains approval of the NCVT. The periodicity of revisions depends on the technological changes taking place in industry in each trade. Generally, the introduction or revision of curriculum is based on recommendations made by NCVT. This should be done in consultation with relevant trade committees whose members are drawn from industry, technical institutions and DGET institutes.

While different authorities have clearly specified functions on paper, there is little coordination between them leading to diverse accountability. There is often a duplication of effort with different agencies often performing the same functions. Institution managers have little freedom to fill places to capacity, replace training courses with new ones, and ensure the students receive quality training.

### ***Financing for Vocational Education***

Vocationalisation is costly, primarily because of smaller classes and the greater cost of facilities, equipment, and consumables. In comparison to non-laboratory academic subject the operational cost of vocational education is twice.

Funding for vocational education is shared between the central and the state governments. The Central Government provides all the funds for 11 components – such as textbook development, workshops, resource person training and curriculum development workshops. It meets 75 percent of the cost of vocational staff, and 50 percent of the cost of operating the vocational wings of the state directorates of education, district vocational wings, provision of raw materials, and field visits by students. The state governments bear the cost of examinations and vocational guidance.

The public funding for vocational education and training is ad hoc. It is not based on any funding formula. Although the resources available to the states are limited, no state seems to follow a transparent funding formula in funding vocational education or training. Once an institution begins to receive funding, subsequent funds are guaranteed irrespective of institutions performance. The same levels of finance are allocated to poorly performing institutions with high dropout rates as to those that maintain a high quality of teaching and performance.

Training providers have insufficient interest in their financial state of affairs. The respective governments retain student fees and providers have not financial incentive to meet labour market needs, a common failing of supply - driven models of VET.

Funding is narrowly focused on publicly provided training. Almost no attention is paid to using financing as an innovative means to encourage either good quality public training, private training or as a way of providing incentives to enterprises to train



their workers. It is difficult to obtain data on financing of both vocational education and training. State level finance data on vocational education are usually reported together with data on general secondary education, while finance data on vocational training are reported together with data on other training. It is extremely difficult to disaggregate the financial data. In addition, vocational education and vocational training do not fall under the ambit of Ministry of Human Resource Development (MHRD) and MoLE in many states and comparability of data across agencies is difficult. On the basis of scanty data, the total public funding for vocational education is around US\$ 40 million a year, while for vocational training around US\$ 250 million annually.

Some 17 ministries and departments are involved in the provision and financing of vocational education and training in India with total annual training capacity of about 2,800,000 students. But as with many matters managed by the government the vocational training system is full of superlatives and potential on the one hand, and inefficiency on the other.

There are considerable imbalances and variations amongst these various types of institutions in the average annual recurring cost per student and in the quality of the graduates they produce. For example, for the degree programmes, the annual recurring cost per student ranges between Rs. 15,000 and Rs. 60,000 in the well-established institutions of different types. However, in some institutions with inadequate facilities and faculty the unit cost is much less. The annual recurring cost per student for engineering colleges has been worked out at Rs. 11,916 at the 1988 price levels. These are based on somewhat liberal norms. If an annual increase of 5 to 10 percent is allowed for, this figure works out to Rs. 29,000 in 2004. These figures are bound to escalate at a much faster rate due to several reasons such as rapid obsolescence of laboratory equipment; emergence of expensive high-tech instrumentation, machinery and equipment; and the phenomenal increase in cost of books, journals and annual maintenance of sophisticated and proprietary equipments and components.

A comparative study of a small sample of ITIs and ITCs illustrates (Table 27) that ITCs spend a much lower proportion of their resources on salaries than it is – which could imply that they use their resources more efficiently – the reality is that they are understaffed, with teachers who lack experience (only 30 percent have at least five years experience as against 80 percent in it is) or training (25 percent versus 74 percent respectively). Furthermore, while ITCs spend a greater proportion of resources on teaching learning materials and maintaining facilities than ITIs, expenditure on these items is still low.

**Table 27: Percentage Expenditure on Different Inputs in ITIs and ITCs**

Inputs	ITIs	ITCs
Salaries		
Teaching staff	65.8	47.4
Non-teaching staff	26.2	13.8
Utilities	2.8	8.2
Maintenance	0.2	3.8
Teaching/Learning Materials	4.8	9.6

Source: DGE&T (various years)

The funding model used by states is largely ineffective. Despite limited resources allocated by the state for skilled development and vocational training, no state seems to follow a transparent funding formula in funding vocational education or training. The respective state government retains student's fees in ITIs and the institutional functionaries have no financial incentive to meet labour market needs. Although unit costs are high, expenditure on critical training inputs remains low as the majority of the funds are spent on salaries.

Key problem faced by private training providers include lack of access to resources – access to credit, and financing of initial investments in the private training centre as key constraints to setting up training centers with adequate facilities, and in upgrading centres. While the level of regulations are not uniform across states, in many cases private providers complain about excessive government bureaucracy in the registration of training institutions, as well as in accreditation and certification of courses provided.

### **Recommendations**

The NCVT could be transformed into an independent coordinating authority for vocational training. A clear demarcation needs to be made regarding the functions of DGET, NCVT and the SCVTs and an effective coordination mechanism between these agencies needs to be developed.

A key role of NCVT and SCVTs should be in the provision of information and facilitating the evaluation of training provided in institutions on the quality of training available, and facilitating regular and independent evaluations on the impacts of training programmes.

At the institutional level, involving private sector in management is going to be critical if institutions are to be responsive to labour market needs. Similarly, involving employers in management will only yield positive results if state governments are willing to provide institutions with greater autonomy and make them more accountable for performance.

For many public sector training providers, inadequate funds are the main problem but there is far more to it than that. Simply making available more funds is not enough. It is important that:

- Funds should be used to develop demand-driven systems and should avoid perpetuating supply-driven models.
- Funds should be stable and sustainable.
- The basis for allocating funds to institutions or to systems should be transparent and widely known and understood.
- A wide range of training providers should be allowed to compete for funds.
- Funds raised from sources other than the government should not be diverted to government revenues and spent for other purposes.
- Industry-managed bodies should administer funds. Employers, through their associations and individually, should be involved in making decisions about the allocation of funds at all levels.
- All the Beneficiaries of VET, the government, employers and trainees/students should bear some of the cost of training.



Resources to institutions must be allocated on the basis of some transparent funding formulae based on measures of inputs, outputs/outcomes or both. Output targets can be defined in absolute terms (e.g. number of course completions, pass rates on examinations) or in relative terms (e.g. years to completion). Outcome targets measure the success of training providers in meeting labour market needs (e.g. job placement within a reasonable time).

Competition for funds, between public and private providers, will lead to improved institutional performance. Funding needs to be linked to some input or output based criteria and accredited public and private providers should be able to compete for these resources. Competition for resources leads to a reduction in costs for training among competing institutions while also leading to positive labour market outcomes. For this it is important that:

- Industry and employers and other resource providers to be equal partners in education issues.
- All vocational training to be demand driven.
- Best of practice ideas to be identified and implemented into NVTs.
- Open access to employment by requiring the full removal of gender barriers.

### **3.4. Maldives**

In 1975, the Government of Maldives with international assistance started vocational training at the Vocational Training Centre in Male. The training covered electricity, engine repair and maintenance, machinery, welding, and refrigeration. Trainees were chosen from fourth and fifth grade students. In the atolls, the Rural Youth Vocational Training Programme provided training designed to meet local needs in engine repair and maintenance, tailoring, carpentry, and boat building. On the island of Mafuri on Male Atoll, a large juvenile reformatory also offered vocational training. Established by the Ministry of Home Affairs in 1979, the reformatory provided training courses in electrical and mechanical engineering, carpentry, welding, and tailoring, as well as a limited primary school academic curriculum. In the later half of 1993 work began on the Maldives Institute of Technical Education to help eliminate the shortage of skilled labour.

The high literacy rate of Maldives, 98% – among the highest of all Least Development Countries (LDCs) – masks the critical shortage of skills existing in Maldives.<sup>52</sup> Even with a ‘seemingly’ literate population, the fact that secondary school education is not attained and only basic numeracy and literacy skills are acquired; the Maldives continues to rely on foreign skilled labour. The physical nature of the country where small islands cluster to form groups known as atolls also hampers the situation in terms of access and feasibility. Nevertheless, education remains a top priority for the government and this is revealed by its policies and education budget.

#### ***System of Education***

The system of education in Maldives is simple and small. The atoll configuration and dispersed population often makes it hard to sustain a school. However, Atoll Education Centres (AECs) and Atoll Primary Schools (APSs) were established to provide universal access at least at the primary level and therefore, every island of

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<sup>52</sup> UNDAF

the nation (199) currently has its own primary school. Overall formal education for Maldivian is provided at the primary and secondary levels, up to the London G.C.E Advance Level. Tertiary education, in the form of colleges and universities, is not available on the islands and students must go overseas to attend them. Vocational education and skill development opportunities are present but to a very limited extent and scope.

### **Vocational Education and Skill Development**

To eliminate/minimize reliance on expatriate workers, Maldives emphasizes VESD in its Fifth Plan. Assisted by the Asian Development Bank (ADB), the government has initiated an employment skills training scheme to increase the size of the labour force. Employment-oriented skills training in various occupations are being planned and provided to make Maldivian more attractive to employers. The in-country capacity to deliver competency-based skills training will be strengthened. The government is also initiating the preparation of a new legal education framework to support provision of education for all, and to make postsecondary education more affordable to students within the framework of sustainable financing for education.<sup>53</sup>

The Maldives' failure to adequately utilize its human resources potential is a key constraint to development. Untapped human resources also exist – there are large numbers of youth outside the labour force. In 2000, 77% of the cohort 15-19 was not in the labour force; reason were lack of access to skill training, limited range of training, overall and in particular to women, island residents.<sup>54</sup>

Maldivian attaches great importance to training and education. As such, 7 percent of the GDP and 19.5 percent of the total public expenditure is spent on education and training. The most important objectives of education policy are:

- Expanding and improving knowledge and skills base through appropriately institutionalising vocational education and vocational education.
- Improving access to basic education
- Equitable access to appropriate learning and life skills. Ensuring that young people's learning need is met through equitable access to appropriate learning and life skills programme. Life skills programme conducted for out of school youth Vocational technical programmes being piloted as a support programme in selected secondary schools courses being developed.
- Continuous pre-service teacher training programmes- advance certificate to degree level
- National assessments and developing zonal administration of schools locally developed teaching and learning materials
- Monthly news letter "Jama athuge khabaru" and distributed as reading material for public.
- Conducting pre and in-service teacher training mass media campaign carried out on going media programmes on creating awareness among general public Pilot project to include Psychosocial activities in community

<sup>53</sup> Asian Development Bank, Country Strategy and Program Update, Maldives, 2005-06

<sup>54</sup> Johanson, Richard, "Technical Education and Vocation Training Strategies in Asia Region," 2004, p. 74



based programmes and health posts conducting teacher training from certificate to advance certificate in Early Childhood Development.

The Maldives has made significant progress in recent years. Gross domestic product (GDP) more than doubled during the decade ending in 2004, and all key social indicators made notable progress. Economic progress, however, has been uneven and regional income disparities have widened. The disparities were further accentuated by the devastating impact of the December 2004 tsunami which damaged infrastructure, enterprises, and means of livelihood.

The economy is service-oriented, with 80 percent of GDP in 2004 supported by tertiary sector activities—tourism (33 percent), transport and communications (15 percent), wholesale and retail trade (4 percent), financial (3 percent), real estate (8 percent), other business services (3 percent), government administration (12 percent), and social services (2 percent). The private sector accounted for about 60 percent of GDP in 2004 and roughly two thirds of domestic employment. The main sectors, including tourism, fishing, and telecommunications, are dominated by a few large companies. SMEs and micro enterprises are mainly informal and concentrated in small trade and low-end manufacturing, characterized by meagre value addition.

Although the private sector presence is encouraging in the tourism sector, and the fishing and telecommunications sectors which have opened up recently, an enabling environment for the private sector in general, and for SMEs in particular, is required across the economy. The absence of a coordinated strategy and framework that links policies, laws, and institutional support, and enhances access to finance, skills, and markets, impedes the contribution of Private Sector Development (PSD) and SME development to economic growth and job creation. Inadequacies are most obvious in ownership and property rights, access to finance, skills availability, registration, and licensing. The significant presence of the public sector and state-owned enterprises in commercial activities also affects PSD and SME development.

While the active labor force constitutes about 55 percent of the total population, and in accordance with the 2000 census the unemployment rate is about 2 percent, skills that could enable equitable participation in economic growth are lacking. Educational and vocational institutions have not inculcated enterprise as a career option or provided appropriate business orientation and support skills. Hiring more expatriates to solve the skill mismatch raises the cost of doing business. In addition, the labor market is inadequately regulated.

Trade and manufacturing sectors offer opportunities for SME development. However, the trade sector already has a concentration of competitive SMEs. The manufacturing sector other than fish processing, primarily consists of a few modern foreign-owned garment factories and other small businesses.<sup>9</sup> Thus, the challenge is diversification and identification of further opportunities, particularly those that will support growth in the atolls. However, business development services (BDS), including financial, marketing, and skill development services,<sup>10</sup> which could facilitate diversification and help mitigate the skill deficit through demand-based capacity development, do not target SMEs' needs and are not affordable, if offered at all. The lack of BDS is felt acutely in fisheries and agriculture, which support a large part of the country, particularly where the tourism has not yet reached or is unlikely to reach.

Both sectors are key pillars of the Government's plan for domestic investment and job creation.

### Recommendations

- i) Continue invest in technical education
- ii) Invest in the marketable skills
- iii) Increase access to technical education
- iv) Encourage private sector in investment in VESD
- v) Promote public private partnership in VEST

## 3.5. Nepal

### Review of Education and Vocational Training

Nepal's education is structured into 2 components: School and Higher education. School education covers pre-primary, primary (grades I – V), lower secondary (VI – VIII), secondary levels (IX – X) and higher secondary (XI – XII) levels. Higher education is referred to tertiary education which includes undergraduate and post graduate studies.

Officially, there are two types of schools in the country – community (public) and institutional (private or NGO run). The distinction is made with regard to the source of funding; community schools receive regular governmental grants and institutional schools do not. A third category can be identified in which local communities run their own schools funded by private sources as well. However, these schools are not financially sustainable despite being more 'community' oriented. All universities, except one, are also government funded.

In order to produce a low to mid-level skilled and technical workforce, there exists a small technical and vocational stream of education. A Council for Technical Education and Vocational Training (CTEVT) coordinates and manages the technical education in the country. Various short-term as well as long-term training programmes leading to certificate and diploma are conducted in different subject areas in the constituent and affiliated technical training centres or schools across the country. Affiliated technical schools are managed mostly by the private sector. Presently, there are over 100 private and nine public technical schools in the country. Details are given in Table 28 below.

**Table 28: Technical & Vocational Education**

#### Technical and Vocational Education:

Number of institutions affiliated to Council for Technical Education and Vocational Training (CTEVT)

- 110 Technical SLC (TSLC) level private training institutes
- 73 polytechnic institutes
- 34 short-term training institutes

S. No.	Program	Public			Private			Total
		Diploma 6 Institution	TSLC 26 Institution	Short Course 32 Institution	Diploma 73 Institution	TSLC 110 Institution	Short Course 34 Institution	
1	Agriculture	30	393		240	520		1183
2	Health	132	257		2743	5050		8182
3	Engineering	102	857		1200	920		3079
4	Others		62		576	520		1158
	<b>Total</b>	<b>264</b>	<b>1569</b>	<b>4000</b>	<b>4759</b>	<b>7010</b>	<b>4000</b>	<b>21602</b>

Source: Council for Technical Education and Vocational Training (CTEVT)



Technical skills and vocational education in Nepal are focused on the basic and medium-level manpower production to meet the needs of different development programmes implemented in various parts of the country. Short-term training will be developed, focused to the basic skill needs of the people, particularly in the villages, to enable them to implement the basic development programmes for their areas.

One of the important endeavours of Nepal has been to provide contemporary knowledge and skills needed for better living in the ever-changing world. In this regard, the Eighth and the Ninth Plans have clearly emphasized the mobilization of all aspects of education, including formal education, continuing education, the open learning system and vocational education. The goals of the National Plan of Action, the Eighth Plan and the Ninth Plan are shown in Table 29.

**Table 29: Life Skills and Vocational Education Targets of NPA**

NPA	Eighth Plan (1992-1997)	Ninth Plan (1997-2002)
<ul style="list-style-type: none"> <li>○ Make basic and primary education more functional and life-skills oriented.</li> </ul>	<ul style="list-style-type: none"> <li>○ Prepare basic and middle-level human resources in the areas of agriculture, health and construction</li> <li>NFE programmes for adults will focus on basic knowledge and skills regarding agriculture, health, cottage industry, environmental protection and population education.</li> </ul>	<ul style="list-style-type: none"> <li>○ Preparation of basic and middle-level human resource will be made more flexible and more in accordance with market needs.</li> <li>○ The private sector will be encouraged to run skills-training vocational education programmes.</li> </ul>

Source: NPA (1992), Eighth Plan and Ninth Plan

Eighth Five Year Plan objectives focused on utilizing education as a means of enhancing the capabilities of people as producers. The Eighth Plan emphasized:

- a. increased technical and vocational training facilities; and
- b. making the curriculum more relevant to the actual needs of the economy, e.g., emphasizing agriculture, environment, health, nutrition, inculcation of the work ethic, etc.

Based on the experiences of the Eighth Plan period, the Ninth Plan emphasized the need to make skills training and vocational education more flexible and more in accordance with market needs. It also emphasized the need to enhance the involvement of private sectors in running skills training and vocational education programmes.

Life skills are incorporated into the school curriculum in different forms at various levels. At the primary level, it is in the form of making the children aware of the surrounding environment and better ways to living. At the secondary level, it is in the form of work ethics and orientation to various areas of skills training and vocational education. Vocational education is offered as an optional subject at the secondary level.

To provide vocational education and training, the CTEVT was formed in 1989 to formulate policies, ensure quality monitoring and provide services to facilitate technical education and vocational programmes all over the country. The council has

set up nine technical schools to cover the needs of all the regions of the country. The target was to expand the number to 20 . Soon after the government made a policy of promoting the private sector in technical education, 118 technical schools were opened by private enterprises in affiliation with CTEVT. These private technical schools run short-term technical courses in various areas.

During the Eighth Plan period, 2,595 long-term training courses and 2,034 short-term training courses were envisaged under CTEVT. The Ninth Plan period envisages 5,000 long-term training courses and 20,000 short-term training courses.

### **Council for Technical Education and Vocational Training (CTEVT)**

The CTEVT is the policy formulation and coordinating body for Technical Education and Vocational Training (TEVT) programs in Nepal, which was constituted in 1989 (2045 BS). The CTEVT is a national autonomous body committed to the growth and development of basic and middle level workforce. It has an assembly with 24 members and a governing board of seven members. The Assembly and the Council are both chaired by Minister of Education.

### **Objectives**

The primary objective of CTEVT is to facilitate the growth and development of basic and middle level skilled workers who can then develop their own enterprises or find employment in either the private or public sector.

The programs and activities of CTEVT are designed to fulfil the following objectives:

- To develop policy, coordinate programs and to provide the necessary technical services and support to both public and private training institutions so that training is need-based, effective and as efficient as possible.
- To encourage the growth of training providers through services and support which will help them to be developed into a reputed institute for producing skilled work force?
- To increase the number of qualitative trainees, especially women and others representing underprivileged groups, from both government as well as private training programs. Such trained work force is expected to meet the demand of the nation and at the same time compete in the foreign labour market.
- To ensure the quality of middle and basic level TEVT training, so that it generates self-employment, wage employment, foreign employment and ultimately improves the quality of life.
- To design a nation- wide, labour market information system for providing career counselling and guidance so that problems of educated unemployment can be reduced.
- To implement a continuous nation wide needs assessment to ensure that all the training programs in the country are need-based and there is highly probability that the trained workforce is absorbed into the labour market.
- To make the graduates well aquatinted with the real work environment by ensuring the involvement of the business and industry in the TEVT sector, basically through the apprenticeship training.
- To make the graduates well accepted by the business and industry.



The CTEVT has set the following goals:

- a) Ensure organizational stability and continuity.
- b) Develop policies for managing TEVT sectors.
- c) Coordinate TEVT stakeholders for enhancing efficiency, Effectiveness and responsiveness.
- d) Provide services to TEVT sector and maintains quantity of its programs and senesces.
- e) Increase the reliance through income generating activities.
- f) Prepare competent workforce for TEVT sector.
- g) Promote training as the basis of employment
- h) Brocade the access and equity in TEVT activities.
- i) Encourage participation of business and industry in TEVT activities.

### **Divisions of CTEVT**

There are ten divisions through which CTEVT's activities are carried out. A director is assigned to each division to oversee its specific responsibilities. Similarly, each division is supported by professional and administrative staff. The primary responsibilities of the ten divisions are summarized below:

- Research and Information Division conducts follow-up, tracer, feasibility and needs assessment studies, and other research activities related to technical education and vocational training. This division is involved in manpower needs assessment and in determining employment status. The process of developing database information is also a function of this division. It also helps others supplying information related to TEVT.
- Planning and Administrative Division is responsible for all physical property, fiscal and personnel matters relating to CTEVT and its institutions.
- Technical Division is responsible for regular supervision of institutional programs.
- Curriculum Development Division has the responsibility of approving all curricula to be used within the TEVT system. The division will advise and assist other agencies and will be engaged in curriculum development activities for CTEVT institutions. This division is also responsible for maintaining the database of curricula and instructional materials for sharing with other agencies and organizations.
- Examination Division has the primary responsibility of ensuring quality control for TEVT. The division grants recognition and accreditation to the institutions meeting established minimum standards.
- Skill Testing Division has the responsibility of certifying the skill level of individuals within the technical manpower sector regardless of whether they have been trained formally or not. The division does this by developing skill standards for the various occupational levels. The work of this division focuses primarily on pre-SLC (basic and lower level) manpower. However, the division is also developing appropriate higher level tests. Conducting National Skill Competitions in various occupational areas to encourage excellence is also an activity of the division.

- Accreditation division has responsibility of ensuring quality control of private technical Institutions. It also provides equivalency and temporary affiliation to the training programs.
- Polytechnic Division is responsible for all polytechnics, which are established under CTEVT. The division will coordinate with similar type of polytechnic institutes run under universities. It assists in need assessment for short and long courses.
- Vocational Training and Community Development Division is responsible for the activities of all VTCD institutions running under CTEVT and coordinates with similar type of private institutions.
- Policy Formulation and Long Term Planning Division is responsible for formulating the overall policy of CTEVT, makes the long term, strategic and operational planning, monitors and evaluates the programs and activities running under CTEVT.

### ***CTEVT Institutions***

Presently, CTEVT is responsible for the operation of 4 different kinds of training programs. These are the programs in technical schools, programs in technical instructor training institutes, programs in Polytechnics and programs in vocational training and community development institutions. In addition, CTEVT is responsible for certifying other training programs.

### ***Training Institute for Technical Instruction (TITI)***

The Training Institute for Technical Instruction (TITI) was established as Nepali national institute in 1991 under an agreement signed in 1991 with the mission to 'improve the quality of technical education and vocational training of Nepal' under the act of CTEVT. A career ladder of training, both pre- service and in -service is being developed to meet the needs of the TEVT sector. The ultimate aim of TITI is to cover the nation wide training needs of technical school management and administrative staff at various levels in technical schools and other vocational training programs. TITI provides training for technical instructors and managers, and occupational curriculum development specialists through regular programs and modules or through customized trainings.

### ***Vocational Training and Community Development (VTCD)***

Two VTCD programs have been established in Nepal. These programs are designed to provide training especially for rural people and these programs are known as Rural Training Centers (RTCs).

### ***Rural Training Centre (RTC)***

The rural training centers were conceived to function as institutional focal points responsible for conducting various training programs and community development related activities. The VTCD programs include the following activities:

- Long and short term courses training in various training fields for both men and women. Training areas are determined by baseline surveys and regular needs assessments.
- Mobile training that reaches out to targeted groups who may have no other chances for training because of limited resources or who have little exposure to development possibilities.



- Follow-up to determine effectiveness and appropriate utilization of training and
- Extension services and community development activities closely linked to the training programs.

A programme management group supports and guides the programs to function in accordance with the plan of operation. VTCDs offer training on saving & credit mobilization, community leadership mobilization, village animal health workers, village public health workers, orchard layout, nursery bed preparation and vegetables seedling production etc, for the poor under- privileged lower caste people.

### ***Polytechnics***

CTEVT has planned to establish five polytechnics in each of the five development regions. A brief introduction of these institutes is given below:

#### ***School of Health Science***

School of Health science is located at Bharatpur, Chitwan District of Narayani Zone, Central Development Region, Nepal, is the first Technical school (Polytechnic) under CTEVT to produce technical manpower in general medicine. School of health science was established in 1998 as a bilateral project between CTEVT and Korean NGO KOICA (Korean International Agency). CTEVT and KOICA have jointly developed this school to produce the middle level skilled health workforce for the country. The School has 10 buildings for administration, library, principal/ project manager quarter, duplex building, hostel warden house, boys hostel etc.

This School specially offers training on Health Assistant and minimum requirement for the training is SLC passed candidates with Science, Math and English subjects. It has annual enrollment capacity of 60. Beside the regular teaching programs, the school also has training programme on *Jeevan Jal* preparation, family planning, mini medical camp etc.

#### ***Tansen Nursing School, Tansen, Palpa***

Tansen Nursing School was established in October 1999 with the joint effort of CTEVT and United Mission to Nepal (UMN) at Tansen in Palpa District of Lumbini Zone, Western Development Region of Nepal with the aim of producing nursing manpower in Nepal and to improve health services and health status in the western region of Nepal. Though it has the production capacity of 75, it has aimed to produce 30 Staff Nurse in each year. The mission statement is: commitment to holistic (Physical, Psychological, Social and Spiritual) ministry to the people of Nepal by providing quality teaching and professional training to the certificate level nurses so that they can empower as well as serve individuals and communities.

Tansen Nursing School offers three years' training on Staff Nurse selecting from the girls who have passed SLC in 2nd division or have secured higher marks in Mathematics, Science and English who apply for the course and pass the entrance exam. The catchment area of the school is all over Nepal.



### ***Hetauda Polytechnic (Pilot Project) Hetauda***

Hetauda Polytechnic has been planned to establish to maintain a good relationship with various industries, Hetauda Polytechnic has planned to run its programs in close contact with Hetauda Chamber of Commerce. It has got a small amount of financial support from UNESCO which has been used for preparation of Project Document, fencing of the land, Education Brief and development of detailed master plan for the project. CTEVT is seeking assistance for infrastructure and human resource development as well as equipment necessary for the Polytechnic.

### ***CTEVT Technical Schools***

Over a period of 12 years, twelve technical schools and 3 polytechnics have been established by HMG/N in twelve of the 14 zones of the country. These technical schools provide training in various areas such as agriculture, construction, health, mechanical, electrical, tourism and sanitation.

### ***Private Institutions***

Privately run technical schools are operating under the authority of CTEVT in different districts. Provisional recognition has been granted to private health and construction institutions, the National Computer Training Center and one hairdressing institute. Full recognition will be granted after a period of satisfactory performance and the set criteria are met. Till now, there are more than 165 affiliated private training institutes which have covered 47 districts of Nepal. These institutes have been offering courses on CMA, JTA, JT, ANM, Electrical, Mechanical, Civil, Ayurvedic, laboratory, AMIN, Carpet Weaving, Wood Works, Dental, Auto- Mechanic, Nature Pyathic, Therapy in Acupacessure, Carpentry, Welding, General Mechanics, Auto Mechanics and Food Technical Assistant.

### ***Policies and Programmes***

#### **Vocational Education and Skill Development**

The Tenth Plan aims at improving access to and quality of primary education and at expanding access to secondary, vocational/technical, and tertiary training to produce skilled human resources. Special scholarship programs are to be introduced to assist poor women and other disadvantaged minority families to have access to education.

During Ninth Plan period, existing technical institutions were planned to be strengthened in a way that enables them to be appropriately cost-effective. Arrangement was to be made to establish effective co-ordination between government and non-government technical and vocational institutions. Private sectors were envisaged to be encouraged to establish technical and vocational training institutions. For this purpose, the Technical Education and Vocational Training Council would: identify similar training programmes provided by private sector training institutes; co-ordinate with these institutions; play an active role in mobilizing the resources; and provide necessary technical assistance for their development. Physical, human and financial resources were to be mobilized at the local level in order to establish training centres. Internal and external resources were to be mobilized to set up and run polytechnic schools.



### **Resource Mobilization**

The country's need of basic and middle-level skilled manpower for different development programmes will be fulfilled by producing manpower at the local level. In order to conduct technical training and vocational education programmes, physical and economic resources will be mobilized at the local level for the establishment of training centres. Improvements will be conducted to make technical schools effective and appropriate to their investment. There will be co-ordination between governmental and non-governmental technical and vocational training organizations. The organizations will be standardized and the training accredited. High-level centres that conduct training in the private sector will be provided with technical assistance.

Steps will be taken to establish polytechnic schools in order to produce middle-level manpower required at the local level. Internal and external resources will be mobilized to run this type of school. Community development and vocational training centres will be expanded. Training will be provided to the trainers in order to develop and expand technical education.

The government plans to mobilize internal as well as external resources for funding educational programmes and development. This includes promoting the public and private sectors, as well as community participation in resource mobilization. Different schemes of cost-sharing will be enhanced. External donors and loans will also be mobilized for undertaking major programmes such as BPEP II.

The government plans to promote cost-sharing with the local communities in financing ECD. The government will support local communities by providing establishment costs to meet the start-up expenses (NRs. 10,000), instructional materials and kits for children and ECD facilitators, and partial salary costs of facilitators. Local communities will provide physical space and voluntary labour to set up the centres. Local VDCs and municipalities will contribute to meet the partial costs of facilitators' salaries. Recurrent costs of the ECD Centres and day meals for children will also be arranged locally.

Cost-sharing is a major strategy of BPEP II for mobilizing local resources as well as external funding. Under this strategy, limited funds are provided to schools that prepare School Improvement Plans (SIPs) that identify activities to be undertaken by the schools themselves. The maximum amount of such fund is NRs. 25,000 per school per year. The SIP guideline aims to mobilize teachers, students and communities in various school improvement activities. BPEP II.

The Government in 2003-04 has shown its commitment by allocating to the education sector 18 percent of total government expenditures—including those funded via external donors (up from 13.1 percent allocated in 1997/98). The sub-sector plan has laid out points for cost reduction, cost efficiency and sustainability.

District Development Committees and VDCs/municipalities are expected to allocate funds to finance basic and primary education activities from their internal revenues and grants received from the government. It is proposed that VDCs allocate 10

percent of the development grants of NRs. 5,000,000 they receive from the government each year. The government also proposes a cost-sharing formula of 40 percent community funds and 60 percent government funds for classroom construction and rehabilitation and Adult Education Programme.

Multiple ways of involving communities in the provision of financial support and temporary residential care for resource classes for children with moderate disabilities have been proposed.

### **Recommendations**

- vi) Allocate more funds for vocational education and vocational education.
- vii) To use these funds judiciously priorities investment proposal in areas which give higher return in terms of skills development.
- viii) Adopt a decentralized planning process for vocational education and training.
- ix) Broader participation in the management of basic and primary education of the communities.
- x) Adopt a holistic approach to quality improvement

## **3.6. Pakistan**

### **Review of Education and Vocational Training**

Over the last past 5 years (2000-05), modifying, improving and expanding the education system in Pakistan has been a key priority for the government. President Pervez Musharraf reveals this by stating

“Human development is the anchor of my economic revival policy, which will focus on education, health and poverty alleviation?”<sup>55</sup>

The system impacts social and economic as well as political state of the nation. Many projects and policies have been designed to provide universal access to education, at least up to the primary level. International development agencies, foreign governments and NGOs have made/make a significant contribution towards the education sector in the country through financing as well as planning and coordination. Education is provided through public and private sectors. These two categories are organized and managed differently. An analysis of educational services, in both public and private sectors, provides a useful basis to understand the future needs. It also outlines the trends and shifts in access to education facilities at various levels.

### **System of Education**

#### **Public sector**

The education system follows the South Asian pattern of primary (class I-V), secondary (VI-X) and higher secondary schooling (XI-XII). Education is imparted in public and private schools, *madrasahs* and by non-formal means. A rise in *madrasahs* took place due to inadequate/unavailable public institutions as well as

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<sup>55</sup> Government of Pakistan, Ministry of Education website



parents in tribal and rural areas opting for religious education as opposed to 'Western' education.

Tertiary education – undergraduate and postgraduate degrees, diplomas and professional studies – can be pursued at colleges and universities, usually situated close to or within urban districts. Vocational education and skill development is also available.

In public schools, education is provided free of cost throughout primary and secondary schooling (I-X). The curriculum has been modified and is under constant review in public schools as well as in *madrassahs*.<sup>56</sup> With the overall goal of development, Pakistan hopes to increase overall literacy and prepare its people employment and sustainability.

Under the Constitution of the country, delivery of elementary education is the responsibility of the provincial governments. However, literacy programs are organized at the federal level. It would be useful to elucidate the existing organizational and management structures. The provincial education departments have the mandate to provide elementary schooling from class I to VIII.

The management structure varies from province to province. The transition towards elementary education has resulted in establishment of dedicated focal points at the provincial level. Devolution of power and responsibilities has made the District Governments responsible for elementary education and literacy. District Education Officers (DEO) is the key manager in the district. Separate offices for elementary education and literacy have now been setup at the district level in Punjab and Sindh, while these offices are still combined in N.W.F.P and Balochistan. Under the new arrangement, the Literacy departments at the district level would spearhead literacy campaigns. However, the Federal Ministry of Education would continue to coordinate the program.

### **Private sector**

The private sector occupies a significant share in the delivery of elementary education. The latest census of private educational institutions indicates that there are 36,096 private institutions in the country. Of these, 93 percent are in the general category (*vis-à-vis* technical and professional education). Out of which 93.5 percent are providing primary and elementary education. It is estimated that private schools account for 28 percent of total enrollment. Evidence suggests that the private sector is expanding its share in service provision. Approximately 61 percent of the total private institutions are located in urban areas whereas 39 percent are in rural areas. Anecdotal evidence suggests that despite their limited capacity to bear the expense of primary education the low-income households are opting for private schools even where public schools are available, because of the poor quality of education of public schools.

### ***Vocational Education and Skill Development***

Pakistan has for too long remained in a low-level skills trap and if it is to move into the knowledge economy then it must break out of this trap (Amjad 2005). In Pakistan

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<sup>56</sup> Kronstadt, K. Alan, "Education Reform in Pakistan – CRS Report for Congress," December, 2004

skill development has been most neglected. The country has neither been able to improve vocational and job skills nor could inculcate the creative and cognitive skills and the personal and social skills resulting in loss of output, exports and employment and slow growth of living standards. Various factors have contributed towards the neglect, which includes among other inward looking policies with little emphasis on quality products, focus on primitive technologies and choice of economic activities and the limited supply of skilled workers (Atta-ur-Rehman, *et al.* 2005). In spite the main beneficiaries of the skill development are the producers, they have made little efforts to improve the skills of their workers. Pakistan, despite improvement in Technology Index from 87 to 80 (WEF, 2004-05, and 2005-06), still lags in technology. Most of the Pakistani firms continue to be on the lower end of technology.

The current structure of Vocational Education and Skill Development (VESD) programmes in Pakistan is complex, consisting of many agencies and levels. Government Vocational Institutes are administered by the Provincial Education Department while Technical Training Centres and Apprenticeship Training Centres are administered by the Provincial Labour Departments. The provincial Directorates of Manpower and Training administer apprenticeship Training under the Apprenticeship Training Ordinance.<sup>57</sup>

VESD in Pakistan is imparted at different levels. Pre-vocational education, a parallel stream to the sciences and humanities group, is offered at vocational high schools. Vocational training programmes (pre-requisite class X), is offered in the public and private sectors to develop skills for trades such as computer hardware, electrical work and automobile-work etc. The highest level, technical education programmes, aims at producing middle-level engineering technicians. They are offered at polytechnics and colleges of technology.

Pakistan's failure to break away from its dependence on low-skills, low-technology manufactured exports is because of its low level of development of human resources. The majority of labour force is illiterate. In 2004-05 around 46 percent of the population 10 years of age and above was illiterate of which males were 36 percent and females 60 percent. The figure in rural areas was significantly higher at 44 and 73 percent respectively<sup>58</sup>. The mean years of schooling for adults over the age 15 was 3.9 years compared to 8.5 for the Philippines, 6.5 for Thailand and 5.1 for India<sup>59</sup>. One third of the labour force in 2003-04 had an education level below Matric.<sup>60</sup> Due to low skills the bulk of production and exports remain in low-value added low technology manufactured goods. With the increasing globalization, it becomes increasingly difficult for the manufacturing sector built on low-level skills to compete against cheaper and better quality goods.

Training of various skills in Pakistan is imparted through polytechnic, vocational training centers, apprenticeship schemes, various training and vocational institutions under various ministries and departments, commercial training institutions and

<sup>57</sup> Pakistan handout

<sup>58</sup> Federal Bureau of Statistics, 2005. Pakistan Social and Living Measurement Survey 2004-05 (FBS website)

<sup>59</sup> Barri-Lee Data set, 2000 cited in Ministry of Industries, Production and Special Initiatives (January 2005)

<sup>60</sup> FBS. Labour Force Survey 2003-04 (FBS website).



'Ustad-Shagird'<sup>61</sup> system in the informal sector. The formal institutions produce a very small proportion of total increments to the skilled workforce and not necessarily in accordance with the demand and of requisite quality. Skill Development Councils (SDCs), employers led bodies, set up in each province for training needs assessment and meeting the needs through making training arrangements with public and private sector training providers are expected to help in this direction.

The supply condition differs among provinces, urban and rural areas, and gender. In general, the numbers of people who hold Matric and the above education level are higher in urban areas, and in the younger generation, especially in the twenties and the thirties. In urban areas of Punjab, Sindh and NWFP, more or less fifty percent of the male whose ages are twenties and thirties have Matric and the above level of education. Matric level students can further proceed to upper level vocational and technical education schools.

TEVTA has been set up in Punjab and similar organizations in other provinces as well as at the federal level. TEVTA focus is on enhancing the enrolments, instead of providing good quality relevant training. It is generally perceived that technical and vocational training in Pakistan has little relevance to the demand of industry (Table 30). The technical institutions and training centers lacks required machinery and equipment for training of the skilled workers. In the majority of cases teachers are not qualified and lack practical knowledge.

**Table 30: Abilities Developed during Training of Polytechnic/Vocational Institutes**

Aspects of Evaluation	Polytechnic Programme			Vocational Programme		
	Poor	Fair	Good	Poor	Fair	Good
Technical Concepts	46	41	13	28	60	12
Practical Skills	55	33	12	27	54	19
Repair/Maintenance/Trouble Shooting	55	37	8	27	58	15
Commercial Skills/Report Writing	63	29	8	44	48	8
Safety Consciousness	46	40	14	31	54	15
Quality Mindedness	43	43	14	28	60	12
Others	33	67	-	-	100	-

Source: ADB (2005)

A national body, National Vocational and Technical Education Commission (NAVTEC) has been set up. The Authority would undertake assessment of training needs, forecast technical changes and demand, and plan alternative pathways for those who drop out or could not finish normal school. It would in conjunction with the provincial counterpart Technical Education and Vocational Training Authorities (TEVTAs) undertake national planning, curriculum development, standardization of technical education, training of trainers, national accreditation of private polytechnics and institutes and develop strong linkages with the industrial end users.

The NAVTEC has been established to develop the knowledge economy during the implementation period of Medium Term Development Framework (2005-10). The public sector is expected to spend Rs. 333 billion (16 percent of the GDP) to achieve the objective of knowledge economy. Private sector contribution of Rs. 40 billion will

<sup>61</sup> Traditional Teacher-Student system.

be in addition. Technical and vocational enrolment in the country is around 1.3 percent of the total enrolment in 11-17 age group. It is planned to increase it to 4.2 percent by 2010 and 7 percent by 2015.

The government fully recognized the importance of decreasing the numbers of unemployed and has an intention to strengthen technical education and vocational training (TEVT) in order to absorb newly generated worker as many as 1.2 to 1.5 million every year, and 17 million young people who dropped out from basic education schools. It is also considered to improve various types of TEVT so that capacities of unskilled engineer can be strengthened. However, the development of TEVT has been effected because of uniform policies and strategies between the federal and provincial governments, and among provincial government. Therefore, the federal government has set up the NAVTEC in December 2005. It is an umbrella body, which supervises and coordinates different departments of provincial government and is expected to play a central role in TEVT.

At the provincial level, Punjab and NWFP have already started trials of “coordinating different department under a single umbrella body”; while Sindh and Balochistan have a system that different department has different responsibilities. Linkages between the government and TEVT schools and the private sector are yet to be strengthened.

Graduates from the vocational schools are not allowed to enter higher education schools. At present technical education is being imparted through 546 technical and vocational institutions with the capacity of a little over 200,000 (Table 19).

### ***PPP Based Vocational Institutions***

In order to strengthen the export sector and boost export of the country, the Export Promotion Bureau (EPB) has extended assistance for establishment of a number of institutions for training and development of human resources for export-oriented industries. These institutions have been established in the private sector on the principle of Public Private Partnership (PPP) to ensure that the institutions are managed on professional lines according to the needs of export sector industries. 22 institutes were established and out of which, 17 are functional at present. Various business associations are managing these institutes. Funding for the institutions is provided by the EPB through the Export Development Fund. This institute is providing job-oriented education and training to meet human resource and technological need of the exporting industries.

### ***The Pakistan Bedware Exporters Association (PBEA)***

The Pakistan Bedware Exporters Association (PBEA) in collaboration with EPB established Pakistan Bedware Designing & Training Institute in 1998. The institute has a management system that all board member except for a project director and a EPB staff member are elected every year so that a particular company(ies) cannot ruling the institute and member companies can equally benefit from the institute. PBEA member companies have strongly supported the institute for the past eight years, accepting internships as well as new graduates.

### ***Textile Institute of Pakistan (TIP)***



Textile Institute of Pakistan (TIP) was founded in 1994 under the aegis of All Pakistan Textile Manufacturing Association (APTMA) in order to provide professional education and training to a new class of young professionals by developing their practical skills in addition to necessary theoretical knowledge. With support from EPB, TIP opened its operation in 1999. APTMA had a strong intention to provide training on product development, marketing and designing so that Pakistani textile industry can produce more highly value added products. TIP also has close ties with overseas institutions such as DFID, and the University of Manchester.

### ***National Institute of Leather Technology***

National Institute of Leather Technology, established by Pakistan Tanners Association (PTA) and EPB in 1994, is a training institute that provides leather related technology and products. It is located in the middle leather-manufacturing cluster in Korangi, Karachi.

### ***Pakistan School of Fashion Design (PSFD)***

Pakistan School of Fashion Design (PSFD) was established in 1995 as one of the EPB project. It gradually and systematically transformed the curriculum into the ones, which respond to industrial sectors' future demand taking into account of international market.

### ***PCSIR Funded Vocational School***

PCSIR Funded Vocational School is another successful vocational institute apart from EPB supported project. PAK-Swiss, Precision Mechanics & Instrumentation Training Centre, which was established by Swiss Cooperation in 1995 under Pakistan Council of Scientific and Industrial Research (PCSIR) is a vocational school, which provides basic technological training. The modern facilities help students to acquire practical knowledge and technology through exercise. The demand for employing graduate is high and many of them entered automobile industry.

### ***Employers' Opinion on Vocational Education and Training***

Manufacturing establishments in Pakistan do not always have high expectation in vocational and technical education, and therefore in TEVT graduates. According to the Manufacturing Establishments Survey, only 87 firms out of total 508 firms have indicated that they have received services from vocational and technical education schools in the last two years and 132 firms answered that they have not received any service. Out of 87 firms, 76 firms are satisfied with the services provided to skilled workers, while 11 firms are dissatisfied with the training received by their workers.

### ***Budget and Systems***

The budget allocated for TEVT is seven per cent of the total education budget. Out of which, more than ninety per cent is used for wages and salaries and the rest is used for maintenance of inputs, machinery and facilities. Therefore inhibits students from learning about "hands on". Furthermore, the principal who is responsible for operation and maintenance of the institution is not given proper discretion of budget allocation and administrative decision-making. Also, there is weak linkage in the curriculum adopted by technical education at middle and secondary schools and that of vocational schools prevents students from learning streamlined technology.

### **Resource Mobilization**

The growing imbalance between government revenue and government expenditure through linkages effects resulted in slowing down of aggregate demand for goods and services across sectors, increased unemployment, reduced household income, and undermined the maintenance of services and capital stock.

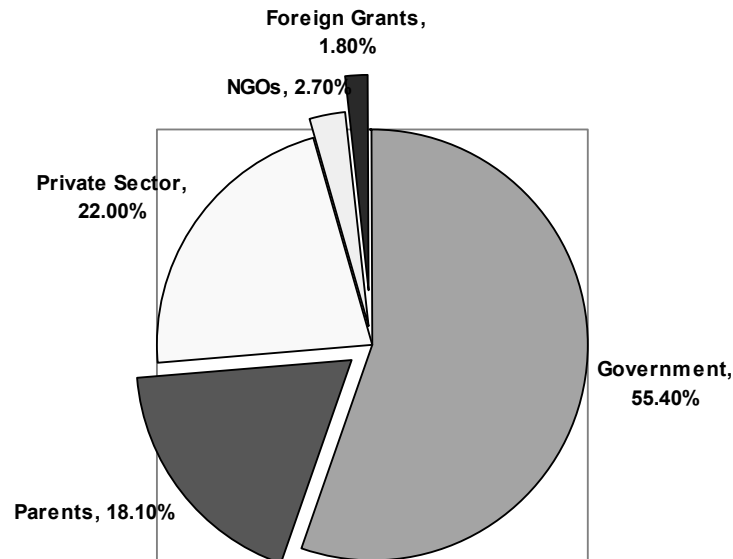
The burden of adjustment to bridge the “fiscal gap” fell heavily on public sector development expenditure. The development expenditure reduced from 6.9 percent of the GDP during the period 1983-88 to 3.2 percent in 1998-2003 (Table 31). The consequence of such a strategy has been the development of physical and human infrastructure has been influenced negatively and the country failed to develop and maintain supportive infrastructure required for sustainable growth and knowledge and skills development. During the period 1983 and 2003, public expenditure on the provision of social services (education and health), economic services and community services did not increase. As a result, almost all the indicators of well being are weak.

**Table 31: Consolidated Government Expenditure (Percent of GDP)**

Period	Total Government Expenditure		
	Total	Current	Development
Sixth Plan (1983-88)	25.8	18.8	6.9
Seventh Plan (1988-93)	26.2	19.6	6.5
Eighth Plan (1993-98)	23.3	19.2	4.1
Ninth Plan (1998-2003)	22.1	18.9	3.2

Source: Khan, 2004. Human Condition Report.

Educational expenditure in Pakistan represents 4.3 percent of GDP. The government is the main source of funding for education, representing 55.4 percent of the overall expenditure in 2004-05. If, foreign financing in the form of grants (1.8 percent) is added to this, public bodies financed 57.2 percent of overall education expenditure. The parent's involvement in education expenditure takes three main forms: subscriptions for public schools, admission fees for private schools, the purchase of books, school supplies and school uniforms. This expenditure has been assessed around 18 percent of the total education expenditure, while private sector investment in education has been around 22 percent. NGOs financed 2.7 percent of total expenditure. (Figure 14 & Table 32).


**Figure 14: Structure of Financing of Education, 2004-05**

**Table 32: Expenditure on Education – Public, Private, NGOs, Donors**

	2004-05
<b>Educational Expenditure (Billion Rs.)</b>	<b>283.0</b>
<b>Share:</b>	<b>100.0</b>
Government	55.4
Parents	18.1
Private Sector	22.0
NGOs	2.7
Donors (Grants)	1.8
<b>Education Expenditure as percent of GDP</b>	<b>4.3</b>

Source: Government of Pakistan, 2006. Economic Survey of Pakistan 2005-06 and Author's calculation.

### **Recommendations**

While more investment in education and skills is required which should be both cost effective and demand driven, it would not be sufficient unless institutions are developed that recognize the 'value of investing in people and provide dignity, respect and a fair deal for working men and women.

Keeping in view the growing shortage of skilled and semi-skilled manpower, TVET is important. These institutions must be fully recognized and strengthened and provided required public funds.

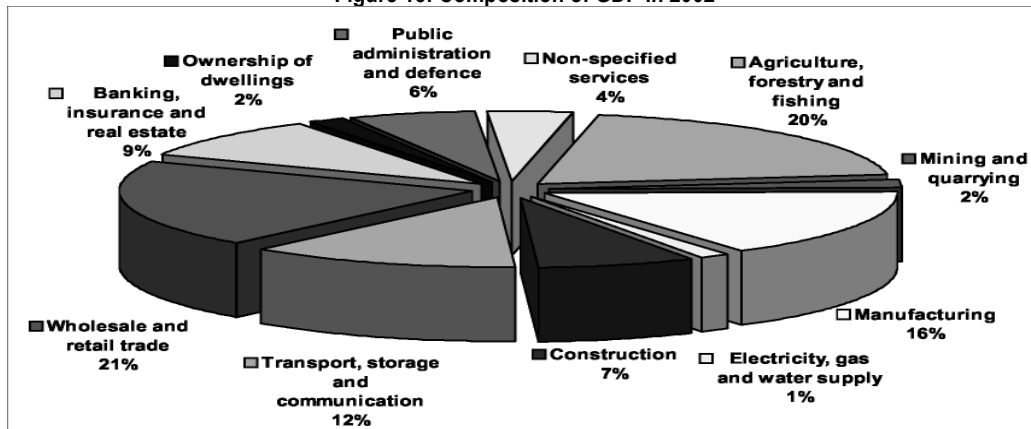
Pakistan can progress will and acquire a competitive edge in the global environment only with the development of appropriate knowledge and demand driven skills and technology.

### 3.7. Sri Lanka

Sri Lanka has achieved high educational and health standards due to consistent investment by successive governments. During the five decades since independence, the Sri Lankan economy has on average grown by slightly over 4 percent annually. The per capita nominal income, which was estimated at US\$ 120 in the early 1950s, has now reached US\$ 858, showing an annual increase of 11 percent. The watershed year was 1977, when policy reforms were introduced to shift the focus from an inward looking development strategy to an outward looking one, thereby releasing the economy from an array of excessive controls. Since then the economic structure has been transformed from a predominantly agricultural economy to a manufacturing and services based structure (Central Bank, 2003).

In 2002, the agricultural sector accounted for about 20 percent of gross domestic product (GDP), while the services and industrial sectors constituted 54 percent and 26 percent respectively. Figure 15 gives the details of sectoral share in GDP.

Figure 15: Composition of GDP in 2002



Sri Lanka presently is heavily dependent on the apparel and tea sectors, which are both export-oriented industries. In 2000, exports amounted to 40 percent of GDP and imports to 51 percent.

Human development in Sri Lanka is relatively high compared to other developing countries, and the human development index (HDI) compares well with developed. The gender development index for Sri Lanka is also at a satisfactory level at 0.726 (UNDP). Women constitute 31.8 percent of the labour force, with a participation rate of 32.4 percent. Unemployment is also higher among women at 11.1 percent, compared to 6.8 percent for men (Department of Census and Statistics, 2002).

The Sri Lankan education system has been celebrated in development policy circles and the economic literature for its success in providing widespread access to primary and secondary education, and enabling the country to attain a high level of human development for a low income economy.<sup>62</sup> However, the past economic effects have negatively impacted Sri Lanka, which was once at par with countries such as Singapore and Malaysia. With the lagging economy, the supply of skilled and

<sup>62</sup> World Bank “Treasures of The Education System in Sri Lanka,” June 2005



educated workers was far above the demand of the nation – creating drastic unemployment effects on a very capable workforce. The present government intends to regenerate and boost the economy and further revitalize the education sector.

### **System of Education**

In Sri Lanka, the schooling system can be sub-divided into five main components – pre-primary, primary (grades I-V), junior secondary (VI-IX), senior secondary (X-XI), and collegiate level (XII-XIII). The London General Certificate of Education (GCE) ordinary level ('O' level) is pursued at the senior secondary level which is then followed by advanced level ('A' level) at the collegiate level entailing three streams: science, arts and commerce.

Further studies at the college and university level can then be undertaken to pursue undergraduate and postgraduate degrees along with professional studies and diplomas. Technical colleges accept students after/at the 'O' level stage who want to pursue job-oriented studies. Public and private institutions range from the pre-primary to the tertiary level. However, at the pre-primary level, religious and voluntary centres can be found. The policy of the Government of Sri Lanka is to provide free education from primary stage to the first-degree level of university education.<sup>63</sup>

### **Vocational Education and Skill Development**

The Tertiary and Vocational Education Commission (TVEC) was established in 1992 as the apex body in the technical and vocational education and training sector and is responsible for policy formulation, planning, quality assurance, coordination and development of tertiary and vocational education in the country. In order to coordinate and standardize the activities of VESD, National Vocational Qualification is developed. The national skill standards are prepared in consultation with the industries and employers, while a competency-based approach is used for teaching and assessment to align students with future their respective jobs.<sup>64</sup>

The integration of vocational training in general education is a technique adopted by the government in order to incorporate flexibility into the entire educational systems. It is possible to move back and forth from one stream and also be able to take vocational and practical courses while enrolled in junior secondary or secondary levels.

With a separate commission for VESD along with close industrial and general educational ties, the strategy for skill development can be depicted in the following Figure:

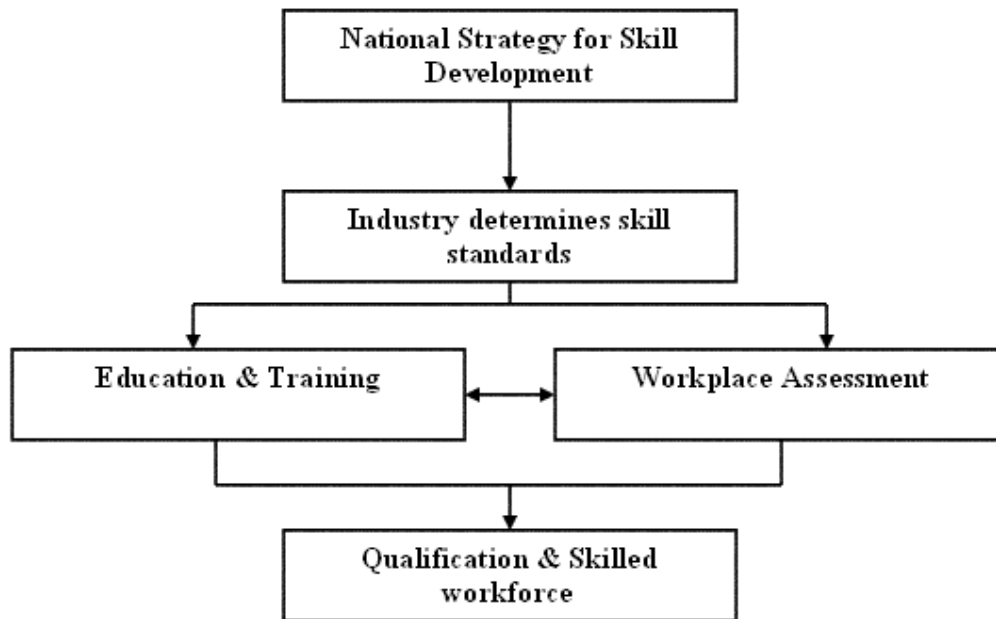
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<sup>63</sup> Government of Sri Lanka, Ministry of Education, website

<http://www.moe.gov.lk/modules.php?name=Content&pa=showpage&pid=7>

<sup>64</sup> Government of Sri Lanka, Tertiary and Vocational Education Commission website ([www.tvec.gov.lk](http://www.tvec.gov.lk))

Figure 16: Model comprising the strategy of skill development <sup>65</sup>



Efforts are being made to establish a secondary education system that is equitable and responsive to labour market requirements by modernizing the secondary school curriculum and teaching-learning methodologies, equipping some schools with science laboratories, computer facilities, and multimedia units. Capacity of school personnel to manage and sustain these facilities and improve teaching-learning activities will be developed through teams of zonal trainers/facilitators. School-based management (SBM) will be enhanced through the provision of small-scale school development grants. Incentive programs to attract teachers to work in rural areas will be carried out. Special attention will be given to support Tamil teachers. Stipends will be provided to poor students qualified to study 'A' level science or commerce in a nearby school. The capacity of provincial, zonal, and divisional education officials will be developed through training and consulting services.

Despite positive achievements in basic education, low investment in education causes disparities in the quality of education and results in low efficiency of secondary education and above. The pass rates at the 'O' level and 'A' level in the national examinations are very low. Only 40% of 'O' level students qualify for 'A' level. Regional disparities are evident. Students in rural and disadvantaged areas have much lower pass rates than those in urban areas. Moreover, schools are not preparing their students for employment. Grade 11 school leavers do not have

<sup>65</sup> Government of Sri Lanka, Tertiary and Vocational Education Commission website ([www.tvec.gov.lk](http://www.tvec.gov.lk))



sufficient knowledge or vocational skills and are not equipped to seek skilled work or engage in self-employment. Grade 13 school leavers also lack employment-related skills and if unsuccessful in finding a place in the university system tend to join the ranks of the unemployed. The unemployment rate among those with A-level qualifications and above is 18%; the conventional education system does not meet the demands of the labour market, especially in information and communication technology, science and technology, and English language skills.

The Government's strategy is to close the gap between supply of and demand for technicians and technologists by (i) strengthening colleges of technology (CoTs) to offer technician education; (ii) strengthening the Ministry of Skills Development, Vocational and Technical Education (MSDVTE) and relevant institutions to support a market-responsive technical education and vocational training (TEVT) system; and (iii) establishing the University of Vocational Technology (Univotec), which will focus on technical and technological education.

### ***General Education and Vocational Training Sector***

#### **Structure**

The education system in Sri Lanka consists of five years of primary, three years of junior secondary, three years of senior secondary, and two years of collegiate education. Students take the GCE 'O' level examination after completion of grade 11 and GCE 'A' level examination after grade 13. Education is free and compulsory up to the undergraduate (university) level. There is a well-developed education structure with a total of 11,000 schools, 187,600 teachers, and 4,200,100 pupils for a pupil/teacher ratio of 1:23. Each year, 350,000 new entrants come into the system. About 50 percent of the annual intake normally completes GCE 'O' level. However, only 2 percent of the total enrollment of the entire school system finds a place in the university system. VT courses generally draw trainees from those who have completed the junior secondary level of education and other school leavers such as GCE 'O' or 'A' level pass outs who could not gain entry to the universities.

#### **Technical Education and Vocational Training in Sri Lanka**

TEVT has a long history in Sri Lanka, dating back to 1893 when the first technical school, now known as the Sri Lanka Technical College, was established in Maradana, Colombo. Since then TEVT has grown substantially. The lack of places for GCE "A" level graduates in universities has led to further expansion of TEVT as skills training is the only alternative channel for the youth and school leavers. Basic VT courses generally draw trainees from those who have completed the junior secondary level (6 to 8 years) of education and other school leavers (O or A level). The situation has created more of a social demand for vocational training instead of an economic demand for employable skills. The existing TEVT system in general is not geared to providing market-oriented skills, leaving many graduates unemployed for long periods after completing the training programs.

The VT sector comprises a diverse mix of planned and unplanned programs promoted by the Government, private sector, and NGOs catering to a variety of target trainees or students. Many agencies and interest groups with different goals, agendas, and development strategies characterize the sector. There are 1,182 VTCs, of which 674 (57 percent) are operated by the Government—mainly by the

Ministry of Vocational Training and Rural Industries (MOVTRI), Ministry of Science and Technology (MOST), and the Ministry of Samurdhi, Youth Affairs and Sports (MOSYAS), plus 11 other ministries. The government share in VTCs account for over 85 percent of VT trainees. Private sector and NGO VTCs number 508 or 43 percent, but their enrollment comprises only 15 percent. About 321 courses are offered by the major government VTCs, of which only 20 to 25 courses account for almost 90 percent of all enrollments. About 63 percent of these courses are of level 2 category (basic skills), which are too basic to respond to the skills needs of industry or the services sector. The combined enrollment of the VTCs reached 56,300 in 1997, equivalent to approximately 85 percent of total VT enrollment. Of that number, about 42 percent were female. The government VTCs have 3,250 staff including 1,700 trainers. However, an estimated 35 percent of the sanctioned academic positions are not filled. Most trainers have inadequate training skills and even less practical industrial experience. Furthermore, there is no standardization of VT courses, and courses with the same titles may have different contents, duration, and methodologies.

### **TEVT Institutions**

MOVTRI, which was established in 1997 with responsibility for TEVT, has the major TEVT providers under its wing accounting for most of the VT enrollment. MOVTRI was created to consolidate the VT programs of the major TEVT agencies, including the Tertiary and Vocational Education Commission (TVEC), DTET, VTA, and National Institute of Technical Education (NITE). The National Policy on Technical and Vocational Education (1996) lays the foundation for reforms in the sector. MOVTRI has overall responsibility for policy formulation and coordination, provision of quality TEVT and other related services such as setting skills standards, accreditation, testing and certification, teacher training and staff development, curriculum development, and research.

Established in 1990 as a Government department, TVEC is part of MOVTRI and is one of the most important components of the VT system as it provides the framework for TEVT coordination. Other functions include developing a nationally recognized system of granting tertiary and vocational education certification, policy formulation and planning, certificates, etc. It maintains academic and training standards in institutes, agencies, and establishments by making rules, granting subsidies to registered institutes, and advising MOVTRI on general policy. To date, TVEC has developed 50 skills standards with the assistance of a UNDP and International Labour Organization (ILO) project. It has registered over 500 TEVT institutes. The commission will, however, require substantial institutional strengthening and capacity building to adequately carry out its mandate.

In 1999, NITE was converted into a statutory body with the following functions: (i) advise MOVTRI and TVEC on policy formulation for development of human resources and curricula; (ii) provide training programs and services to VT institutions; (iii) implement a system for teacher examination and accreditation; (iv) promote modern methodologies for training of teachers in technical and vocational education; (v) provide professional services; (vi) provide graduate level and postgraduate level TVET; (vii) undertake and promote research and studies; (viii) sponsor and hold conferences, seminars, and workshops and publish books, journals, and magazines; and (ix) liaise and coordinate with other institutions. On its campus is a fully



equipped National Resource Development Facility with workshops, laboratories, hostels, canteen, auditorium, and staff quarters that still have to be optimally used. NITE has adequate experience in curriculum and instructional materials development as well as in in-service training of technical and vocational education teachers.

Through its network of 34 TCs, DTET provides technical education relevant to the needs of industry and in keeping with changes in technology. Its programs include 58 craft and engineering courses, 9 business courses, and 8 general study courses. It conducts full-time training programs of one and two years duration, part-time programs of up to three years duration, and short courses less than one year in duration. The TCs have adequate infrastructure, assets, and equipment, but are not fully linked to private industry. Their potential at the district level, if properly planned and managed, can be harnessed to support district-based VTCs, industries, and enterprises, and thereby generate resources for institutional development. DTET with its network of TCs contributes significantly to development of a trained workforce.

The main functions of VTA include (i) formulation and provision of training mainly to the rural youth and practicing craftsmen, (ii) conduct of national trade tests and examinations and issuance of national certificates, (iii) research and development (R&D) work, (iv) career guidance and counselling, and (v) coordination and facilitation of the training of trainers. VTA operates 193 rural VTCs, 12 district VTCs, 3 special VTCs, and 3 national VTCs. It has the largest network of rural-based VTCs, VTA is playing a vital role in strengthening coordination among VT providers and setting skills standards.

National Institute of Technical Education (NAITA) is a statutory body under MOST. Its functions include (i) formulating and providing apprenticeship training directly or through industry, (ii) conducting national trade tests and examinations, (iii) issuing certificates, (iv) undertaking research and development, and (v) facilitating vocational training conducted by agencies in the public and private sectors. It has strong working relationships with the private sector. NAITA has decentralized its operations on a provincial basis with an office in each province. It provides skills training to school leavers on an enterprise-based apprenticeship level in 150 technical and non-technical trades at craft level. NAITA operates 86 VTCs on a smaller scale to provide theoretical and technical skills and to supplement enterprise-based training. NAITA also conducts the National Trade Testing program. NAITA has accumulated experience in competency-based training (CBT) and skills standards setting. Its working relationship with industry will ensure the strengthening of private sector participation in VT.

The role of NYSC is encapsulated in its mission statement: "Empowerment of the Youth in Sri Lanka." Its main objectives are to (i) provide training and the discipline required to minimize economic and social unrest; (ii) provide technical and VT avenues for school dropouts; (iii) enable youth to identify their technical and vocational skills and abilities and direct them toward employment after training in various fields; (iv) provide training opportunities compatible with the needs of the current labour market; and (v) encourage youth to engage in development, cultural, and sports activities. NYSC operates 4 national VTCs and 21 VTCs. It has a core of

guidance counsellors in touch with the country's youth through a network of career guidance centers.

Postsecondary technical and technological education is relatively underdeveloped. The large investments needed to put up such facilities hinder the establishment of more institutions, both public and private. Diploma programs cater to those who have GCE 'A' level qualifications, with good marks in mathematics, physics, and chemistry. These programs are 3–4 years long, including on-the-job training. Diploma programs in technical and technological education are conducted by at least four recognized institutions, all clustered in Colombo and not accessible to many potential student trainees. These programs are funded by the Government and include nominal daily allowances to students. Although training institutions outside Colombo do not offer technician- and technology-related diploma programs, some technical colleges (TCs) can be upgraded to do so. There are 37 TCs throughout the country's nine provinces.

Excluding the Open University of Sri Lanka, institutions offering technician programs in 2003 took in about 700 students-trainees and graduated 563 technicians. The technologist programme is offered by the university and, in 2003, took in a total of 522 students and graduated 29. The numbers of graduates are much lower than the local labour market requirements for technicians and higher-level skills, not to mention overseas demand for technicians. The training output for higher-level technical skills is disproportionately low compared to the enrollment in craft and operator courses, or a ratio of about 1:50 to craft skills, which is far from the normal proportion (1:5 to 1:10). Capacity to develop higher-level technical skills is low and cannot respond to private sector requirements and global competition. The development and promotion of the technical education system must be accelerated.

There are no operational programme standards for technicians that can be used as curriculum bases in TEVT institutions; there are also no institutional standards for TEVT institutions, private or public. Levels 5–7 of the national vocational qualifications (NVQ) framework are yet to be developed. Quality assurance mechanisms for the technician and technologist programs need to be put in place. Although there is a registration system for training providers, it requires refinement and wider implementation. The Tertiary and Vocational Education Commission (TVEC), which is mandated to provide quality assurance to the TEVT system, needs to be strengthened in audit of programs and institutions to ensure that they comply with TEVT accreditation standards.

Overall, teaching personnel are neither sufficient in number nor sufficiently qualified, particularly for technician programs. The student–teacher ratio based on enrollment is about 32:1, which needs to decrease to improve quality. A recent study conducted by TVEC on the training staff in major public providers, including TCs, revealed that about 79% of staff members have a diploma or lower and possess mainly a 6-months technical certificate or a 2-year technical diploma. Half had teacher training of less than 3 weeks and about 36 percent had no pedagogical training. Only 13% had industrial training after joining the public service. Most teachers lack trade skills and industrial experience, methods and psychology of learning, student assessment and evaluation methodologies, and teaching practicum. The facilities for technical teacher training are limited and are only in Colombo. No institution addresses pre-



service education of TEVT teachers. No degree programs raise the qualifications of technical teachers to the professional level to address the lack of teaching skills, the need to upgrade technical knowledge, and the need to improve qualifications for higher pay. In mid-2005, as part of the Government's mass recruitment, MSDVTE recruited degree holders, some of whom will be instructors in training programs, helping fill posts, but many require pedagogical training. Recruitment and retention of teachers and instructors is hampered by low pay, which is aggravated by the lack of opportunities to improve qualifications.

### ***Establishing the University of Vocational Technology***

Upon the passage of the University of Vocational Technology Act (Univotec Act), the Project will help the Government establish Univotec, which will address the shortage of technologists and qualified instructors for technical education, and provide an alternative higher education pathway leading to a degree for students and TEVT personnel. By providing access to tertiary education, this will help improve the sector's social image. Univotec will offer new degree programs, starting with a B.Tech.Ed. and a bachelor of technology (B.Tech.). It will have various campuses using the physical facilities of various TEVT institutions. The premises of the National Institute of Technical Education of Sri Lanka (NITESL) will be upgraded to be the main campus, and NITESL will be strengthened to become a faculty of training technology. Other technical institutions of MSDVTE, including TC-Ratmalana, will become part of the faculty of vocational technology. Univotec is expected to have an annual enrollment intake capacity of about 600 full-time and 600 part-time students in the technologist program, and about 300 full-time and 300 part-time students in the technical teacher education program.

### ***Developing University Administration and Technical Capacity***

The Project will support the development and implementation of university systems and procedures, including manuals and handbooks, on university governance and administration, planning, monitoring, and management and information systems. The latter will include (i) student administration, (ii) human resource management, (iii) budgeting and finance, and (iv) alumni tracing. This will be achieved by consultancies; procurement of equipment, software, and materials; and training and workshops. The Project will train about 15 Univotec staff members to use these systems.

To develop the capacity of Univotec officials in university leadership and administration, the Project will support up to 22 officials for executive leadership training and regional and overseas study tours of similar institutions for international benchmarking and development of university linkages. About 60 academic and technical staff members will train in emerging or new technologies to be offered at the diploma and degree levels, teacher education, curriculum and multimedia material development, appropriate nontraditional content delivery modes, and applied research and extension. The Project will provide consultancies, international and local training, workshops, and materials.

### ***Developing Student Selection Procedures and New Curricula***

The Project will help develop curricula in degree programs leading to a B.Tech.Ed. and a B.Tech., and develop and acquire related curriculum materials, including multimedia. The Project will help develop and validate student admission and

selection standards and requirements, which consider the varied academic and training backgrounds of applicants. This will include assessment of various diploma programs, identification of academic and training gaps, and recommendations for bridging programs to be offered by diploma institutions and Univotec. The Project will help develop bridging programs for Univotec. To achieve all these, the Project will provide consultancies, workshops, and curricular and learning materials.

### ***Upgrading Facilities and Equipment***

With new programs to be conducted and more students and trainees to be served, additional facilities and equipment will be required. The Project will support a consultant who will develop a rational phased infrastructure development plan for the university, considering the available infrastructure and facilities of MSDVTE institutions that could be used as campuses. The plan will identify facility gaps and develop the master plan and architectural drawings of essential infrastructure based on approved resources for this purpose. The Project will support the upgrade and construction, if necessary, of classrooms, light and heavy laboratories, workshops, and communal and administrative accommodations. New equipment and furniture will be provided based on the set minimum standards of the new curricular programs and technology specializations. Office, communication, and reprographic equipment will be procured. A facilities and equipment O&M manual will be developed. About 24 academic and technical staff members will be trained in O&M of these equipment and facilities.

### ***Major Lessons Learned***

A summary of the responses of the Working Group Report is given below.

#### **Major Lessons Learned:**

- a) matching training to economic demand was deemed most important;
- b) need for strong, committed implementing partners as well as clear definition of government's roles and responsibilities;
- c) need for capacity-building for institutions and key persons in the community to act as mentors;
- d) macro policies, appropriate structures and linkages should be in place while leaving room for local initiatives;
- e) integrated approach needed with training being considered as an important element, but not the only one;
- f) flexible training delivery in the proximity of rural households;
- g) need for easy access to micro-finance.

#### **Innovative Features:**

- a) increased role of local government agencies, but also NGOs;
- b) increased attention to institutionalization, sustainability, replication;
- c) baseline information includes social assessment in addition to technical and economic assessment;
- d) focus on skills for employability;
- e) active promotion of gender awareness and gender equality, including new approaches to involve women from strict religious backgrounds and culturally conservative communities;
- f) group organization for production and marketing considered as key strategy;
- g) emphasis on advocacy at all levels, community, institutional and policy level;



h) more emphasis on entrepreneurship development linked to skills development programmes.

### **Key issues**

- a) securing participation of women in training and other activities;
- b) challenge of working with many implementing partners at different levels;
- c) involvement of the social partners;
- d) high turn-over of project focal points in training institutions and government departments;
- e) scaling up pilot projects;
- f) institutionalization, mobilization of public funding, integration into national policies and strategies, especially PRSPs.

### ***Resource Mobilization***

The existing Government VT institutions have no arrangements for cost sharing with trainees, communities, or the private sector. For state VT institutes, the Government is always perceived as the prime agency for acquiring financial and physical resources. The recurrent budget, which continues to rise, is threatened by possible revenue and budgetary constraints. This situation presents risks to sustainability and highlights the need for mobilization of resources and rationalization of the VT system. A common perception in Sri Lanka is that education should be provided free of charge. This perception extends to skills training, except that in the minds of most youths, free training should also cover guaranteed jobs and employment. In the private sector, changes are taking place. Some large, well-recognized VT providers have begun to charge high tuition and still attract large enrollments because of their proven efficiency in training and job placement. However, these private providers are concentrated in Colombo.

As the Government provides free training, expanding TEVT through new technician and technologist programs will require more money.

Education in Sri Lanka is free in government schools, which comprise 94% of the schools, and in state-run tertiary educational institutions. About 10,000 government schools educate around 4,000,000 students. Some achievements of the Sri Lankan education system are remarkable. The literacy rate of 92% is one of the highest in Asia, and enrollment in primary schooling is 95%, in lower secondary 85%. Females make up about 50% of the total student population. Virtually, all children attend school up to grade 11.

Students pay tuition for all postgraduate courses, e.g., tuition for an MSc course ranges between SLRs15,000 and SLRs35,000 depending on the discipline or program. At the postgraduate level therefore, there is high cost recovery. However, undergraduate programs (bachelor degree) are all fully subsidized as no fees are charged. Even for dormitories, fees are very low, having been set in the 1960s. There is no other source of revenue in the universities. R&D centers are likewise not generating revenues, as they cater mostly to government requirements. Cost recovery is considered vital as the present system of government subsidy is adversely affecting the quality, scope, and relevance of S&T programs.

To address the issue of revenue generation, a Presidential Task Force on University Reforms constituted a technical subcommittee on finance, which has made a number of recommendations. These include a fee formula developed on the basis of student costs as criteria for determining government grants and allocations; schemes for funds mobilization; alumni endowments and campaigns among the private sector; and review of fees for student admissions, examinations, and hostels and accommodations. It has also recommended establishment of registered university-owned foundations and companies to provide consulting services for government and international agencies, training for personnel in Government and industry to generate revenue.

### ***Policies and Programmes***

In the past, an inadequate policy framework and lack of institutional capacity allowed the VT sector to expand in an ad hoc manner, without organized sector planning or an information base. The sector ministries developed their own VT institutions and programs based on perceived sector needs, without a mechanism to formulate a national VT sector strategy. As the Government recognized that the private sector should be an engine of growth, it realized the need to reform the VT sector to make it more relevant, quality-based, market-driven, and cost effective. In 1995, the President established a policy direction and strategy for the VT sector. The Government's Policy Statement to the new Parliament recognizes that the Sri Lankan workforce lacks the skills essential for industrial upgrading and diversification. The numerous state-run skills development programs are essentially supply-oriented and therefore have a poor record of providing industry-relevant skills. Vocational training will be extensively restructured through introduction of CBT into a demand-driven system, in cooperation with the private sector that will be the eventual employers. The Government's New Industrialization Policy (1995) also gives high priority to skills training to support private sector-led development.

The reform process in the TEVT sector started in April 1996 when the President formed an inter-ministerial committee on vocational training to draft a National Policy on Technical Education and Vocational Training. To support this overall policy, the Government, through consolidation of the major TEVT agencies, created MOVTRI in March 1997 to formulate policies and lead the sector in close coordination with other ministries. A consultative meeting on TEVT followed in June 1997 to develop programs of action for TEVT reforms. The committee report included a matrix of policy objectives, strategy options, and a time-based programme of action. It also identified parties responsible for implementation and coordination. The President approved the report in October 1997.

In November 1997 the Presidential Task Force on Technical Education and Vocational Training, chaired by the MOVTRI minister, was established to coordinate the efforts of the concerned ministries and Government agencies. The task force identified six key reforms including (i) a change in the role of the Government to facilitator, coordinator, standard-setter and regulator by amending, as necessary, the TVE Act of 1990 and redefining the role of the major Government providers; (ii) increased involvement of the private sector as the main provider of pre-employment training through the establishment of a skills development fund and industry-specific skills centers and enterprise-based VTCs; (iii) better linkages between general education and TEVT to facilitate the movement of students between general



education and TEVT by changing the entry requirements and recognizing previous education and work experience; (iv) more focus on training for self-employment in the informal sector; (v) development of vocational and career guidance programs; (vi) improvement of TEVT quality including expansion and improvement of the skills standards, testing, and certification system; and (vii) rationalization of sector resources through improved evaluation. To encourage private sector involvement, the Government has increased Board of Investments incentives, giving outright grants of SLRs700,000 to improve enterprise-based training and earmarking SLRs100 million for the establishment of the Skills Development Fund (SDF) to be managed by the private sector to strengthen post-employment training.

The establishment of the Skills Development Fund was recommended by the Presidential Task Force on Technical and Vocational Reforms and approved in principle by the Cabinet on 2 June 1999. The main objectives of the SDF are to (i) support job entry, skills upgrading, and retraining of employees; (ii) expand and improve enterprise-based training to facilitate the development of a highly trained and skilled workforce; and (iii) provide linkages between training institutions and the private sector. The Government has provided SLRs100 million in the 1999 budget for this purpose. The fund is designed to be self-sustaining by charging fees for services provided and earning interest income from investing the SLRs100 million in treasury bills.

To respond to these policy initiatives, MOVTRI prepared a six-year (1999-2004) programme with emphasis on (i) reorientation of the TEVT system to meet industry needs by strengthening the planning units of VT institutions; establishing strong MIS; rationalizing VT programs.

Incentives granted to the private sector by the Board of Investments include a preferential tax rate of 15 percent and duty-free facilities to establish training facilities; 5-year tax holiday, provided each training institute provides training for a minimum of 300 trainees in priority sectors such as garments, gem and jewellery, electronics, and computer software; financial assistance to expand and improve existing training programs or to establish new training facilities with an allocation of SLRs 50 million through TVEC for this purpose.

### **Recommendations**

A strategy should ensure that training programs receive adequate resources, run efficiently, and are conducted in a sustainable manner. Resources should be linked to outputs to ensure that the quality of training programs and trainees is not compromised and that TEVT investments in facilities and equipment are not wasted. More resources are needed to purchase consumable training materials; run, maintain, and repair training equipment; and procure learning materials.

To meet the need for technicians and technologists and for higher education, TEVT, particularly technician and technological education programs, need to be more accessible. Programs need to be of better quality, more relevant, and more sustainable, and their social image must be enhanced.

## 4. Conclusions and Recommendations

This section provides conclusions and recommendations of the study.

### 4.1. Conclusions

- 1) Vocational education and vocational training, in the South Asian countries is delivered through public, private, and non-formal / traditional institutions. The formal education system in the region has more or less the general structure of pre-primary, primary, secondary (class VI-X), higher secondary (class XI-XII) and tertiary education or college education. The vocational education and vocational training, in the majority of regional countries has so far not received proper attention.
- 2) In recent years, increasing efforts are being made to develop knowledge and market based skills to be competitive in the international market. All the SAARC Member States have implemented policies to increase vocational education and vocational training with literacy rates, improving access to education and enhancing enrolment and retention at the primary level.
- 3) A number of Government agencies in the region are entrusted to prepare policies and design strategies for the development of vocational education and training system, and priority areas of investment. But progress is slow.
- 4) The trends and pattern of investment in education show that among SAARC Member States, Bhutan has the highest public expenditure on education as percentage of GDP equivalent to above 5.0 percent as of 2003-04 followed by India at 4.3 percent.
- 5) Globally labour productivity has increased by 2.6 percent in 2005 but when seen against the labour productivity of China and other East Asian countries, the SAARC countries are considerably behind them. India and Pakistan with labour productivity are the best among the SAARC countries. Weak skills, low educational levels, and less flexibility to change and adapt new technologies have negatively impacted the labour productivity of the region.
- 6) Since productivity growth and employment growth together determine GDP growth, vocational education and skill development for a higher GDP value have become all the more important for the SAARC countries. Greater efficiency especially in the services and industrial sectors and a larger workforce could set the SAARC countries on the trajectory of high growth as well as address the problems of unemployment.
- 7) The need for vocational education and skill development with the creation of productive employable also emerges out of the global and region pursuit for sustainable development. A well trained technical workforce capable of working at the interface of nature, technology, economy, and society could only pave the way to sustainable development.



- 8) Vocational education and skill development of the labour force has to be in response to the needs of the labour market. The right type of training, the degree of mix of education, and the balance between supply and demand of skills have to be choreographed by the market itself. At the same time an authority that could analyze market trends on absorption capacity of the market, work structure, performance of the vocational education graduates is required. In Nepal and India a council exists which coordinates and manages technical education and in Sri Lanka Tertiary and Vocational Education Commission acts as the focal body to formulate policies, assure quality and standardize activities; nevertheless, close ties with industries are missing to have demand oriented workforce. In Pakistan a national vocational education and training authority has been established to promote knowledge and skills in the country.
- 9) Trained workforce translates into greater returns on human as well as physical capital. For human capital to reach to a higher level requires the right package of education and skills in synchronization with rapidly changing technology. The traits of such a workforce are adaptability and flexibility. This entails updated vocational education and skill development curricula, flexible entry and exit points between general education and vocational education, lifelong development of competences and qualifications, and some general skills learned through general education that the workforce could carry from job to job.
- 10) A capable labour force attracts capital inflows. The East Asian nations are a testimony to this. China, Singapore and South Korea through their heavy investment in education are able to attract large foreign direct investment (FDI) leading to further demand for skilled labour and hence more, less than 1.0 percent of the global FDI inflows.
- 11) Productivity of workforce on one hand and the tendency to go up the value chain determine the dexterity of a nation to compete and survive in the global market. The SAARC countries with their low level of productivity and low value of production face a daunting challenge. India is doing better than the others when seen in the field of Information Technology, but in the rest of the sectors and the rest of the countries still have a long way to develop themselves.
- 12) One of the main reasons of low knowledge and skill development in the SAARC region is the low investment of vocational education and training. Unless public funding is increased and a system of public and private partnership is developed to finance VET, the present low skill trends would continue, implying low factor productivity and low competitive position of the region in the international market.
- 13) The VESD should be demand driven. It is necessary that employers are fully involved in the provision of education and training according to market demand.

## 4.2. Recommendations

- 1) The current situation of knowledge and appropriate skills needs significant improvements in the majority of South Asian countries. These countries must prioritise their investment in education. While the universal primary education is necessary, but investment in tertiary education and vocational education and training is also very important, keeping in view the global development. Without proper knowledge and skills the South Asian countries not likely to compete properly with countries outside the region.
- 2) The public expenditure on vocational education and vocational education must be increased manifold from its present level. It is also necessary that institutional arrangements be strengthened to address governance issues which most of these institutions are facing.
- 3) Improving the quality of vocational training, a system is needed for standards setting, programme accreditation, trade testing and certification, as well as strong partnership with private sector. The system should contribute to the improvement of quality training by enhancing the flow of information between employers and trainees. Development of a national vocational qualifications system would be an important first step, but standards setting are constrained by inadequate industry participation.
- 4) Jobs in the coming years will demand higher levels of competencies and skills whilst competencies and skill requirements of existing jobs will continue to grow at a rapid pace. Knowledge, skills and talent of workforce provide a competitive edge for the individuals as well as entrepreneurs in an ever-changing work environment. There is a clear recognition now that human skills would play an important role in sustaining the current pace of growth through enhanced productivity of human capital. Vocational and technical education at school level and setting up of specialized institutes of good quality is necessary.
- 5) Globalization has brought new challenges for developing economies and their labour markets. It is imperative to face these challenges so as to be competitive in the world market, which to a large extent is driven by scientific and technological innovations. Education and training require to be made need-oriented, multi-skill and flexible to meet changing needs of the local industry and overseas demand.
- 6) In a globalized context, skill requirements are not only growing but are also constantly changing. In this context, a training system with built-in flexibility is a vital component of an employment- intensive growth strategy. Given this requirement, two problems are being encountered virtually everywhere. The first is finding ways of making a training system flexible enough, with wide coverage, and the second is raising adequate resources for establishing and sustaining a training system of this type.
- 7) VESD is important for economic growth. But the relationship is not linear. So each country has to decide the extent of VESD that has to be

developed, depending upon the level of development and demand for skills. As Foster (1965) observed, “in the initial stages technical and vocational instruction is the cart rather than the horse in economic growth, and its development depends upon real and perceived opportunities in the economy. The provision of vocational education must be demand based.”

- 8) Most skills developed over a lifetime are acquired on the job, mostly in enterprises in which people work in both the formal and the informal economy. The incentives for enterprise-level training and the means of overcoming disincentives to spending on training need to be carefully analyzed so as to move closer to optimal levels and to efficient delivery of training.
- 9) A major problem in the South Asian economies is the lack of adequate resources needed for improving the quality of human resources. The three most populous nations in this cluster (Bangladesh, India, and Pakistan) should make considerable efforts to meet the backlog in primary education. Fewer than 10 percent of new entrants to the labour force in these three countries possess any formal training. The issue of greater access to education, especially to secondary education, to meet social demands and the requirements of an industrializing economy, must be seriously tackled.
- 10) To develop training systems more responsive and effective to the changing needs the vocational training system should be strengthened by:
  - *Developing* partnership between employers who are the end-users of the skills, the workers who receive them and the government that provides the framework is essential.
  - *Improving* public spending and encouraging employers and individuals to contribute to the cost of training.
  - *Testing* training and its effectiveness.
- 11) At the primary school level, free tuition does not always mean free schooling for children. Although many public schools do not charge a fee for education, other expenditure such as purchase of books and uniforms is born by the families. These expenditures refrain poor households from sending their children to school. To promote primary and secondary education ‘free’ schooling must incorporate all legitimate charges associated with the elementary education.
- 12) Lack of coordination is one of the biggest challenges, which all the SAARC countries need to overcome. Integration vocational education and training, curriculum, and the demands of the labour market can help ensure adequate training, which is demand-driven, up-to-date, and beneficial for the individual, firm, industry and nation. A coordination mechanism is to be devised along with monitoring and evaluation as pointed out by the



Johanson diagrams in the study. Such a strategy will likely close the skill gaps.

- 13) Appropriate incentives structure should be developed by employers to attract and retain their workers. The fear of 'poaching' causes many firms not to invest in their employees in terms of on-the-job training. Many firms feel that workers will benefit from the training, making themselves more competent, but not necessarily benefit the firm. Self-interest will cause them to seek better opportunities in other firms. Furthermore, firms that do not have an on the job training facilities will try to lure trained workers by offering better compensation. This asymmetry of knowledge between the employee and employer needs to be overcome by developing appropriate incentives to reveal the intentions of the firm providing the training and help retain their employees.
- 14) The students finishing secondary school need to be guided in terms of what stream of education to follow next. As evidence shows, many people in the unemployed workforce pursued general education. This suggests that towards the final years of secondary schooling, there should be guidance class (informal) providing information on the opportunities available to students in the future. Worldwide surveys show that students at the secondary level are unsure of what field to pursue and therefore, the importance of a councillor or advisor dedicated to this matter is brought forward.
- 15) Access to VESD institutes is limited in most of the SAARC countries. Although in Sri Lanka, India, and Pakistan many VESD institutes are present, they do not ensure admission to the poor, people from the rural areas and females. With culture and traditions in mind, separate technical institutes for females should be developed.
- 16) A balance between technical education and general education should be maintained.
- 17) With globalization and new technologies, governments' must equip their technical institutes with up-to-date machinery and apparatus to train their students with the machinery and equipment in use in the industry. The use of outdated machinery and equipment will not produce skilled manpower required by the market.
- 18) SAARC member countries should use SAARC as a vehicle to promote VESD in the region. Vocational education and skill development institutes in Member States should be open to other nationals as well.
- 19) With current global trends, the labour market requires flexible workers, able to handle work in related areas of expertise as well as adapt quickly to new technology. Therefore, VESD education must include some general education elements as well, which will allow for greater flexibility and adaptability in the students.



- 20) To compete effectively in the international market, South Asia must develop knowledge and skill bases. The region needs to improve its productivity and quality of exportable products. This can only be done with the skilled workforce. The new jobs in the coming years will increasingly require higher qualifications and skills than before; investment in education and training is a necessity. Unless South Asian countries individually and collectively increase knowledge and skills they cannot benefit from the substantial opportunities created by the globalization.
- 21) The most successful training interventions that lead to employment are based on market place demand (including a workforce with technical and literacy skills) and reflect market place conditions.
- 22) Human resource development as an option in delivering human performance improvement needs to consider learning interventions that extend beyond only instructor-generated systems to include issues like human resource management, organizational development and in designing environments that stimulate learning.
- 23) The emerging gap between members of the workforce with knowledge-based skills and those without will expand and will be a critical social force in the coming century. On the social side of this issue little is happening. The challenge for employers' organizations is to narrow this gap.
- 24) Restructuring employers' organizations and their HRD services to be smaller, less hierarchical and flexible in new ways will add organizational value in delivering results. Forging relationships built upon the view of employers' organizations as sources of current information will be an emerging role in the 21st Century.
- 25) The pace at which education and training systems transmit knowledge and skills of the requisite quality directly affects the pace of development. Countries that do not plan from now to address not only their current human resource problems but also those of social infrastructure conducive to future knowledge work and workers, will find that the development gap between them and those that do will continue to widen as is the case at present. In Asian countries which wish to be involved in some of the high value-added and key industries of the next few decades (microelectronics, biotechnology, the new materials science industries, civil aviation, telecommunications, robotics plus machine tools, computers and software), much needs to be done in the fields of education and training. India's achievements in the software industry indicate that it can be done even in a relatively economically poor country.
- 26) Training and development of employees must be viewed as an integral part of an employees overall human resource management strategy. The strategy should be one which links selection, recruitment, training, career planning and development, performance appraisal, pay for performance and skills, and employment security. However, the state has an overall responsibility to provide training facilities and to promote an environment

conducive to training. A division of responsibilities could take the following form:

- Identifying current and anticipating future skills needs should be the collective responsibility of the government, employers and employees. Close interaction among these parties is essential if training policies are to be correctly formulated, training delivered in the most effective way, and if incentives are to be extended to employers to provide training.
  - Generally speaking, the government should invest in the provision of the general skills necessary for employees to develop multi-skills and to be trained in enterprise-specific skills. The general skills training provide the capacity to adapt to changing skills requirements. However, employers should also improve the general skills.
  - The employer should undertake the more organization-specific skills development. This does not imply an absence of government responsibility. It could, for instance, provide (whether through the tax system, training levies or otherwise) incentives for training. As a general rule, it is large employers and ones whose business involves fast-changing technologies which tend to invest in training without the need for external incentives. Small enterprises often do not have the means to invest in and provide training. Family businesses in particular tend to lack a training policy, which will need to change if they expand, especially across national borders. It is also necessary for the government to promote the diffusion of training across an economy if employers are not to be tempted to 'poach' from other employers, and training is to contribute to the emergence of competitive industries and not merely a few isolated competitive enterprises. The problems of training for small enterprises may dictate a need for government to institute training facilities for them.
  - Employers are in a position to provide incentives for employees to develop skills through a pay system which rewards them for acquisition of skills. Thus the current decade has witnessed an increasing resort by employers to skill-based pay systems, though they are largely confined to industrialized countries.
- 27) The majority of the South Asian countries are facing the problem of resources, and it is unlikely that public sector alone finance the gigantic task of developing knowledge and skills independently. It is therefore important that these programmes are developed and implemented in partnership with the public sector and non-governmental organizations.
- 28) A system should be evolved in which the core stakeholders identify areas of investment and mobilize resources for promoting vocational education and skills development in South Asia.





## 5. References

- Amjad, Rashid (2005) Sills and Competitiveness: Can Pakistan Break Out of the Low-Level Skills Trap? *The Pakistan Development Review* 44:4.
- Anderson, C.A. and Bowman, M.J. (eds.) (1965) *Education and Economic Development*. Chicago: Aldine.
- Asia Pacific Cultural Organization for UNESCO, National Literacy Policies, Pakistan 2004 <http://www.accu.or.jp/litdbase/policy/pak/index.htm>
- Asian Development Bank (1991) *Technical and Vocational Education and Training*. Manila.
- Asian Development Bank (2005) *Improving Technical Education and Vocational Training. Strategies for Asia*. Asian Development Bank, Manila.
- Asian Development Bank, "Improving TEVT Strategies for Asia," 2004 [http://www.adb.org/Documents/Books/Tech\\_Educ\\_Voc\\_Training/](http://www.adb.org/Documents/Books/Tech_Educ_Voc_Training/)
- Asian Development Bank, Country Assistance Plan, Bhutan <http://www.adb.org/documents/caps/BHU/0103.asp>
- Asian Development Bank, Country Strategy and Program Update, Maldives, 2005-06 <http://www.adb.org/Documents/CSPs/MLD/2004/csp0200.asp>
- Asian Development Bank, Key Indicators 2006, Bhutan [http://www.adb.org/Documents/Books/Key\\_Indicators/2006/pdf/BHU.pdf](http://www.adb.org/Documents/Books/Key_Indicators/2006/pdf/BHU.pdf)
- Asian Development Bank, Key Indicators 2006, Maldives [http://www.adb.org/Documents/Books/Key\\_Indicators/2006/pdf/MLD.pdf](http://www.adb.org/Documents/Books/Key_Indicators/2006/pdf/MLD.pdf)
- Asian Development Bank, Key Indicators 2006, Sri Lanka [http://www.adb.org/Documents/Books/Key\\_Indicators/2006/pdf/SRI.pdf](http://www.adb.org/Documents/Books/Key_Indicators/2006/pdf/SRI.pdf)
- Atta-ur-Rehman, A. R. Kemal, Rehana Siddiqui, Musleh-ud Din, Zafar Mueen Nasir (2005) *Technology based Industrial Vision and Strategy for Pakistan's Socio-economic Development (Draft)*, Pakistan Institute of Development Economics, Higher Education Commission, Government of Pakistan, Islamabad.
- Balogh, Thomas (1969) *Education and Agrarian Progress in Developing Countries*, In: Hufne, K. and Naumann, J. (eds.) *Economics of Education in Transition*. Stuttgart: Ernst Klett, pp. 259-68.
- Becker, G.S. (1964) *Human Capital*. New York: National Bureau of Economic Research.
- Bennell, P. (1995) *General versus Vocational Secondary Education in Developing Countries: A Review of the Rates of Return Evidence*. IDS Working Paper 23. Sussex, Brighton: Institute of Development Studies.



- Bennell, Paul and Sergerstrom, J. (1998) Vocational Education and Training in Developing Countries: Has the World Bank Got it Right? *International Journal of Educational Development* 18 (4) (July): 271-87.
- Bennell, Paul, "Learning to change: Skills development among the economically vulnerable and socially excluded in developing countries," ILO, 1999
- Bhutan, Ministry of Education, 2003. Education Policy Guidelines and Instructions - 2003 Ministry of Education, Policy and Planning Division, Thimphu
- Bhutan, Ministry of Education, Annual Education Conferences (1997 - 2003), Thimphu.
- Bhutan, Ministry of Education, Education Sector Strategy Realizing Vision 2020, Policy and Strategy Department of Education, Thimphu.
- Bhutan, Ministry of Education, General Statistics, 2003 and 2004, Policy and Planning Division, Thimphu
- Bhutan, Ministry of Education, The Purpose of School Education in Bhutan, 2003, A curriculum Handbook for schools, Curriculum and Professional Support Division (CAPSD), Thimphu.
- Blaug, M. (1973) *Education and the Employment Problem in Developing Countries*. Geneva: International Labour Office.
- Boyd, T.F. and Lee, C. (1995) Educational Need and Economic Advancement: The Role of Vocational Education in the Republic of China, In: Yee (ed.), pp. 193-210.
- Caillods, F. 1996. Education Strategies for disadvantages groups: Some Basic Issues: International Institute for Education Planning, UNESCO
- Chung, Yue-Ping (1995) Returns to Vocational Education in Developing Nations, In: Carnoy, M. (ed.) *International Encyclopedia of Economics of Education*. Oxford: Pergamon, pp. 175-81.
- Commission of the European Communities, "Commissions Action Plan for skills and mobility" Brussels, February 13, 2002
- Commission of the European Communities, "Efficiency and equity in European education and training systems," Brussels, September 8, 2006
- Coombs, P.H. (1985) *The World Crisis in Education*. New York: Oxford.
- Council of the European Union, "Draft Council resolutions on the promotion of enhanced European cooperation in vocational education and training," Brussels, October 18, 2002

- Crane, R.I. (1965) Technical Education and Economic Development in India before World War I. In: Anderson and Bowman (eds.), pp. 142-66.
- Daly, A., D. M. W. N. Hitchens, and Wagner K. (1985) Productivity, Machinery and Skills in Sample of British and German Manufacturing Plants: Results of a Pilot Inquiry, In *National Institute Economic Review* 11, S. 48-61.
- Dougherty, C. (1990) Unit Costs and Economies of Scale in Vocational and Technical Education: Evidence fro the People's Republic of China, *Economics of Education Review* 9 (4): 389-94.
- European Centre for Development of Vocational Training  
<http://www.cedefop.europa.eu/index.asp?section=8&sub=3>
- Finegold, D., Keltner, B and C. Pager, 1996. Institutional Support for High performing Skills and Standard System, CA: RAND (December).
- Foster, P.J. (1965) The Vocational School Fallacy in Development Planning. In: Anderson and Bowman (eds.), pp. 142-66.
- Government of Bangladesh, Ministry of Primary and Mass Education, National Plan of Action 2003-20015  
[http://portal.unesco.org/education/en/file\\_download.php/8fc9239e9c5c92c631342f0816547a10Bangladesh.pdf#search=%22bangladesh%20national%20plan%20of%20action%20II%22](http://portal.unesco.org/education/en/file_download.php/8fc9239e9c5c92c631342f0816547a10Bangladesh.pdf#search=%22bangladesh%20national%20plan%20of%20action%20II%22)
- Government of Bangladesh, Planning Commission, Poverty Reduction Strategy Paper 2005, p. 8  
[http://www.plancomm.gov.bd/PRSP-22.09.05\\_WEBB.pdf](http://www.plancomm.gov.bd/PRSP-22.09.05_WEBB.pdf) p. 8
- Government of Bhutan, Bhutan Portal  
<http://www.bhutan.gov.bt/government/newsDetail.php?id=129%20&%20cat=4>
- Government of Bhutan, Department of Human Resources, Ministry of Labour and Human Resources <http://www.dhr.gov.bt/>
- Government of India website, Education Sector  
<http://india.gov.in/sectors/education2.php#1>
- Government of India, Ministry of Education, Financing Technical Education  
<http://education.nic.in/tecedu.asp>
- Government of India, Ministry of Human Resource Development, Department of Higher Education <http://education.nic.in/sector.asp#standard>
- Government of India, Planning Commission, 10<sup>th</sup> Plan, volume 2  
[http://www.planningcommission.gov.in/plans/planrel/fiveyr/10th/volume2/v2\\_c\\_h2\\_4.pdf](http://www.planningcommission.gov.in/plans/planrel/fiveyr/10th/volume2/v2_c_h2_4.pdf)

- Government of Nepal, Ministry of Education, "Education in Nepal," 2003  
[http://www.moe.gov.np/admin/res\\_reports/Education\\_Nepal\\_Brochure.pdf](http://www.moe.gov.np/admin/res_reports/Education_Nepal_Brochure.pdf)
- Government of Nepal, Ministry of Education, "Nepal in Educational Figures 2005," Kathmandu, Nepal, 2005  
<http://www.moe.gov.np/Educational%20Statistics/download%20pdf/Nepal%20in%20Educational%20Figures,%202005.pdf>
- Government of Pakistan, Finance Division, "Pakistan Economic Survey 2004-2005, 2005
- Government of Pakistan, Ministry of Education website <http://www.moe.gov.pk/>
- Government of Pakistan, Ministry of Education, Financing Education  
<http://www.moe.gov.pk/publicsectorallocation.pdf>
- Government of Pakistan, Planning Commission, "Medium Term Development Framework 2005-2010," 2005 <http://www.mopd.gov.pk/mtdf/30-Knowledge%20economy/30-Knowledge%20Economy.pdf>
- Government of Sri Lanka, Ministry of Education, Foreign Funded Projects  
<http://www.education.gov.lk/projects.php>
- Government of Sri Lanka, Ministry of Education, website  
<http://www.moe.gov.lk/modules.php?name=Content&pa=showpage&pid=7>
- Government of Sri Lanka, Tertiary and Vocational Education Commission website  
<http://www.tvec.gov.lk/nvgintro.php>
- Green, Andy (1997) *Education, Globalization and the Nation State*. London: Macmillan.
- Grubb, W.N. (1985) The Convergence of Educational System and the Role of Vocationalism. *Comparative Education Review* 29 (4): 526-548.
- Haq, Mahbub ul and Khadija Haq (1998) *Human Development in South Asia 1998*. Karachi: Oxford University Press.
- ILO (1998) World Employment Report 1998-99. *Employability in the Global Economy: How Training Matters*. International Labour Office, Geneva.
- ILO (2001) *World Employment Report 2001, Life at Work in the Information Society*, International Labour Office, Geneva.
- ILO, "Employers Organizations and Human Resource Development in the 21<sup>st</sup> Century: Views from South Asia," 1997  
<http://www.ilo.org/public/english/dialogue/actemp/papers/1998/qwghrdeo.htm>
- ILO, "Global Employment Trends Brief 2006," January 2006  
<http://www.ilo.org/public/english/employment/strat/download/getb06en.pdf>

- ILO, "Human Resource Development In Asia and the Pacific in the 21<sup>st</sup> Century"
- ILO, "World Employment Report 2004-05,"  
<http://www.ilo.org/public/english/employment/strat/download/wr04c1en.pdf>
- Johanson, Richard, "Technical Education and Vocation Training Strategies in Asia Region," 2004 <http://www.adb.org/Documents/Events/2004/Education-Training-Prospects/johanson-paper.pdf>
- Khan, M. A (2005) Human Resource Development, Competitiveness and Globalization: A South Asian Perspective, *SAARC Journal of Human Resource Development*, SAARC Human Resource Development Centre, Islamabad Vol.1, p. 15-54.
- Kronstadt, K. Alan, "Education Reform in Pakistan – CRS Report for Congress," December, 2004 <http://fpc.state.gov/documents/organization/40145.pdf>
- Lall, Sanjay and Weiss, John (2004) *Industrial Competitiveness: The Challenge for Pakistan*. ADB Institute-Pakistan Resident Mission Paper, ADB Pakistan Resident Mission, Islamabad.
- Lijima, K. and Tachiki, D.S. (1994) *Developing Human Resources for Sustainable Economic Growth: Public Policy Lessons from Japan, the Asian NIEs and DPEs*. Tokyo: Sakura Institute of Research.
- Lillis, K. and Hogan, D. (1983) Dilemmas of Diversification: Problems Associated with Vocational Education in Developing Countries. *Comparative Education*. 19 (1): 89-107
- Mangi, Naweem A., "Pakistan: Better Late Than Never in Outsourcing," BusinessWeek Online, May 2005  
[http://www.businessweek.com/magazine/content/05\\_19/b3932079.htm](http://www.businessweek.com/magazine/content/05_19/b3932079.htm)
- Middleton, J., and Demsky T. (1989) *Vocational Education and Training: A Review of World Bank Investment*. Discussion Paper 51. Washington DC: World Bank.
- Min, Wei-fang and Tsang, M.C. (1990) Vocational Education and Productivity: A Case Study of the Beijing General Auto Industry Company, *Economics of Education Review* 9 (4): 351-64.
- Mishra, Arun K., "Technical/Vocational Education in India," 1993
- Mujeri, Mustafa K., "Financing Education: National Priorities and Future Directions, A Right to Development Perspective," July 2003
- Mundle, S. (ed.) (1998) Financing Human Resource Development in the Advanced Asian Economies, *World Development* 26 (4) (April): 657-742.



- OECD (1996), "The knowledge-based economy," General Distribution OCDE/GD(96)102, Paris.
- OECD (2000) *Education at a Glance: OECD Indicators*. Paris: Organisation for Economic Co-operation and Development.
- Pakistan, Government of (2005) Medium Term Development Framework (MTDF) 2005-10.
- Psacharopolous, G. (1987) To Vocationalize or Not to Vocationalize: That is the Curriculum Question. *International Review of Education*. 33 (2): 187-211.
- Psacharopoulos, G. and Loxley, W. (1985) *Diversified Secondary Education and Development*. Baltimore: Johns Hopkins/ World Bank.
- Rao Online, "Bhutan's Education System Statistics 2000," [www.raonline.ch/pages/bt/ecdu/bt\\_edustat01.html](http://www.raonline.ch/pages/bt/ecdu/bt_edustat01.html)
- Rosner, M. 1993. Idea Caps and Object Caps in Economic Development, *Journal of Monetary Economics* (December).
- Solow, Robert., 1957. "Technical Change and the Aggregate Production Function", *Review of Economics and Statistics*, 39:312-320
- Tan, H and Sachenko, Y. 2005. The Bangladesh Vocational Education and Training System: An Assessment, World Bank
- The Centre for Bhutan Studies, "Youth in Bhutan: Education, Employment, Development," January, 2005  
<http://www.bhutanstudies.org.bt/publications/monograph/mng14-Yth-Bt.pdf#search=%22youth%20in%20bhutan%22>
- Tilak, J.B.G. (1988a) Economics of Vocationalization: A Review of Evidence, *Canadian and International Education* 17 (1): 45-62
- Tilak, J.B.G. (1988b) Vocational Education and Economic Growth. *Journal of Educational Planning and Administration* 2 (1-2) (January- April): 157-84
- Tilak, J.B.G. (1988c) Vocational Education in South Asia: Problems and Prospects. *International Review of Education* 34 (2): 244-57
- Tilak, J.B.G. (1994) *Education for Development in Asia*. New Delhi: Sage.
- Tilak, J.B.G. (2001) *Building Human Capital in East Asia*. Washington DC: World Bank Institute.
- Tilak, Jandhyala B. G., "Vocational Education and Training in Asia," 2002
- UNDAF, <http://www.un.org.in/undaf.htm>

- UNDP, “Bhutan Socio-Economic Indicators” <http://www.undp.org.bt/about.php>
- UNDP, Human Development Index, 2004, Bangladesh  
<http://hdr.undp.org/statistics/data/countries.cfm?c=BGD>
- UNDP, Human Development Index, Pakistan, 2004  
<http://hdr.undp.org/statistics/data/countries.cfm?c=PAK>
- UNDP, Human Development Index, Sri Lanka, 2004  
<http://hdr.undp.org/statistics/data/countries.cfm?c=LKA>
- UNDP, Human Development Report, Nepal  
<http://hdr.undp.org/statistics/data/countries.cfm?c=NPL>
- UNESCO (1999) *Statistical Yearbook*. Paris.  
<http://www.uis.unesco.org/TEMPLATE/pdf/RegionalReports/SEAsiaENG.pdf>
- UNESCO (1984) *Technical and Vocational Education: Country Studies*.  
Bangkok: UNESCO Regional Office for Education in Asia and the Pacific.
- UNESCO, “Technical and Vocational Education and Training for the Twenty-first Century,” 2002 <http://unesdoc.unesco.org/images/0012/001260/126050e.pdf>
- UNESCO, “World Education Indicators 2005”  
<http://www.uis.unesco.org/TEMPLATE/pdf/wei/WEI2005.pdf>
- UNESCO, Education for All, Plan of Action (Maldives), 2001  
[http://portal.unesco.org/education/en/file\\_download.php/13d069635a1cd4b3a23a41415ce045d408+Maldives\\_EFA+Plan+\(2001\).pdf](http://portal.unesco.org/education/en/file_download.php/13d069635a1cd4b3a23a41415ce045d408+Maldives_EFA+Plan+(2001).pdf)
- UNESCO, Institute for Statistics, Gross Enrolment Ratios  
[http://www.uis.unesco.org/ev.php?URL\\_ID=5187&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201](http://www.uis.unesco.org/ev.php?URL_ID=5187&URL_DO=DO_TOPIC&URL_SECTION=201)
- UNESCO, National Report on Development of Education (Bhutan)  
<http://www.ibe.unesco.org/International/ICE47/English/Natreps/reports/bhutan.pdf#search=%22education%20bhutan%22>
- UNEVOC-UNESCO, “Orienting Technical and Vocational Education and Training for Sustainable Development,” Bonn, Germany, 2006  
[http://www.unevoc.unesco.org/publications/pdf/IntLib\\_DiscP\\_ESD\\_e.pdf](http://www.unevoc.unesco.org/publications/pdf/IntLib_DiscP_ESD_e.pdf)
- UNSECO, South and East Asia Regional Report 2003
- Wagner K. (2005) Productivity and Skills in Industry and Services – A British-German Comparison. *The Pakistan Development Review* 44:4.
- Watters, Elizabeth, “Selected milestones in the evolution of the European area of lifelong learning,”  
[http://www.trainingvillage.gr/etv/upload/projects\\_networks/LLL/LLL\\_milestones.pdf](http://www.trainingvillage.gr/etv/upload/projects_networks/LLL/LLL_milestones.pdf).



- Wijemanne, E.L. (1978) *Educational Reforms in Sri Lanka*. Report Studies C. 70. Paris: UNESCO.
- World Bank (1974) *Education. Sector Paper*. Washington, DC.
- World Bank (1995) *Priorities and Strategies for Education*. Washington DC.
- World Bank, "Funding Secondary Education"  
<http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1099079967208/547671-1120139762595/chapter7.pdf>
- World Bank, "Labour Markets in South Asia: Issues and Challenges," November, 2004 [http://siteresources.worldbank.org/INTLM/Resources/390041-1103750362599/SAR\\_paper.pdf#search=%22labour%20market%20in%20south%20asia%22](http://siteresources.worldbank.org/INTLM/Resources/390041-1103750362599/SAR_paper.pdf#search=%22labour%20market%20in%20south%20asia%22)
- World Bank, "Treasures of The Education System in Sri Lanka," June 2005  
[http://siteresources.worldbank.org/INTSRILANKA/Resources/233024-1120241837002/2-TESS\\_Ex-SummaryE.pdf](http://siteresources.worldbank.org/INTSRILANKA/Resources/233024-1120241837002/2-TESS_Ex-SummaryE.pdf)
- World Bank, Education Statistics 2006 <http://devdata.worldbank.org/edstats/cd1.asp>
- World Bank, Tan Hong, "Enterprise Training: Links to Innovation and Productivity," 2004  
[http://info.worldbank.org/etools/docs/library/86487/HTan\\_2nov2004\\_eng.pdf](http://info.worldbank.org/etools/docs/library/86487/HTan_2nov2004_eng.pdf)
- World Economic Forum (2004-2005) *The Global Competitiveness Report*. New York: Palgrave Macmillan.
- World Economic Forum (2005-2006) *The Global Competitiveness Report*. New York: Palgrave Macmillan.
- Yamamoto, S. (1995) Traditionalism versus Research and Development at Japanese Universities. In: Yee (ed.) pp. 25-35.
- Yang, Jin (1998) General or Vocational? The Tough Choice in the Chinese Education Policy, *International journal of Educational Development* 18 (4) (July): 289-304
- Yee, A.H. (ed.) (1995) *East Asian Higher Education: Traditions and Transformations*. Oxford: Pergamon.