THE BANGLADESH VOCATIONAL EDUCATION AND TRAINING SYSTEM: AN ASSESSMENT

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Abbreviations and Acronyms

ANTA	Australian National Training Authority
BANBEIS	Bangladesh Bureau of Educational Information System
BBS	Bangladesh Bureau of Statistics
BGMEA	Bangladesh Garments Manufacturer's and Exporter's Association
BIFT	BGMEA Institute of Fashion Technology
BKMEA	Bangladesh Knitwear Manufacturer and Exporter's Association
BOI	Board of Investment
BPTA	Bangladesh Polytechnic Teacher's Association
BTEB	Bangladesh Technical Education Board
BTMEA	Bangladesh Textile Manufacturer and Exporter's Association
BTVET	Board of Technical and Vocational Education and Training
BUET	Bangladesh University of Engineering and Technology
CGA	Comptroller of General Accounts
CIMO	Integral Quality and Modernization Program of Mexico
CSDC	Chittagong Skills Development Center
CVE	Certificate in Vocational Education
DipTech	Diploma in Technical Education
DipVoc	Diploma in Vocational Education
DSHE	Directorate of Higher Secondary Education
DTE	Directorate of Technical Education
GoB	Government of Bangladesh
HRD	Human Resource Development
HRDF	Human Resource Development Fund
HSC	Higher Secondary Certificate
HSC (BM)	Higher Secondary Certificate (Business Management)
HSC (Voc)	Higher Secondary Certificate (Vocational)
IGA	Income Generation Activities
ILO	International Labor Organization
IMC	Institute Management Committee
ITI	Industrial Training Institute
LFP	Labor Force Participation
MAWTS	Mirpur Agriculture Workshop and Training School
MoA	Ministry of Agriculture
MoE	Ministry of Education
MoEWOE	Ministry of Expatriate Welfare and Overseas Employment
MoF	Ministry of Finance
MoLM	Ministry of Labor and Manpower
MoYS	Ministry of Youth and Sport
MPO	Monthly Pay Order
MTBF	Mid Term Budgetary Framework
NCSDT	National Council for Skill Development and Training
NGO	Non Government Organization
NSPR	Bangladesh’s National Strategy for Accelarated Poverty Reduction

NSS (Basic)	National Skills Standard (Basic)
PSDC	Penang Skills Development Center
RMP	Rural Maintenance Program
RPL	Recognition or Prior Learning
RTC	Rural Training Centers (administered by MoYS)
SAARC	South Asian Association for Regional Cooperation
SDF	Singapore Skills Development Fund
SSC	Senior Secondary Certificate
SSC (Voc)	Senior Secondary Certificate (Vocational)
TAC	Trade Advisory Committee
TSC	Technical Scholl and College
TTC	Technical Training Center
TTTC	Technical Teacher's Training Center
TVD	Technical and Vocational Diploma
TVET	Technical and Vocational Education and Training
TVHD	Technical and Vocational Higher Diploma
UNICEF	United Nations Children's Fund
VET	Vocational Education and Training
VGD	Vulnerable Group Development
VTTI	Vocation Teacher's Training Institute

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Contents

List of Tables

List of Figures

List of Boxes

INTRODUCTION

Bangladesh has made considerable progress in its economic development. Among other fundamental factors, recent high average economic growth rate of over 5 percent has been accompanied by labor force and employment growth, which has risen about 4.5 percent per year between 2000 and 2003. Bangladesh's National Strategy for Accelarated Poverty Reduction (NSPR) appropriately identifies the strategic goal of promoting vocational training and skill development to accelerate this growth process, which will help Bangladesh reduce poverty and vulnerability.

The contemporary labor market of Bangladesh is characterized by an increasing rate of female labor force participation, increases in *under*employment - especially for women and those in the agriculture sector - and real wages. In addition to indigenous private sector developments, there has been massive growth in foreign direct investment that has generated higher employment prospects in the industrial sector. In rural areas, non-farm employment has also increased along with public workfare programs.

Bangladesh will need to create at least two and one-quarter million jobs per year to accommodate a near doubling of the labor 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.

Globalization and shifting opportunities for trade are also having an impact on the labor market. The general direction of employment is moving away from traditional activities. Despite the widening of the trade deficit, a large number of women work in export-oriented industries that collectively provide more then two-thirds of the country's foreign exchange. Consequently, the dynamics of a 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.

The main challenge for the skill development system is to overcome its inadequate orientation to the labor market. Formal providers of technical and vocational education and training do not have strong linkages with the private sector employers that drive the changing patterns of labor 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.

Appropriate policies and programs for the labor market are important drivers of economic growth and a more equitable income distribution. It is appropriate that the NSPR has given priority to vocational and technical training as a major focus of educational reforms in the medium term. To further this NSPR agenda it is imperative to align skill development with the dynamics of the labor market. This report is an attempt to understand the labor market context and the technical and vocational training and education system of Bangladesh, and to propose policy options that improve labor market outcomes and drive future economic growth.

EXECUTIVE SUMMARY

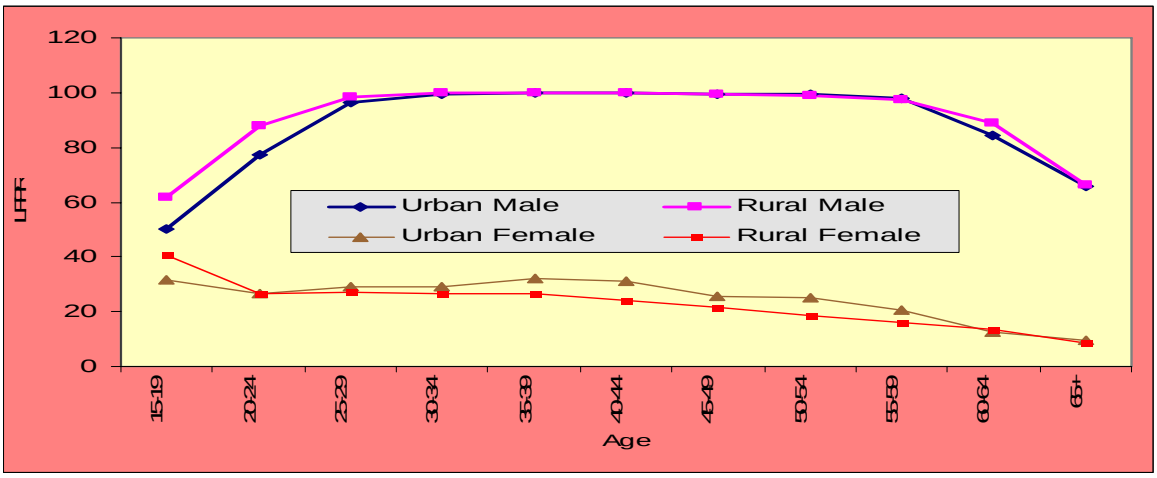
1. This report was prepared in response to a request by the Ministry of Education (MoE) to analyze the Bangladeshi vocational education and training (VET) system and propose recommendations to improve the relevance and cost-effectiveness of the system. The report has benefited from extensive dialogue and consultations with officials of MoE, Department of Technical Education (DTE), Bangladesh Technical Education Board (BTEB), employers, academics and other stakeholders involved in the system. The preliminary findings of this report were discussed at a regional workshop in New Delhi in September 2006, attended by participants from Afghanistan, Bangladesh, India, Pakistan and Sri Lanka. This summary presents a synopsis of the different sections of the report and highlights key challenges faced by the VET system as well as the potential options to address some of these constraints.

2. Realizing that it is not feasible to implement all these recommendations immediately, the last section of the summary aims to provide a possible timeline for sequencing reforms in the short and medium-term.

I. Economy and Labor Market Context

3. **Along with economic growth, Bangladesh's labor force has also been growing fairly rapidly**. Bangladesh has had relatively strong economic performance in the past decade, with GDP growth averaging more than 5 percent a year during the 1990s and real GDP growing by nearly 52 percent over the same period. The working age population (15-64) has grown by about 18 million since the mid 1990s, to 77 million, and the labor force has also grown by about 10 million over the same time period to over 46 million. A lot of this growth has come about due to increasing participation of women. While women's participation rates are still very low (Figure 1), over five million women have joined the labor force since 1996 (thus doubling the number of women in the labor force during this time period). This is creating more pressure on the economy to employ these individuals in good quality jobs.

Figure 1: Labor Force Participation (LFP) Rates



4. **In terms of employment, most workers still work in the informal sector, with agriculture as the major sector 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

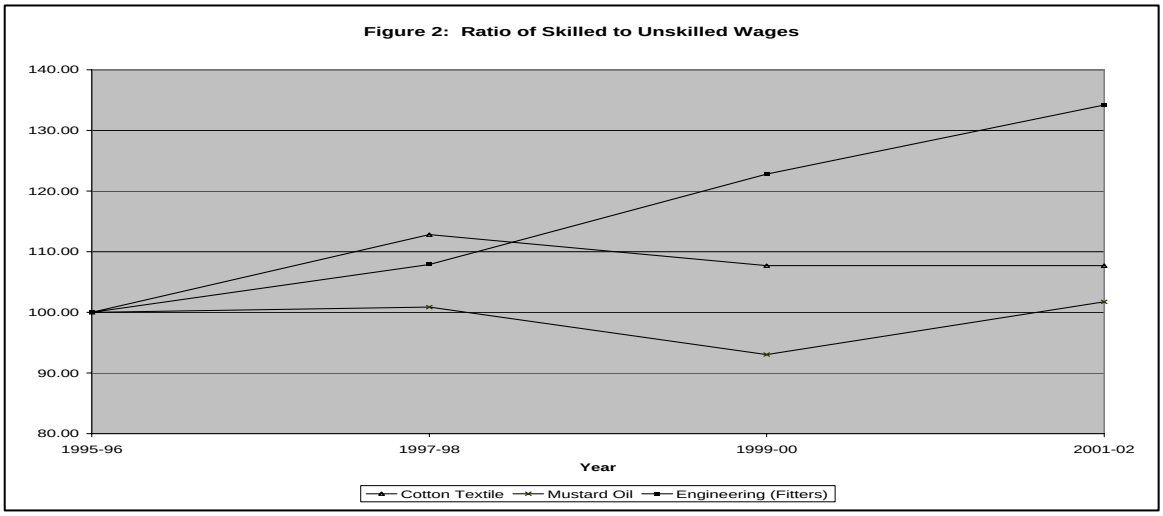
outside agriculture, forestry and fisheries. Despite accounting for just 21 percent of GDP, the agriculture sector accounts for 52 percent of the labor force, up from 49 percent in 1996.

5. **Overseas employment has also become a significant source of employment.** Every year, about 250,000 Bangladeshis migrate abroad and about three million people of Bangladeshi origin are living and working abroad presently. The skill composition of workers overseas has become skewed towards semi-skilled and unskilled workers over time. This may be due to employers in foreign countries feeling that Bangladeshi workers lack appropriate skills.

6. **Unemployment rates are low, but underemployment is high and rising.** The unemployment rate is only about four percent – which is consistent with rates in other developing economies worldwide – with a slightly higher unemployment rate for youth. The underemployment rate is high and rising – from 17 percent in 2000 to 38 percent in 2003. However, these numbers should be treated with caution owing to lack of comparability across surveys and the fact that the measure of underemployment does not account for the willingness to work for more hours, as this question is not asked in the surveys.

7. **The reasons underlying these high rates of underemployment are unclear.** High and rising rates of underemployment – especially if the 2003 figures are factored in - may be related to increasing participation of women – who may not wish to work full time, lack of availability of productive work, surplus labor or high reservation wages of workers. Another reason for underemployment may be shortages of skills – while employers are hiring a small pool of skilled workers full-time (as can be seen the average hours of work are quite high), they are not satisfied with the skill levels of the rest of the workforce, and are reluctant to hire them full time. However, adequate information to identify the exact causes is not available.

8. **While real wages are increasing, the wage gap between skilled and unskilled workers has not risen perceptibly**. Real wages seem to have increased annually by over three percent per annum. However the ratio of wages of skilled workers as compared to those for



unskilled workers have not increased perceptibly for most manufacturing industries though it has increased for some (Figure 2).

9. **People with vocational/technical skills are in short supply**. There are few people in the labor market with technical/vocational qualifications; the 2002-03 Labor Force Survey estimated only 53,000 such men and 5,000 such women. For every single person in the labor

force with a technical/vocational qualification there are more than 104 others who have completed Secondary School Certificate (SSC) or Higher Secondary School Certificate (HSC); and even 34 others who have gone onto a university degree or higher. However, while the relative supply of skilled to unskilled workers has increased (number of individuals with secondary and higher degrees as compared to those with lower qualifications), relative wages have stayed fairly flat. Hence there may be some ambiguity as to whether there has been a rise in demand for skilled workers.

10. **There is evidence that there is a skills mismatch**. This ambiguity is removed on examining employers demands. 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 (e.g. typists), which have no market demand, while newer trades (e.g. computer operators) with substantial needs for skilled labor have been left unmet.

11. **Is there any justification for investing in the vocational system?** The short answer to this question is yes. There are several reasons for this: (a) as noted above, there is evidence that there is a skills mismatch; (b) increasing overseas employment, and the possible market for skilled Bangladeshi workers abroad also offer some justification for investing in the system; and (c) as seen below, 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.

While the economy and labor force are growing, there is a mismatch between the demand and supply of skills.

12. **Given this, improving the market relevance of education, and specifically vocational education and training, will require significant reforms.** As this report shows, there are substantive issues related to the management, quality and relevance of the vocational education and training which will need to be addressed to make it pertinent to employer needs. This report discusses these issues and attempts to provide some possible avenues of reform based both on international experience and innovations underway in Bangladesh.

II. The Vocational Education and Training (VET) System

(a) The Pre-employment VET System

13. **The education system in Bangladesh is split into different levels**. Students enter into the system at the primary level which ends at Grade V. Following this, they enter secondary education which can go on from Grade VI-XII. At either Grade VIII or X, students can choose to go into vocational streams (usually vocational education), or can stay on and complete the general education stream. The choice of moving to the vocational education stream is voluntary. At the post-secondary level, an individual can go to a tertiary education institution to get an advanced degree or a training institution to obtain a diploma. There are about 18 million students at the primary level and about eight million in secondary education.

14. **Primary responsibility for overseeing the pre-employment vocational 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

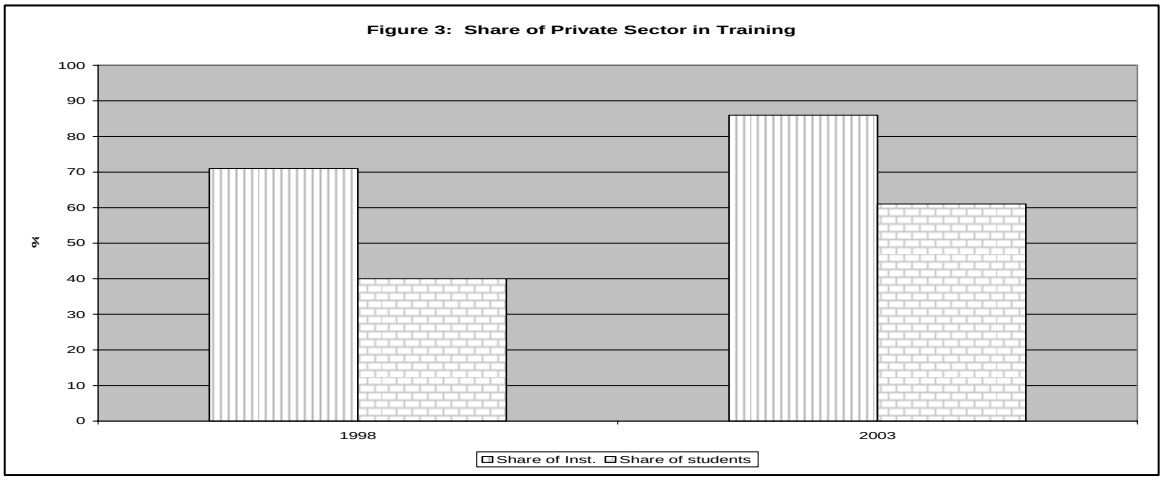
responsible for maintaining the qualifications framework for VET: setting training standards (and relevance to the labor market), student assessment, certification of results, and accreditation of institutions. BTEB covers *all* accredited institutions, both government and non-government institutions.

15. **The VET system is comprised of three levels**. The first level, basic skills, is a two year course focusing on manual skills. It 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. At the post-secondary level, there are four-year diploma-level courses, which are offered through polytechnic and monotechnic institutions (such as the Textile Institutes). While such nomenclature is not commonly used in Bangladesh - the basic skills and certificate level courses can be classified as vocational education, the diploma level courses are equivalent to vocational (post-secondary) training.

The pre-employment system is still small, increasingly dominated by the private sector, and is substantially subsidized by government.

16. **While enrollment in the system is quite small it has doubled since 1998, mainly fueled by growth in the private sector.** 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 this increase has been fueled by a growth in the private provision of training – both in terms of institutions as well as training capacity (Figure 3). 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.

17. **Non-government agencies also provide non-accredited training, though there are no estimates of the size and scope of their operations nationwide**. Several NGOs and private providers provide basic skills and training to target groups such as youth, the under privileged, and the rural population. However, while there are a few prominent organizations of this type providing training, most are very small in terms of enrolment and facilities and usually provide short-term training (ranging from 4 to 6 months duration) in income generating activities such as tailoring/sewing, embroidery for women and electrical, radio/TV, and carpentry for men.



(b) Training within Industry

18. **The incidence of training among firms is low, especially as compared to other countries – particularly in East Asia**. While data from Bangladesh show that training has a positive impact on productivity and worker wages, 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 (training levels are twice as high) and China (three times higher). Furthermore, conditional on providing training, Bangladeshi employers extend in-service training to only a marginal fraction of its workforce – around two percent.

19. **Training 'in-house' and in vocational schools are the predominant sources of training**. About 18 percent of enterprises report having in-house programs and 13 percent report external training. Firms tend to report vocational schools (31 percent) and private sector partner firms (26 percent) as the most important sources of external training.

20. **While the incidence of training remains low, some interesting initiatives have emerged.** The Bangladesh Garments Manufacturers Export Association (BGMEA) has established a fully self-financed training institute of its own, the BGMEA Institute of Fashion and Technology (BIFT) to meet the requirements of its industry, including the need to "increase the efficiency, productivity and product value of the industry."

(c) Financing of Vocational Education and Training

21. **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 and examination 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.

22. **The largest recipient of VET funding is the Ministry of Education (MoE).** MoE 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. MoE accrues roughly 70 percent of total government budget allocated on VET – about $20 million. In comparison, the government spends about $400 million annually on secondary education.

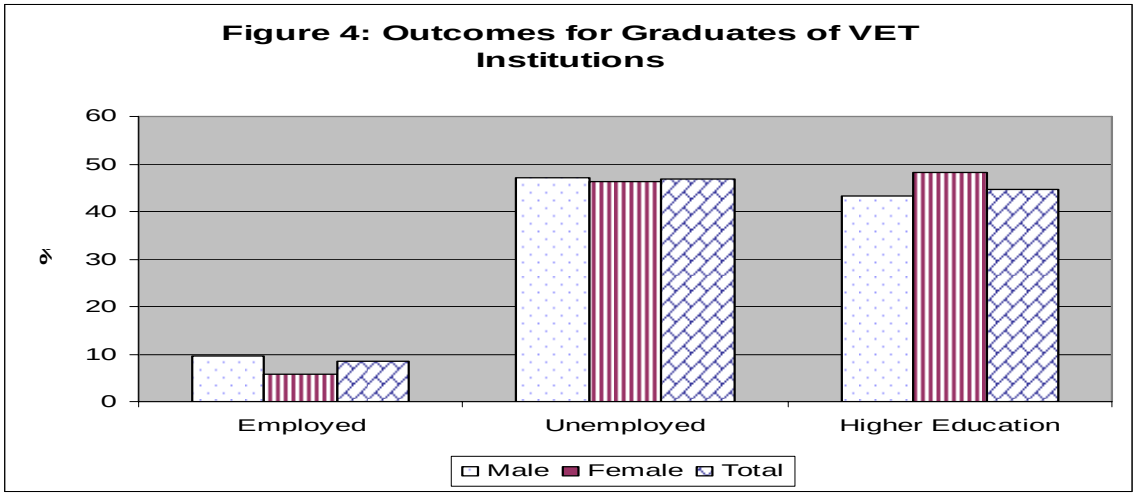
23. **Government subventions constitute the majority of income for private vocational education institutions.** Close to 55 percent of income is through government grants while tuition fees constitute less than 17 percent of total income. On the other hand, private vocational *training* institutions 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 these institutions raise a significant share of resources from sale of goods and services or providing training to the private sector. This is a discouraging sign – particularly since the private sector is expected to be more attuned to the needs of the market.

III. Outcomes of the VET System

24. **The quality of the system seems low as evidenced by low capacity utilization and low pass rates**. In both vocational education and vocational training institutions, close to half the student capacity remains unutilized. At the same time, pass rates in standardized examinations have also dropped significantly over the past few years – from about 62 percent in 2000 to slightly over 50 percent in 2004.

25. **From the labor demand perspective, employers expressed concern about the quality of graduates**. They perceived that the system is continuing to produce graduates for old and marginal trades, which have no market demand, while newer trades with substantial skilled labor needs are left unmet. Employers were also not content with available VET training facilities including machinery, equipment and trainers. They suggested that the government be more proactive in involving them in the management of the system to ensure that VET was responsive to their needs. They also felt that students lacked general business and management skills as a result of which most graduates fail to get promoted. This has a ripple effect in terms of discouraging better students from entering the VET system.

26. **A tracer study on the labor market outcomes of graduates supports the assessment of employers**. The study interviewed over 2300 graduates of vocational institutions. While there are differences across streams, overall less than 10 percent of individuals who graduated in 2003 from VET institutions were employed two years later (Figure 4). Close to 50 percent said that

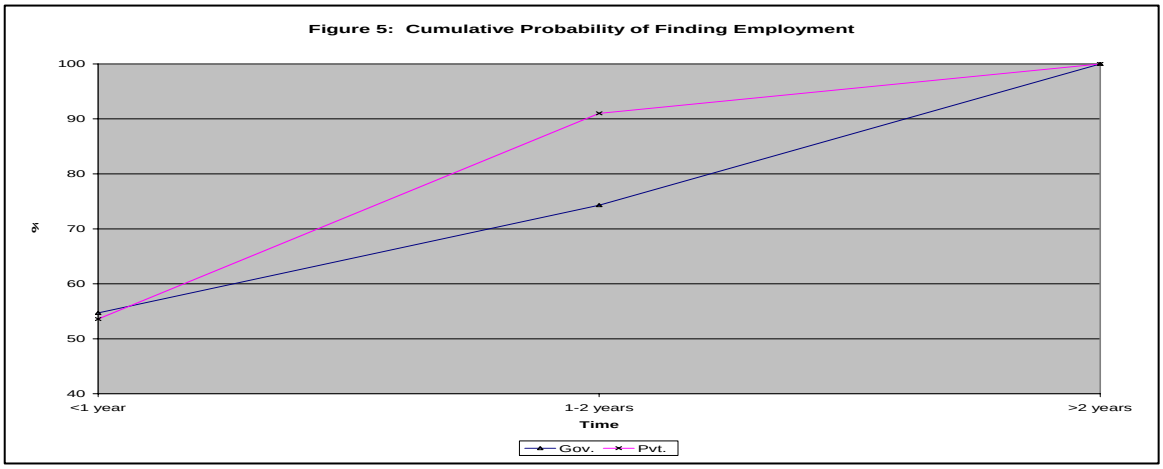


they were unemployed and another 45 percent were enrolled in higher education institutions (half of whom were actively looking for work). There does not seem to be any significant difference in the employment probability of graduates from public and private institutions.

Employment probabilities of graduates are very low, partly because of poor labor market linkages reflected in a lack of employer participation in managing the system.

27. **The time taken to find a job after graduation is also significant**. Close to half of the employed graduates took at least a year to find a job (Figure 5). There are again differences across streams – with vocational training graduates finding jobs quicker than individuals coming from the vocational education stream. Women are also likely to find jobs quicker than men – possibly because they have lower reservation wages.

28. **Students point to the lack of linkages to the labor market as a key reason for these poor outcomes**. Students perceive that the VET institutions are not responding to the needs of employers – very similar to the feeling expressed by employers. Students feel that if employers were more involved in the design of training, they would find it easier to find jobs.



29. **In addition, rates of return for graduates seem to be below those for graduates from the general education system**. Vocational training graduates earn more than graduates of the vocational education system. However, both types of graduates do not earn significantly more that the average wages for workers in the manufacturing sector who are significantly less educated - just above five years of education on average. Given this, the returns to vocational education and vocational training seem to be lower than general education.

IV. Key Challenges Facing the System

(a) System Management

30. **Concerns exist about the management of the system both at the policy level and institutional level**. At the policy level, there is confusion regarding the roles and responsibilities of DTE and BTEB. Inadequate coordination between these two agencies leads to overlap of activities, and burdens both agencies with a workload for which they do not have sufficient resources. The National Council for Skill Development and Training (NCSDT), formed in 1979 to coordinate training policies and programs, is defunct – not having met in over 20 years. Moreover, there is a lack of clarity regarding delegation of authority between MoE, DTE, BTEB, and institutions which receive financing from the government. Accreditation of institutions is often not undertaken properly – often due to a lack of appropriate resources.

31. **A glaring lacuna is the lack of information on the supply and quality of VET.** There is virtually no way for a students, employers, training providers or other organizations to get consolidated and reliable information regarding VET. Students should have access to information to decide which course will be most appropriate for them. Education providers need to be aware of recent developments and trends in the local and international labor market so that they can update their courses accordingly. Above all, adequate and systematic data are the prime elements by which a policymakers design successful models of service provision. However, such data is not available.

The Government has neglected its role as a provider of information of the provision and quality of training.

(b) Institutional Issues and Linkages to Market Needs

32. **At the institutional level, there are insufficient links between VET institutions and employers, which results in slow and inadequate responses to labor market developments**. Employers have no scope for participating in policy development, developing curriculum or providing trainers. DTE/BTEB do not consult employers in setting policy, curriculum design or vetting accreditation procedures. Courses are not offered on the basis of labor demand or in consultation with employers. It is doubtful that demand is predicated on knowledge of the labor market given the lack of labor market information generally available.

33. **In addition, institutions do not have adequate resources to provide education of proper quality**. They suffers from under-utilization of resources, lack of equipment, unavailability of qualified instructors, shortages of teachers' training facilities, and dated and obsolete curriculum.

34. **It is difficult to address this situation given that institutions have few incentives to improve their performance**. The main problem is the way institutions are governed. Principals of public sector institutions and those provided subsidies by the government have little autonomy to replace training courses with new ones, ensure that students receive quality training, change curricula, and involve the private sector in decision making at the institutional level. At the same time institutions are not held accountable for performance.

35. **Furthermore, too little attention is paid to local labor market needs**. This is evidenced by the fact that there is little training available for the informal sector. While 80 percent of employment continues to be in the informal sector, little thought has been given to enhancing the skills of people working in the sector. Most employment will also continue to be in the rural sector, although a decline in the rural share of the labor force will be noticeable. The economy is also crowded with micro- and small businesses. The formal training system is not designed to offer skills to those in the rural non-farm sector. But neither are there other providers to fill the gap. Most workers in this sector continue to learn trades on the job through informal apprenticeships at their place of work from other low-skilled craft people.

80 percent of employment is in the informal sector – yet there are few programs geared to the needs of this sector.

36. **Little thought is given to skills needs for migrants**. While an increasing number of Bangladeshis are working abroad, an effective system is not in place to provide training (and other supporting service) to these workers so that they can respond better to the labor market needs of countries to which they migrate.

(c) In-service Training

37. **Firms are under investing in worker skills**. If in-service training is critical to the effective use of new technologies and to productivity growth, as the literature suggests, than Bangladesh's under-investment in the skills of its workforce places it at a competitive disadvantage relative to other countries.

38. **A reason may be that employers appear more preoccupied with other constraints than with the skills of their workers**. Employers rank four other constraints as more important than

"skills and education of available workers". The top three constraints are "tax rates", "policy uncertainty", and "access to finance".

39. **International experience suggests there are three main reasons for employers not training workers**. They are: (a) firms use "mature" technology that does not require workers to be trained; (b) firms cannot afford to train; and (c) skilled workers can be easily hired from elsewhere. These reasons apply generally but are specifically cited by firms in the region and Bangladesh.

(d) Financing of VET

40. **While financing of institutions will be done on a more transparent basis, institutions have until recently been funded in an ad hoc, supply-driven manner.** VET was financed mainly through incremental public funding, i.e. with lump sum allocations assigned in an incremental manner based on previous allotments, with upward adjustments for annual inflation, and perhaps on the basis of ad hoc, including political, considerations. The change in policy toward a more transparent system through which school administrators request funds in line with institutional needs, if adequately implemented and monitored, should assist in ensuring funds are allocated more effectively, particularly if school administrators are given incentives to maximize school performance.

41. **Supervisory control over the VET expenditure is relatively weak and subject to infrequent and/or inadequate auditing**. Government financed institutions are supposed to be audited regularly. However, this does not happen systematically. Because of inadequate or non-existent disbursement records, compounded by human resource constraints, there is serious scope for abusing the system and a possibility that public resources intended for salaries and allowances could be usurped for other purposes. This improper record-keeping makes rigorous financial audits of VET institutions extremely difficult.

42. **While wages for graduates are not higher than individuals in general education, VET is very expensive compared to other education sub-sectors**. The evidence on wages has been presented above. Calculations, based on data provided by DTE, show that the annual unit cost of vocational education is approximately 16,000 Taka - this is nearly three times the cost of general government secondary schools. Similarly, the unit costs in public vocational training institutions are Tk 13,530 a year. This figure is also about three times the per capita cost of general higher education.

Unit costs of training are high – a key contributing element being the low student/teacher ratios.

43. **These high costs can be attributed to a number of factors.** These include the low student to teacher ratios, the large fixed and recurrent costs of machinery, the constant need for consumables, and a stipend/scholarship scheme provided to the large majority of students - about 65 percent. Driven by low student-teacher ratios, expenditure in institutions is heavily skewed towards salaries, which consistently account for over 50 percent of recurrent costs. A consequence of prioritizing salaries to such an extent is that there have been inadequate funds for sufficient instructors, equipment, in-service training, and consumables for supplies, maintenance/repair of machinery, and other critical infrastructure.

V. Indicative Policy Options

44. **The government has outlined an ambitious reform agenda in the NSPR that should be supported.** Key elements of this agenda include: improving the responsiveness of the system to job market needs; improving the quality and efficiency of public training; encouraging public-private-NGO collaboration in the management of the system; enhancing the flexibility of the system in terms of duration, time-table and curriculum.

The NSPR has laid out an ambitious reform roadmap and GoB is taking steps to implement this agenda.

45. **To its credit, the Government is implementing reforms along the lines laid out in the NSPR**. Recent attempts by the government to link financing to some input measures, facilitate private provision of in-service training, and tighten financial controls on expenditures are encouraging.

46. **At present, the focus should be on improving the efficiency of the system and not on expanding it.** Despite poor outcomes, policymakers remain keen to expand vocational education. The NSPR has proposed increasing enrollments in the system substantially. Even though enrolments in the system are small when judged by international comparisons, expanding the numbers or re-targeting the program would not be justified unless a model is found that would substantially improve outcomes. Recommendations along this line include:

(a) Importance of General Education

47. **General schooling is still the best option for students, even in labor market terms**. International experience shows that vocationalization (enhancing access to vocational education at the expense of general secondary education) may not be necessarily appropriate. Vocationalization is costly and hard to implement well and this is certainly true in the Bangladeshi context. Employers want their workers to be willing and adaptable, qualities that do not depend on their having done any particular type of vocational schooling. An immediate priority, thus, should be to improve the quality of general education.

Employers seek workers who have general skills and are adaptable - qualities that depend more on general education rather than vocational schooling. An immediate priority, thus, should be to improve the quality of general primary and secondary education.

(b) Role of the Public Sector in VET

48. **Given the poor outcomes of the system, an important question is whether the public sector has a role to play in VET**. No government today can afford to provide and finance all the skills needed by a modern economy, and, to its credit, Bangladesh does not do so. The key is finding the appropriate balance in government and non-government provision and financing of skills. The highest priority for any government is in getting the policies right to facilitate skills development that encourages each of the partners to pursue its comparative advantage in a market context. However, there are many things that the non-government sector cannot do – developing policies and standards, training instructors, provision of information on training – and it is in these areas that the government has a very important role to play.

49. **An immediate priority should be the development of a clear policy statement on how the VET sector should be developed or even what it encompasses.** The policy statement should clarify the role and responsibilities of the different government institutions (e.g. DTE, BTEB) and ministries in the management and implementation of the system, as well the role that public and private training institutions are expected to play. Given that the private sector has, till

now, played a very limited role in the system, it will be critical to involve employers and industry associations in the development of such a policy framework.

50. **Another important reform will be ensuring that industry is represented on BTEB**. Although this would not necessarily alter the operations of BTEB it would establish ground rules for further industry participation. It would also makes clear that vocational education and training should be viewed as a partnership between industry and government. However, this partnership should extend to letting employers play a clear decision-making role.

51. **A key role BTEB needs to play is in the provision of information and facilitating the evaluation of training provided in institutions.** A key function that BTEB needs to perform is to provide information on the nature and quality of training available, and facilitating regular and independent evaluations on the impacts of training programs. Expanding this role may be one of the most effective ways for GoB to foster the development of a relevant VET system.

52. **In the medium term, an autonomous Board of Vocational Education and Training (BVET) should be established, constituted by public and private sector interests and by industry interests.** To respond effectively to skill needs of the economy, this authorities should be set up as an autonomous agency, independent of line ministries. It should play a key role in the coordination of the overall training system, in financing training, curriculum development, supervising skills testing, certification and accreditation/qualifications framework, and provision of information on the quality and effectiveness of institutions. Critical to the success of this body will be the role of employers – unless employers are given a sufficient role in the decision making process, training may not be adjusted sufficiently to meet the needs of employers. Hence, most functions of the DTE and BTEB would be subsumed by the autonomous Board, while the Ministry of Education (MoE) should retain a unit to oversight the activities of the Board.

53. **Apart from being an equal if not the dominant partner in BVET, linkages with industry would need to be tightened at a local level and within specific industry sectors**. There are several aspects to this:

- ***Developing Industry Training Councils*** with industries such as garments being used for pilot programs. The Councils would oversee curriculum development and student assessment.
- ***To develop arrangements for students to be attached to industry as part of their course work***. Ideally, this would mean developing some form of formal apprenticeship systems.
- ***To establish joint government-industry training centers***, equipped as workshops and used as training centers. Centers would be jointly managed by government and industry.
- ***To establish public-private partnership for managing vocational training institutions***. This should proceed on a pilot basis, with each pilot covered by a management agreement between the government and the associations involved, giving associations a long-term contract.
- ***To introduce in-service training for teachers using industry-government training centers***. The centers would have two goals: to develop the skills of public sector trainers through hands-on experience, and to upgrade the skills of industry-based trainers.

54. **This will also be extremely beneficial to migrating workers.** Skilled Bangladeshi workers will find it much easier to find employment in other countries if their degrees are accredited by internationally recognized institutions. This will likely reverse the trend of workers migrating abroad being unable to find high-quality jobs because of low skill levels.

(c) Linking System to Market Demand

55. **At an institutional level, involving employers in management is critical.** For institutions to be responsive to market demand, employers have to be closely involved in their management. This element is conspicuously absent in Bangladesh, both for public and privately managed institutions. One good recent example of this is in India, where the involvement of employers in decision making in India's Industrial Training Institutes is likely to significantly enhance the responsiveness of these institutions to the market.

56. **Employers will only get involved in institutional management if institutions have more autonomy and are more accountable for their performance**. Elements of autonomy that should be introduced include: letting VET institutions, *in close consultation with employers*, decide on their own training programs and type of courses; giving institution managers the freedom to hire and fire teachers, especially contract teachers and non-teaching staff – this may, over time, help solve some of the problems that many institutions have with poorly qualified staff; allowing institutions to generate revenues by selling goods and services; and allowing institutions to set fees.

Involving employers in management at the institutional level is critical – but will only succeed if these employers and institutions have autonomy to make decisions.

57. **Trying to reorient public training institutions to meet the needs of the informal economy is neither reasonable nor feasible.** While a significant proportion of employment is in the informal sector, training does not seem to be geared to the needs of this sector. However, public institutions are not being able to cater to the needs of the formal sector. Reorienting them to serve both the formal and informal sector in the short-run is not practical, as it would require a major investment to upgrade facilities and equipment, to attract, develop, and retain new staff, and to develop the necessary curricula.

58. **Expanding the role of non-government training providers is likely to be more effective in providing the training needed in the informal sector.** Bangladeshi NGO's, many of them already active in training in the informal sector (e.g. UCEP), should be encouraged to expand this role. They should also expand the range of services they provide to the informal sector to include not only training, but a package of services, including information on how to run a business, technology, new production processes, quality control techniques, and marketing. NGOs can provide more effective services if the government plays a facilitating role and create an enabling environment to support such providers through: establishing a policy framework and stimulating investment through tax incentives or financial support to training providers to increase training capacity and quality.

NGO's should be encouraged to play a larger role in training for the informal sector, and providing a range of services including information on how to run a business, quality control techniques, and marketing.

59. **In terms of preparing potential employees for the international market, greater linkages need to be built with the overseas employment agency.** Currently, there do not seem to be any linkages between the overseas employment agency and the training system. Overseas employers are unaware of the skills of Bangladeshi trainees, and the training system is unaware of the needs of these employers. This could be part of the reason that the more skilled workers are unlikely to get employment overseas. Bangladesh could attempt to emulate the example of the Philippines where a partnership exists between the Philippine Overseas Employment Administration (POEA) and the training system which provides overseas employers with

informationn on the skills of Filipino migrants, and allows the training system to adapt to the training needs of potential overseas employers.

60. **Another option to increase employability of Bangladeshi training graduates overseas is through allowing institutions to seek accreditation from internationally recognized accreditation agencies.** Owing to limited capacity, BTEB cannot perform this function effectively. An option that has been introduced successfully in many developing countries is to allow training institutions to pay fees and seek certification and accreditation from internationally recognized agencies – e.g. City and Guilds of the U.K., Singapore's Workforce Development Agency, and Australia's National Training Authority. Reducing the workload will allow BTEB to perform its functions more effectively, while allowing institutions flexibility in the choice of certification providers. Institutions who aim to get accredited by these international agencies will also need to ensure that the quality of training they are providing meets international standards. The ultimate beneficiaries will be students and employers – as the quality of institutions (and graduating students) will improve and they will have better information about the quality of training provided by institutions.

Allowing institutions to seek accreditation from internationally recognized accreditation agencies will allow their qualifications to be recognized internationally – and will help the key beneficiaries – students – in obtaining employment.

(d) Enhancing In-service training

61. **Pushing policies that improve the business environment is a critical first step to address underinvestment in training**. Improving the investment climate in Bangladesh should, of itself, create incentives for the private sector to invest in physical and human capital. Private sector demand for training would be increased by policies to improve access to new technologies and to funding for investments in technology and worker skills.

62. **Strengthening the in-house training capabilities of Bangladeshi firms should be a priority for policymakers**. Public institutions have typically focused on pre-employment training in basic skills and may have little capacity to provide, on demand, the kinds of tailored training programs that firms want and that private providers can deliver. Given the limited capacity of public institutions, private providers - firms themselves, industry associations, buyers and equipment suppliers, and private training institutes - are an important means of expanding the resources available for workforce skills development. There are also some excellent examples of this in Bangladesh (e.g. BIFT) which can be encouraged through tax incentives or rebates provided to industry associations that want to set up their training institutions.

63. **Market failures diminish employer incentives to train and the appropriate policy response depends on the nature of the failure**. There are three market failures that constrain training, particularly among small firms: (a) the high cost of training; (b) lack of adequate information; and (c) high turnover of skilled workers. The first can be addressed by financial sector reforms that improve access to funding for all kinds of investments, including training. The appropriate policy response to the second is to disseminate widely the evidence of the productivity benefits of training, best practices in training know-how, and information about the availability, offerings and cost of services from different public and private sector training providers. The problem of high turnover (or "poaching" of skilled workers by other employers) requires collective action. The Human Resource Development Fund of Malaysia is an example of a training policy that has successfully increased training among firms.

64. **Consideration could be given to employer-targeted financing policies to remedy the under-investment in in-service training**. One option is to develop levy schemes that reimburse firms for the cost of training. Another option is for firms to group together and training their workers using their own resources, with the government playing a facilitating role. These and other options for financing vocational education and training are discussed below.

(e) Enhancing the Effectiveness of Revenue Raising and Resource Allocation

65. **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 but there is far more to it than that. Simply making available more funds is not enough. A number of points that have come out of international experience should guide government policies on how to raise revenues and in the allocation of resources. These are discussed here.

66. **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**. The purpose would be to increase the extent to which 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. Realistic fees could, of course, shut out those who are unable to pay - the poor, minorities, and rural populations. Targeted programs (scholarships or reduced subsidized fees) could be needed to offset any negative impact on these groups.

67. **Employers can also be encouraged to contribute towards the cost of training – one pilot that is being implemented in Bangladesh is where training is fully financed by employers, and the government is playing a facilitating role.** This novel approach is currently being piloted by the Chittagong Skills Development Centre (CSDC). CSDC is the first industry-led, non-profit skills training centre in Bangladesh. Its objective is to provide the highest quality, most cost-effective, valued-added skills training to its corporate members and other private companies. CSDC's high quality, cost-saving advantage stems from its corporate members willingness to share their training resources, technologies, costs, trainers, space and equipment. This ensures demand-driven, timely and calibrated training, without the overhead investment and delay of building a brand new center. By sharing, developing and importing high-caliber training programs at affordable costs to members, CSDC can redress the lack of high-quality training services in Bangladesh and reduce companies' costly dependence on foreign training.

Innovations such as the CSDC – where employers pool financial and physical resources to meet existing and potential future training needs - should be encouraged.

68. **An important lesson on the facilitating role of the government comes from international experience.** The CSDC borrows from a model which has been very successfully implemented in Malaysia (the Penang Skills Development Center – PSDC). In this model, the government acts as a facilitator, by supporting PSDC through cash grants, and subsidized training materials, equipment and trainers, and assisting in evaluating the impact of the training. It is also represented on the management council of PSDC, but as an ex-officio member. It is likely that initiatives such as the CSDC will flourish if the Bangladeshi government can play such a role.

Already, a first step in this direction is being taken by involving the Board of Investment in the managing committee of CSDC.

69. **Another option to raise resources from the private sector is through a levy scheme**. **However, it is unlikely that such a scheme can be introduced successfully in the near future in Bangladesh.** International evidence shows that although levy schemes have a positive impact by increasing training by enterprises, they do have problems. Levies have been inequitable; large employers have benefited more than small or medium-size employers. Employer reactions to the schemes have been mixed. Most firms feel that a levy is simply another unjustifiable tax – with money they contribute used to finance general revenues or financing training for big enterprises. There are also problems in administering the funds. Hence it is likely that such issues would also arise in Bangladesh. Employer resistance is also likely to be high.

70. **Institutions can also raise resources on their own.** Given that students may not be willing to pay more for training in the short-run, the most useful approach to raising revenue is to earn income from *core-services*, that is, from training. VET institutions could earn and retain revenues of their own through fee-for-service courses for employers. This is a standard approach for post-secondary educational institutions around the world. Training institutions may also generate income from the sale of peripheral training services, including the renting out of underused facilities and providing consulting services to local enterprises.

71. **In terms of resource allocation, instead of transferring resources to institutions on an ad hoc basis, public resources could be transferred on the basis of input, output or outcome criteria.** This process is already underway in Bangladesh where some input based measures are being used to allocate resources. Institutions could be financed according to the estimated cost of inputs; for example by using norms such as the number of trainees enrolled or number of classes. However, although this is better than ad hoc funding, it does not overcome some inherent weaknesses such as the lack of incentives for quality assurance or efficiency. Performance-based funding, on the other hand, rewards performance and pays on results. Institutions that meet targets should be rewarded; those that do not are penalized. These targets may be in terms of outputs or outcomes. *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 labor market needs (e.g. job placement within a reasonable time). The key is to define transparent and measurable criteria that are not easily manipulated.

Revenues should be allocated to institutions on the basis of transparent funding formulae, based on some measures of inputs, outputs or outcomes.

72. **To ensure that the poor and women are not underrepresented special consideration can be given to these groups.** Targeted programs like scholarships or reduced subsidized fees can be introduced for these groups. In addition, resource allocation criteria could be designed in such a manner that greater weight is given to the number of poor or women who are enrolled in or graduate from institutions.

73. **Another means to allocate resources is to issue vouchers directly to beneficiaries**. Vouchers allow trainees to purchase their own training, which can help to develop the demand side of the market. They can stimulate competition among providers, leading to better quality or lower cost. Institutions could become more responsive to student demands (a proxy for market demand). However, management and cash flow systems have to be designed carefully.

74. **In the medium-term, it may be possible to consider one specific administrative means of managing finances—the creation of a National Training Fund**. A National Training Fund is usually associated with the collection of a training levy; in fact, it is essential if a levy is to be managed properly. But a Fund is just as noteworthy for its administrative mechanisms. Such a Fund is a potentially valuable mechanism for aligning incentives with national and sectoral priorities, and could help shift financing away from supply-driven models toward more demand-driven ones. In such a funding structure, institutions apply for money from the training fund instead of being passive recipients of pre-determined, centralized, and/or ad hoc allocations from government. In the Bangladesh context, such a fund would be managed by BVET, which would administer the budgets for public institutions and subventions to non-public institutions. However, setting up such a fund would require a significant capacity building within BVET to administer the fund.

75. **However, such a fund will not be feasible if employers are not willing to contribute and if resources are not earmarked for training demanded by employers.** It will be important to ensure that the fund supports private sector initiatives, such as the Chittagong Skills Development Center (CSDC). If the fund is well-designed, initiatives such as the CSDC could benefit – as one of the windows of the fund could be used to support these initiatives. However, such a fund will not be viable if employers perceive that the fund is not being used to finance demand-driven training initiatives.

Competition for funds, between providers is key to ensure improved institutional performance. Financing should be linked to measures of performance and providers should be allowed to compete for these resources.

76. **Finally, no matter how resources are allocated, a key element should be competition for funds.** Competition for funds, between public and private providers, is key to ensure improved institutional performance. Funding needs to be linked to some measures of input or output criteria, and recognized public and private providers should be allowed to compete for these resources. International evidence is by and large positive in this regard – competition for resources leads to lower costs for training while also leading to positive market outcomes.

VI. The Way Forward: Sequencing the Reforms

77. This report has laid out some key reforms that should be undertaken in different areas to make the vocational education and training system more responsive to the needs of the labor market – and these have been summarized above. As the reform agenda is fairly comprehensive, all the reforms cannot be implemented immediately.

78. Given this, and based on the summary provided above, we have laid out below some of the critical reforms that need to be undertaken in the short-term, followed by others that can be undertaken over a period of 3-5 years. The first phase focuses on reforms aimed at improving the quality and labor market relevance of the existing system, while the medium-term agenda also includes moving forward on mobilizing additional resources for the system, especially once the quality has improved. However, the background work needed to undertake reforms in the medium-term should also commence in the short-term. All the reforms proposed below are discussed in more detail in the main body of the report.

79. The table below highlights the reforms that need to be undertaken, the advantages of undertaking these reforms and the potential challenges that need to be addressed to ensure successful implementation of reforms.

Issue	Reform	Advantage	Challenges to Implementation
The Importance of General Education…			
Employers are seeking individuals with general skills, rather than narrow vocational skills	*Immediate:* Prior to expanding the publicly financed and provided VET system, improve quality of general primary and secondary education (para 47.).	• Policymakers can focus on strengthening general secondary education where returns are higher as employers are looking for graduates with well-rounded skills rather than narrow specialization.	Policymakers are in the process of implementing reforms to improve governance and quality of the education system.
Role f the Public Sector…			
The government has a key role to play, not necessarily in provision and financing but in policymaking and overall management of the system.	*Immediate:* Development of a policy framework, in coordination with the private sector, which clarifies roles and responsibilities of various agencies (para 49).	• This is a top priority in the short-run as it will begin to ensure better management of the VET system. • Involvement of employers will ensure that the policy is written with the needs of employers in mind.	• Strong political will and leadership needed to ensure that these agencies begin working in a coordinated fashion. • Employers will fully participate *only* if they have a key role in decision making and *not* if they are just in an advisory capacity.
	Immediate: Provision of information on the nature and quality of training, and facilitating regular and independent evaluations on the impacts of training programs (para. 51).	Government and stakeholders will be able to see whether the system is responding to employer needs and devise policies accordingly.	A key challenge will be to ensure that the results of evaluation are effectively feedback into policymaking.
	Medium-term: Setting up an autonomous Board of Vocational Education and Training (BVET) (para. 52).	Rather than having different bodies perform different functions, there should be a single autonomous VET body. This entity will be responsible for coordinating the overall training system, overseeing financing of training, curriculum development, supervising skills testing, certification and accreditation, and provision of information on the quality and effectiveness of institutions.	Ensuring that such a body has adequate capacity and is staffed with the appropriate individuals to perform these tasks.
	Medium-term: Developing of a Qualifications Framework (QF) (para. 52).	A QF will provide a uniform framework for establishing course assessment requirements and course entry pre-requisites.	Developing a QF takes time and requires extensive consultations with employers. Willingness of employers to participate will be dictated by the success of the

Issue	Reform	Advantage	Challenges to Implementation
			reforms mentioned above.
Making Training Relevant to Market Needs…			
Institutions have few incentives to respond to market needs, and while a majority of employment is in the formal sector, few institutions cater to these needs.	*Immediate:* Involving the private sector in institutional management (para. 55).	Allowing the private sector a key role in management of VET institutions will lead to greater demand-responsiveness	For employers to take this role seriously, institutions need to be given the authority to make decisions on institutional management.
	Immediate: Allowing public and publicly financed institutions greater autonomy - deciding on training programs, hiring or firing of teachers, and generating revenues by selling goods and services. At the same time, link their financing to performance (para. 56).	Introducing autonomy and accountability will ensure that institutions become more responsive to market demand.	• Institutions have limited capacity to manage and take decisions on their own, and they will need to be supported to develop this capacity. • Teachers will resist the idea of being held accountable for performance.
	Immediate: Build better linkages between the training system and the overseas employment agency (para. 59).	• Provides potential employers abroad better information on trainees • Allows training system to react more effectively to demands in potential international markets	This should not be difficult to implement.
	Immediate: Allow institutions to seek accreditation from internationally recognized accreditation agencies to enhance employability of graduates – especially outside Bangladesh (para. 60).	• Students will have internationally recognized qualifications, making them more portable and helping them in seeking employment. • Employers will have better information on quality of training.	This should not be difficult to implement.
	Medium-term: Put appropriate incentives in place to ensure that NGOs (and other public/private partnerships) expand the provision of training and other support services to the informal sector (para. 58).	Given that NGOs are already undertaking such activities, expansion of this role is appropriate.	• The Government has to be prepared to play a facilitating role in this area. • NGOs have to enhance their capacity so that they not only provide training, but a range of support services.
In-service Training			
Firms underinvest significantly in training their workforce	*Immediate:* Provide incentives to strengthen in-house training capabilities of Bangladeshi firms. Examples of this sort exist in Bangladesh and they should	Firms and industry associations have a much better idea of their training needs and they can respond to this demand more effectively.	These interventions are quite expensive, and employers may be reluctant to make such an investment. Government should provide some tax incentives, or use of

Issue	Reform	Advantage	Challenges to Implementation
	be fostered (para. 62).		public training facilities at low cost to encourage firms/industry associations to train.
Financing of Institutions…			
Financing of the vocational education and training system is ad-hoc and not linked to any measure of performance	*Immediate:* Move from ad hoc financing of institutions to transferring resources on the basis of input or output criteria or some combination (para. 71).	Institutions are funded on the basis of clear criteria that would stimulate enhanced performance	• Institutional management may resist a move in this direction. • Criteria have to be simple and easily measurable
	Immediate: Support initiatives such as CSDC where employers provide resources for training for current and potential future skills needs (para. 68).	The initiative is completely demand-driven and fully financed by employers.	The implementation of this pilot is already underway. However, the Government needs to facilitate this by providing some resources and training facilities as needed.
	Medium-term: Mobilizing additional resources by broadening the financial resource base. There is a role for students and employers to contribute to the costs of training (para. 66-67).	• More resources will be available for training • Students could be charged more realistic fees – reflecting a larger proportion of actual training costs. • Firms could be charged training levies and then be reimbursed part or whole of that amount depending on the amount of training undertaken. This is likely to stimulate firms to train more, and additionally increase the market responsiveness of training providers. • Institutions should also be allowed to raise their own resources through production activities.	• Students and firms will only be willing to contribute to this if they see improvements in the system in the short-run – i.e. trainees are becoming more employable, and firms are seeing productivity benefits of engaging these individuals. • Resources should be specifically earmarked to training as demanded by employers. • Should not crowd out initiatives such as the CSDC.
	Medium-term: Establishing a training fund for the allocation of resources (para. 74).	BVET can manage a training fund to manage the mobilization of resources and then allocate these resources *competitively* to well-performing institutions in either the public or private sector.	Establishing a training fund is a challenging endeavor. Requires extensive capacity building in terms of fund management and clear criteria for the allocation of resources.

1. THE ECONOMIC AND LABOR MARKET CONTEXT

I. DEVELOPMENTS IN THE ECONOMY

1. **Bangladesh has achieved moderately high growth rates in the nineties and has made significant progress in its human development indicators**. Bangladesh has had relatively strong economic performance in the past decade, with GDP growth averaging more than 5 percent a year during the 1990s and real GDP growing by nearly 52 percent over the same period. This growth, coupled with the declining rate of population growth, has seen per capita incomes increase by nearly 36 percent during the nineties. Bangladesh achieved this growth while simultaneously avoiding some of the pitfalls associated with rapid economic expansion, such as debt crises and high inflation rates. The economy has managed to weather the financial crises in 1997 and the subsequent downturn in the regional and global economy. The government has set ambitious targets for poverty reduction and social improvements over the next decade. Public spending has continued to give priority to health and education sectors, and sectoral reforms are underway to improve delivery of related services. The total spending on social sectors amounts to a little under 5 percent of GDP.

2. **Some of Bangladesh's socio-economic indicators are significantly better than those found in other countries with comparable per capita incomes**. The country's economic record, combined with the pro-poor policies adopted by the Government, has led to significant improvements in the social indicators in Bangladesh. Compared to its neighbors (with Sri Lanka being an outlier on most social indicators except perhaps child malnutrition), Bangladesh is clearly doing better than India and Pakistan in the area of infant mortality rate and perhaps maternal mortality, although there is a dearth of comparable data on this indicator. Life expectancy at birth seems to relatively similar across Pakistan, Bangladesh and India.

II. LABOR SUPPLY

3. **Despite significant gains in controlling the rate of population growth, pressure on the labor market will remain high, especially in urban areas**. The total population in 2001 was approximately 130 million. Its growth rate has fallen below 1.5 percent but the population should still increase to over 170 million by 2015. Because of internal migration the greatest pressure will be felt in urban areas as the share of the population in rural areas declines. The urban population is projected to increase to more than 65 million by 2015, with the proportion of the population living in urban areas increasing from the current 25 percent to about 35 percent. The absolute number of rural people will nevertheless continue to rise, albeit at a slower rate, reaching an estimated 125 million in 2030. These increases will lead naturally to greater population density, especially in and around Dhaka and other urban areas.

4. **The working age population (aged 15 to 64 years) has also grown rapidly.** The working age population has increased by about 20 percent since 1996 to reach about 77 million in 2003 (Table 1-1). It is expected rise significantly - to reach over 130 million by 2030.

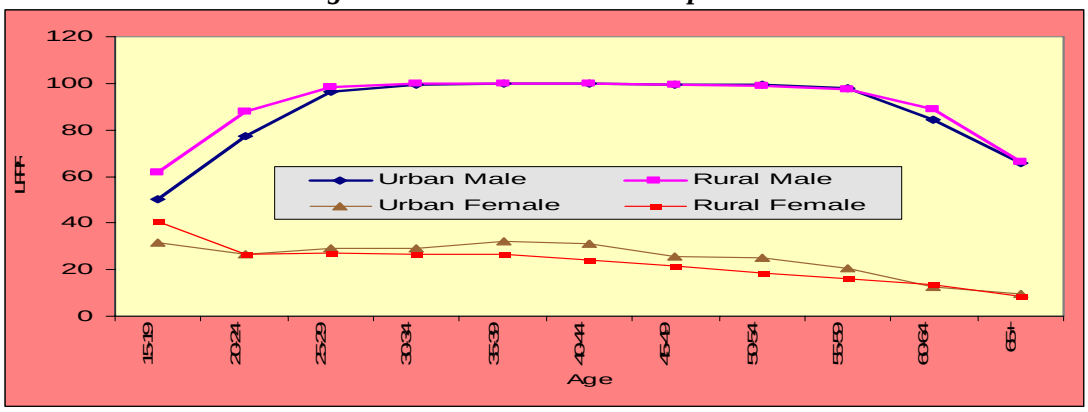
Table 1-1: Working Age Population (Age 15 to 64 Years), 1996-2003

	Male (mill.)	Female (mill.)	Total (mill.)
1996….			
Urban	7.9	7.6	15.5
Rural	25.3	25.0	50.3
Total	33.2	32.6	65.8
2000…			
Urban	8.5	7.8	16.3
Rural	29.9	27.8	57.7
Total	38.4	35.6	74.0
2003…			
Urban	11.0	8.1	19.1
Rural	34.8	23.4	58.2
Total	45.8	31.5	77.3

Source: Labor Force Survey, various issues, BBS

5. **There is a considerable difference in the age distribution of males and females in the labor force.** Recent analysis (World Bank, 2006) estimates the size of the economically active population, or the labor force, to be 46.3 million – or about 57 percent of the working age population. Male participation is broadly similar to that shown worldwide; although in comparison to industrial countries retirement is somewhat delayed, with a participation rate of over 80 percent for 60 to 64 year olds. Female participation is very low, and is relatively flat between the ages of 20-55. Nevertheless, the pattern of increasingly similar labor force participation of males and females shown in industrial countries has been occurring slowly: between 1996 and 2003, female participation increased from 14.4 percent to 24.7 percent with a total of about eight million women now in the labor force.

Figure 1-1: Labor Force Participation Rates



Source: World Bank (2006)

6. **Most of the labor force has little or no education, although this is changing. Gender and regional disparities remain**. In 2002-03, 50 percent of the labor force had no schooling (Table 1-2) although education levels have been increasing. For example, about 17 percent of the labor force has only Class I-V education, down from the approximate 23 percent recorded in 1995-96 as retention in higher grades has increased. About 33 percent of the labor 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 labor force, and people in rural areas generally have lower educational levels than urban areas.

Table 1-2: Educational Attainment of the Economically Active Labor Force (%): 1995/6 to 2002/3

Level of education	1995-1996			1999-2000			2002-2003			For both sex Changes between	
	M+F	Male	Female	M+F	Male	Female	M+F	Male	Female	2000 & 1996	2003 & 2000
No education	46.6	44.3	58.8	46.6	42.1	58.7	50.1	48.0	57.6	0.0	+3.5
Class I-V	23.3	26.4	19.2	24.3	25.4	20.4	16.8	17.4	14.9	+1.0	-7.5
Class VI-VIII	9.2	9.6	7.0	12.0	13.1	8.0	10.8	11.0	10.1	+2.8	-1.2
Class IX-X	6.4	6.9	4.9	5.5	5.8	4.3	8.6	8.9	7.6	-0.9	+3.1
SSC/HSC & equivalent	8.9	9.0	7.4	8.5	9.0	6.5	9.0	9.6	6.8	-0.4	+0.5
Bachelors or above	3.6	3.8	2.8	4.1	4.6	2.0	4.6	5.0	3.0	+0.5	+0.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**-**	**+3.5**

Source: World Bank (2006)

7. **People with technical/vocational qualifications are in very short supply**. Irrespective of the nature of the economy in Bangladesh, it is barely conceivable there should be so few people in the labor market with technical/vocational qualifications - the 2002-03 Labor Force Survey estimated only 53,000 such men and 5,000 such women. Although such small estimates cannot be used to draw conclusions about more detailed characteristics it is still possible to say that for every single person in the labor force with a technical/vocational qualification there are some 690 others who have not gone beyond Grade X; there are more than 104 others who have completed SSC or HSC; and even 34 others who have gone onto a university degree or higher.

III. LABOR DEMAND

(a) Employment by Industry and Occupation

8. **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**. Table 1-3 shows that only three occupational groups are substantially formalized: clerical workers, administrative and managerial workers, and professional and technical workers. But their numbers are small.

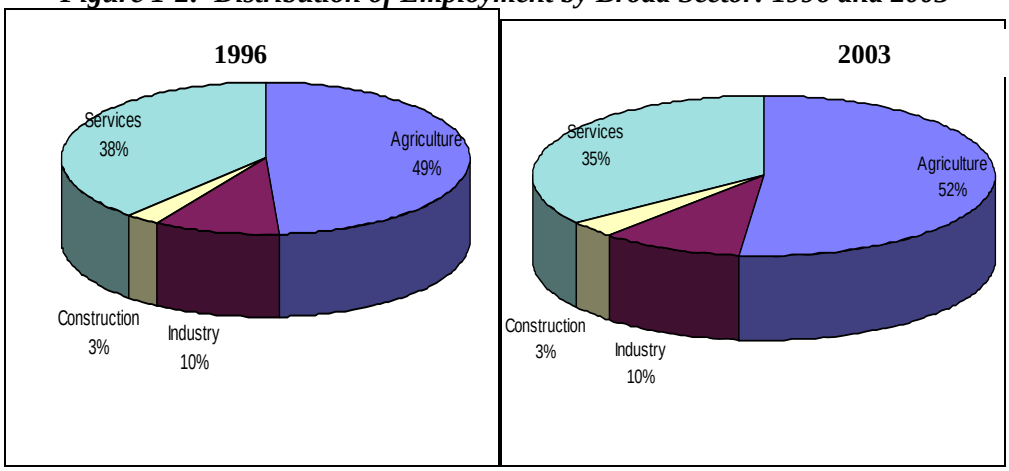
9. **In terms of economic sectors, the agriculture sector holds the highest share of the employed labor force**. In 2003, despite accounting for just 21 percent of GDP, the agriculture sector accounted for 52 percent of the labor force, up from 49 percent in 1996 (Figure 1-2).[i] The increase in agriculture's share is a bit surprising as it came at a time when its share in GDP fell from 25 percent to 21 percent. The increase in the agriculture sector's share came at the expense of the services sector, while the manufacturing and construction sectors generally maintained their shares of total employment.

Table 1-3: Employment by Occupation and Formal/Informal Sector; 2002-03

	Males	***Females***	***Total***	***Males***	***Females***	***Total***
	Absolute Number ('000s)			***Proportion of Total Employment***		
Informal Sector						
Professional, Technical	359	81	440	27%	20%	26%
Administrative & Managerial	18	0	18	20%	0%	19%
Clerical	238	8	246	18%	4%	16%
Sales	4,682	244	4,926	75%	85%	75%
Services	471	851	1,322	46%	89%	67%
Agri., Forestry, Fisheries	15,994	5,602	21,596	94%	97%	95%
Production, Transport & others	5,460	1,069	6,529	73%	48%	67%
Total	*27,222*	*7,855*	*35,077*	*79%*	*80%*	*79%*
Individual, Private Formal Sector						
Professional, Technical	117	26	143	9%	6%	8%
Administrative & Managerial	13	0	13	14%	0%	14%
Clerical	136	11	147	10%	6%	10%
Sales	1,351	32	1,383	22%	11%	21%
Services	138	67	205	13%	7%	10%
Agri., Forestry, Fisheries	725	92	817	4%	2%	4%
Production, Transport & others	1,250	730	1,980	17%	33%	20%
Total	*3,730*	*957*	*4,687*	*11%*	*10%*	*11%*
Private Formal Sector						
Professional, Technical	493	165	658	37%	41%	38%
Admin., Managerial	29	2	31	32%	67%	33%
Clerical	316	74	390	24%	40%	26%
Sales	186	9	195	3%	3%	3%
Services	88	20	108	9%	2%	5%
Agri., Forestry, Fisheries	235	74	309	1%	1%	1%
Production, Transport & others	562	426	988	8%	19%	10%
Total	*1,809*	*770*	*2,579*	*5%*	*8%*	*6%*
Public/Autonomous Sector						
Professional, Technical	350	131	481	27%	33%	28%
Administrative & Managerial	32	1	33	35%	33%	35%
Clerical	646	93	739	48%	50%	49%
Sales	41	1	42	1%	0%	1%
Services	330	13	343	32%	1%	17%
Agri., Forestry, Fisheries	38	5	43	0%	0%	0%
Production, Transport & others	179	17	196	2%	1%	2%
Total	*1,616*	*261*	*1,877*	5%	3%	4%
Total Employment						
Professional, Technical	1,319	403	1,722	100%	100%	100%
Administrative & Managerial	92	3	95	100%	100%	100%
Clerical	1,336	186	1,522	100%	100%	100%
Sales	6,260	286	6,546	100%	100%	100%
Services	1,027	951	1,978	100%	100%	100%
Agri., Forestry, Fisheries	16,992	5773	22,765	100%	100%	100%
Production, Transport & others	7,451	2242	9,693	100%	100%	100%
Total	***34,477***	***9,844***	***44,321***	***100%***	***100%***	***100%***

Source: Labor Force Survey 2002-03.

Figure 1-2: Distribution of Employment by Broad Sector: 1996 and 2003



Source: World Bank (2006)

10. **Consistent with the education data shown earlier, labor force survey data show that only about 13 percent of the employed labor force has gone beyond Grade 10 in school – and there is a clear distinction in the type of industry they enter**. Table 1-4 shows that the industries with the highest proportion of this more educated group are in the services sector - the Bank, Insurance and Finance industry and Education Services.

Table 1-4: Distribution of Employment by Industry and Education, 2002-03

Industry	No Education	Class I-V	Class VI-VIII	Class IX-X	SSC/HSC and Equivalent	Degree and above	Others
	percent						
Agri., Forestry, and Related	58.7	16.9	10.0	7.7	5.4	1.1	0.2
Fishing	69.1	14.2	6.5	5.2	3.9	0.9	0.3
Mining and Quarrying	50.0	16.3	12.5	6.3	10.0	3.8	1.3
Manufacturing	47.3	19.9	14.0	8.2	7.0	3.3	0.4
Electricity, Gas, and Water	6.1	10.2	8.2	9.2	21.4	43.9	1.0
Construction	50.3	23.7	10.5	6.6	6.0	2.7	0.3
Wholesale and Retail Trade	37.0	19.4	14.3	13.0	12.7	3.3	0.3
Hotel and Restaurant	45.6	22.7	15.3	9.1	5.9	1.4	0.0
Transport, Storage, Communication	64.5	17.1	7.8	4.4	4.6	1.4	0.2
Bank, Insurance and Finance	2.7	4.5	4.9	7.6	28.3	51.6	0.4
Real Estate, Rent, Business Activity	18.0	5.7	10.3	13.4	26.3	25.3	1.0
Public Administration	7.8	7.2	10.6	15.7	35.3	22.0	1.4
Education Services	3.6	3.8	4.4	7.1	34.3	46.0	0.8
Health and Social Workers	11.3	6.0	7.9	14.5	36.1	23.2	1.0
Community, Personal, HH Services	51.1	17.5	13.3	9.0	7.7	1.3	0.1
Total	50.6	17.0	10.8	8.5	8.7	4.1	0.3

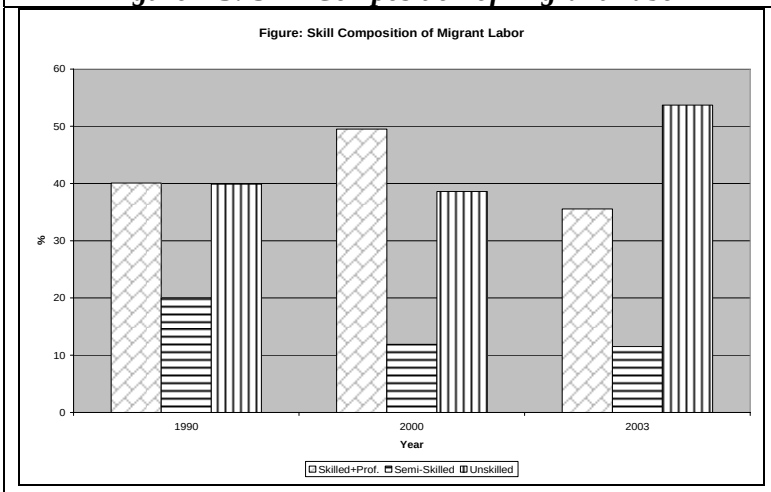
Source: Source: Labor Force Survey 2002-03.

11. **This is likely to create skill bottlenecks.** While the agricultural sector has grown, the expansion of services and the industrial sector which requires people with higher skills – is likely to lead to a skills shortage.

(b) Employment Abroad

12. **Employment abroad has become a significant source of employment through the 1990s**. **However, over time, the skill level of migrants is falling.** Every year, about 250,000 Bangladeshis migrate abroad and about three million people of Bangladeshi origin are living and working abroad presently. Over the past few years the skill composition has become skewed towards unskilled workers (Figure 1-3). It is not clear whether this is because foreign countries feel that Bangladeshi workers lack skills or whether there are increasing restrictions placed by countries on accepting skilled workers.

Figure 1-3: Skill Composition of Migrant Labor



13. **The principal attraction of working abroad – mainly for unskilled or, at best, semi-skilled labor - is the likelihood of higher wage levels and consequently higher levels of remittances.** However, remittances have been highly irregular. In recent years they have been relatively high, perhaps because of political uncertainties that leave unclear the long-term employment prospects for expatriate workers, either in Europe or the Gulf countries. Gulf countries, for example, have been increasingly concerned at the level of foreign workers and have indicated a desire to reduce their number. Irrespective of such developments, obtaining work in these countries is extremely competitive and is expected to become increasingly so.

(c) Unemployment and Underemployment

14. **Consistent with patterns found in similar countries, unemployment, at about 4 percent, is low and would appear to be an issue only for those under 30 years of age**. The unemployment rate for those between the ages of 20 and 24 is a particularly relevant (Table 1-5); it is generally double that of other age groups; it is especially high in urban areas; and it is high for both males and females.

15. **There are indications that *under*-employment is a more serious issue rather than in unemployment**. However, estimates of underemployment in Bangladesh are difficult to interpret. Labor force surveys classify people as underemployed provided they work fewer than 35 hours a week (this would classify them as part-time employees according to international definitions). This would suggest that official estimates in Bangladesh are on the high side. In addition, the timing of labor force surveys has differed. The estimates that are least affected by seasonality appear to come from the surveys of 2000.[1] These surveys yield estimates that are about half those thrown up by later surveys (2002-03) that were collected at times of low seasonal

[1] The later survey or 2002-03 present data that are more subject to seasonality being collected in October/November, slack months for agricultural employment, which are…..

employment, especially in agriculture.[2] The 2000 surveys estimated that 16.6 percent of the labor force was 'underemployed' (Table 1-6) with 'underemployment' being significantly greater among females than males, and higher in rural than in urban areas.

Table 1-5: Unemployment Rates, 1999-00 and 2002-03

Year	National			Urban			Rural		
	All	**Males**	**Females**	**All**	**Males**	**Females**	**All**	**Males**	**Females**
1999-00	4.3	3.4	7.8	5.8	5.0	8.3	3.9	2.9	7.6
2002-03	4.3	4.2	4.9	5.0	4.6	6.2	4.1	4.0	4.4
Age group	**2002-03**								
15-19	5.1	5.5	4.3	7.0	7.2	6.7	4.5	5.0	3.6
20-24	8.3	8.4	7.9	11.3	11.2	11.7	7.3	7.6	6.6
25-29	5.8	5.7	6.0	7.0	6.7	7.9	5.3	5.3	5.3
30-34	4.0	3.9	4.4	4.2	4.1	4.7	3.9	3.8	4.3
35+	2.6	2.5	3.4	2.4	2.1	3.4	2.7	2.6	3.4
Total	**4.3**	**4.2**	**4.9**	**5.0**	**4.6**	**6.2**	**4.1**	**4.0**	**4.4**

Source: Labor Force Survey, various issues, BBS.

Table 1-6: Underemployment Rates of Population by Sex and Locality, 2000

Region	Males	Females	Total
Urban	4.7	38.2	12.2
Rural	8.1	57.7	17.8
Total	7.4	52.8	16.6

Source: Labor Force Survey, various issues, BBS

16. **'Underemployment' by the BBS definition is most significant in the agricultural sector**. The average level of underemployment among agricultural workers was estimated to be 20 percent although data from the 2002 surveys give estimates of 45 percent suggesting that the level of underemployment falls significantly in high work seasons. Work in other sectors is less seasonal (but not entirely unrelated to seasonal patterns). Bearing in mind the definition used in Bangladesh, it is perhaps not surprising that the average hours worked is so high in all the industries shown (Table 1-7).

Table 1-7: Extent of Underemployment and Hours Worked, 2000

Sector	Underemployment (percent of workers)	Average hours worked per week
Agriculture	20.0	44
Manufacturing	17.1	45
Electricity etc.	7.1	47
Construction	7.7	50
Trade etc.	9.5	49
Transport etc.	4.3	51
Financial Services	2.7	57

Source : Labour Force Survey, 2002-03

[2] The figure for 2003 is around 37.6 percent, with the level of underemployment having gone up in every sector. Even accounting for issues with seasonality across surveys, this share increase is surprising.

17. **The reasons underlying these underemployment rates are unclear**. High and rising rates of underemployment – especially if the 2003 figures are factored in - may be related to increased female participation in the labor force (who are unwilling to work full time), lack of availability of productive work, availability of surplus labor, or due to high reservation wages of workers. Another reason for underemployment may be skills shortages – while employers are hiring a small pool of skilled workers full-time (as can be seen the average hours of work are quite high), they are not satisfied with the skill levels of the rest of the workforce, and are reluctant to hire them full time. However, there is not adequate information to identify what the exact causes are.

(d) The Evidence of Wages

18. **Since 1990, real wages have more than doubled with gains across the board, although the greatest increases have been in manufacturing where they have grown by a factor of 2.5**. Wages in other industries, including construction, have increased by a factor of about 1.8. Table 1-8 shows current wage levels by industry. The figure for manufacturing is an average across the whole manufacturing sector but there is a considerable difference in wage rates depending on firm size. Unsurprisingly, urban wages are higher than rural wages, especially for the finance industry but also in manufacturing and construction. Excluding the data for agriculture, the unweighted average of wages in urban areas is more than 36 percent higher than in rural areas.

Table 1-8: Daily Wage Rates by Urban and Rural, 1999-2000 (Taka.)

Sector	Urban	Rural
Agriculture	62.2	55.9
Mining	99.8	36.6
Manufacturing	81.1	58.6
Electricity	132.5	138.1
Construction	109.8	81.9
Trade	87.4	67.2
Transport and Communication	110.5	88.9
Financial Services	207.8	127.5
Communication and Personal Services	111.9	89.9
Unweighted average (ex agriculture)	117.6	86.1

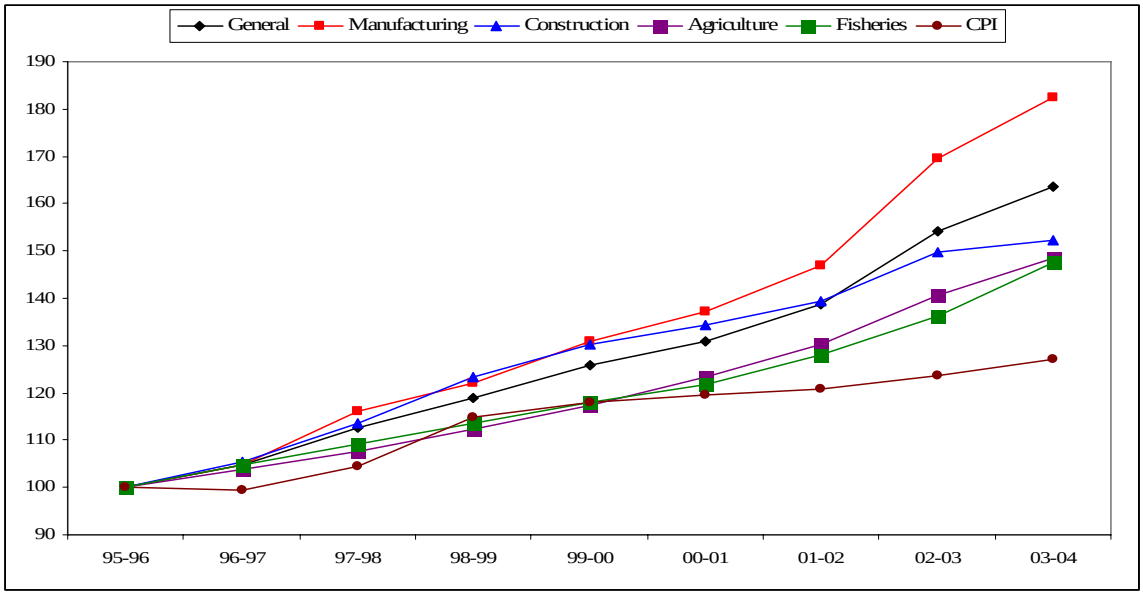
Source: Labor Force Survey, 2002-03

19. **More generally, real wage rates have increased, driven primarily by increases in manufacturing wages**. Figure 1-4 shows that wages have outstripped price increases. In total, general *real* wages have grown by about 3.2 percent a year over the eight years shown. However, there are marked differences: real wages in agriculture and fisheries have grown by about 2 percent a year; those in construction by just about 2.3 percent; but real wages in manufacturing have grown by just under 5 percent a year.

20. **These increases seem to have been across the board – for most manufacturing industries, wages of skilled workers have not increased measurably compared to unskilled workers in the last decade**. It is difficult to interpret with complete certainty the data on the relative wages of skilled and skilled workers. Just what is covered by the term is not always clear (colloquial and unclear). Table 1-9 shows that for selected industries the ratio of skilled to

unskilled wages in 2001-02 was not markedly different from that in 1995-96 (except for engineering fitters).[3]

Figure 1-4: Nominal Wage Rate Indices: 1995-96 to 2003-04



Source: Statistical Year Book, various issues, BBS.

Table 1-9: Ratio of Wages of Skilled to Unskilled Workers, Selected Industries; 1995-02

Industry	1995-96	1997-98	1999-00	2001-02
Cotton Textile	1.17	1.32	1.26	1.26
Jute Textile	1.17	1.32	1.26	1.26
Matches	1.17	1.32	1.26	1.26
Engineering (Fitters)	1.14	1.23	1.40	1.53
Mustard Oil	1.15	1.16	1.07	1.17

Source: Statistical Year Book 2002.

IV. Is There a Shortage of Skills?

21. **It is difficult to answer, given limited data availability, the question of whether or not there is a shortage of skills in Bangladesh.** As was seen in the section above, the relative wages of skilled to unskilled workers in manufacturing have remained reasonably flat (only a slight increase on average). If we take those with secondary education and above as proxy for 'skilled' workers, then the relative supply of skilled to unskilled workers has increased over the same time period. These two facts taken together seem to suggest that it is fairly ambiguous whether there has been a rise in demand for skilled workers, as the relative 'demand' has remained fairly constant while the relative 'supply' has increased. Furthermore, given the lack of relevant time series data on wages and supply of vocational education and training graduates, it is difficult to ascertain precisely what is happening to the demand for these graduates.

[3] Mujeri and Khandoker (2002), on the other hand, showed that the ratio of skilled to unskilled wages in manufacturing overall was 2.08 in 1995-96 and 2.23 in 1998-99, considerably more than the numbers shown above.

22. **Several potential explanations need to be considered when interpreting these numbers**. First, as mentioned above, it is not possible to distinguish vocational graduates from those with secondary education. It is not clear what different impacts the two separate groups have had on changes in either relative supply or relative wages of the whole group. Second, the data refer to workers with qualifications. Not all skilled workers are qualified and not all vocational/technical graduates work in vocational or technical occupations. It is conceivable (as discussed in later chapters) that the relative demand for skilled workers is high but employers do not choose to find them from among people with technical/vocational qualifications. Instead, they could be recruiting engineering tertiary graduates, whose own skills may be not that much greater than needed for skilled workers; or they may choose general secondary students and train them in-house. Finally, it is possible that employers perceive that the quality of graduates who come out of the system is poor and are, thus, unwilling to hire them.

23. **Given the lack of hard evidence on skills shortages, limited supply of VET graduates, and concerns about quality – the question of justification for investing in the vocational system arises**. There are grounds for investing in the system. There are several reasons for this: (a) There is evidence that there is a skills mismatch. 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 labor have been left unmet (this is discussed in more detail in Chapter 3); (b) increasing overseas employment, and the possible market for skilled Bangladeshi workers abroad also offer some justification for investing in the system; and (c) as seen later in this report, 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.

24. **Given this, it is clear that to improve market relevance of education, and specifically vocational education and training, significant changes will be needed.** As this report shows, there are significant issues related to the management, quality and relevance of the vocational education and training which will need to be addressed to make it pertinent to employer needs. This report discusses these issues and attempts to provide some possible avenues of reform based both on international experience as well as what is happening in Bangladesh.

2. THE VOCATIONAL EDUCATION AND TRAINING (VET) SYSTEM

I. DESCRIPTION OF THE PRE-EMPLOYMENT VET SYSTEM

(a) The Structural Framework

25. **The education system in Bangladesh is split into different levels**. Students enter into the system at the primary level which ends at Grade V. Following this, they enter secondary education which can go on from Grade VI-XII. At either Grade VIII or X, students can choose to go into vocational streams (usually vocational education), or can stay on and complete the general education stream. The choice of moving to the vocational education stream is voluntary. At the post-secondary level, an individual can go to a tertiary education institution to get an advanced degree or a training institution to obtain a diploma. There are about 18 million students at the primary level and about eight million in secondary education. At both the primary and secondary levels, gender parity has been achieved.

26. **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 2-1).

27. **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 over 60 percent.

28. **This 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 – this is discussed in more detail in the section on financing. Private colleges offering diploma courses have also expanded but these colleges receive no subventions and must fully recover their costs to remain in business.

29. **Although the VET sector provides numerous types of courses, private providers tend to focus on less expensive ones**. Typically, this means computer courses and language courses, which require fewer fixed costs to begin operations at both the vocational education and vocational training level. This preference has also resulted in a focus by many private providers on HSC (BM) courses, which have ballooned from 200 selected institutions with less than a 9,000 student intake capacity (1998) to 955 institutions with an intake capacity of more than 50,000 students (2005). HSC (BM) courses do not provide management training, but emphasize

straightforward commerce-related skills such as accounting, banking, basic computing and entrepreneurship.[4]

Table 2-1: Training Capacities in Public and Accredited Private Institutions, 1998 and 2005

Level/course	1998					
	Number of Institution		Intake Capacity[5]		Private Share	
	Public	Private	Public	Private	Institutions	Students
Vocational Education						
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%
Vocational Training						
Diploma Level	36	7	13,155	1,160	16%	8%
Total	**213**	**520**	**43,555**	**28,460**	**71%**	**40%**
Level/course	**2005**					
	Number of Institution		**Intake Capacity**		**Private Share**	
	Public	**Private**	**Public**	**Private**	**Institutions**	**Students**
Vocational Education						
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%
Vocational Training						
Diploma Level	54	143	15,020	13,230	73%	47%
Total	**304**	**1,860**	**56,520**	**89,980**	**86%**	**61%**

Source: DTE, BTEB

30. **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**. VET, at all levels, is chosen by few students. Out of about eight million students enrolled in secondary schools, less than 250,000 are enrolled in vocational education - equivalent to three percent of total secondary school enrolment. For example, there are 28,000 places in diploma courses as compared to about 1.5 million enrolments in higher secondary schools and about 150,000 in tertiary degree level courses.

31. **Non-government agencies also provide non-accredited training, though there are no estimates of the size and scope of their operations nationwide**. Several NGOs and private providers provide basic skills and training to target groups such as youth, the underprivileged, and the rural population. However, while there are a few prominent organizations of this type providing training (Box 2-1), most are very small in terms of enrolment and facilities and usually provide short-term training (ranging from 4 to 6 months duration) in income generating activities such as tailoring/sewing, embroidery for women and electrical, welding, radio/TV, and carpentry for men. Many private trade schools and institutions are said to offer non-formal, non-standard short courses. Many are computer-related courses intended for technical and vocational students and university graduates; others provide short-term training in activities that are linked to the

[4] See Annex 3 for a more complete listing of available courses.

[5] This number is the total number of seats available for the first year of the course. The enrollment numbers will be higher as some of these courses (e.g. SSC/HSC are 2 year courses).

demand for skilled and semi-skilled workers in the Middle East (such as tailoring, welding, drafting, small machine repairing and driving).[6]

Box 2-1: Prominent NGO Providers: UCEP and MAWTS

The Underprivileged Children's Education Program (UCEP), is considered to be extremely effective, and provides three types of training to some 25,000 students in 44 schools and centers across the country: general schooling with vocational training in 32 schools, technical training in 3 technical schools, and para-trade trainings in 9 para-trade training centers.

UCEP's primary emphasis is on the provision of general education with vocational content for urban working and distressed children (ages: girls 10+, boys 11+) who have little to no opportunity for normal schooling, are engaged in hazardous jobs, are laboring an average 48 hours per week, and are earning less than US$ 5 per month. UCEP has successfully targeted dropouts from formal education. The main characteristics of UCEP's operations that lead to the success of its model include: flexible schooling hours, learning while working, emphasis on practical training (80%), on-the-job training, curriculum review in consultation with employers, trades as per market needs, and linkages with other technical schools, employers and the community. With an enrollment of about 20,000 in its education and training programs, UCEP is among the largest NGOs of its kind in Bangladesh.

MAWTS is an agency that provides training to economically disadvantaged parts of the population. It provides short-term, modular vocational training using mobile centers – often in basic skills. About 2,000 students are trained annually.

Source: ILO 2000, UCEP, WB (2000)

(b) Institutional Arrangements

32. **There is a large range of accredited VET providers.** The formal qualifications framework and variety of options available for VET are shown in Table 2-2. From Class VIII onward, a basic skill standard (NSS-Basic) certificate can be achieved through short courses, which are less than one year long. SSC vocational courses, leading to a National Skill Certificate II (NSS II), on the other hand, are two years in length, or broadly the equivalent in the qualifications framework of a general SSC. In order to increase the flexibility of the system, students also have the option of being awarded an interim certificate known as the National Skill Certificate III (NSS III) after successfully completing first year (i.e. Class IX). Another recent development is the introduction of technical and vocational courses to be taken as electives within a general SSC course. Higher secondary level (HSC) and diploma-level courses both require an SSC qualification. A person

[6] Traditional apprenticeships are also a source of skills. More young people acquire competence through traditional (informal) apprenticeships than would be possible through the formal education system. Although data for India are not available, figures for other countries with a similarly sized informal sector suggest it could amount to anywhere between 50 to 70 percent of employees in micro-enterprises. Informal apprenticeships have advantages: they should provide trainees with flexible and dynamic skills; they are self-regulating; they cost the government virtually nothing; they do not require much initial skill or experience from the apprentice, only a willingness to be trained by agreement with a willing master, often a relative. They also have important limitations. They 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. Apprentices often lack exposure to modern training systems and technologies as well as the innovative aspect of learning. The range of skills tends to be narrow, limited to a particular product or phase in production; these skills may easily become outdated in fast changing labor markets.

with an SSC or SSC (Voc) can choose among three options: (1) a general HSC degree, which often leads into mainstream higher education, (2) an HSC (Voc), or (3) an HSC (BM). The latter two options can lead either to diploma education or to early entry to the labor force. Finally, diploma courses require four additional years of schooling after the SSC level.

Table 2-2: The Current Qualifications Framework for TVET

Certificate Received	Entry Requirement	Year/Months of schooling	Providers/Institutions
Vocational Education			
NSS (Basic)	Class VIII	3 to 9 months (usually 360 hrs)	TSCs (Technical Schools and Colleges), TTCs (Technical Training Centers), UCEP and other NGOs.
NSS III / Class IX	Class VIII	1 year	TSCs, General schools, TTCs, UCEP and other NGOs.
NSS II/ SSC (voc)	Class VIII	2 years	TSCs, General schools, TTCs, UCEP and other NGOs.
HSC (voc)/ HSC (BM)	SSC/ SSC (voc)	2 years	TSCs, Private colleges
Vocational Training			
Diploma-in-engineering	SSC/ SSC(voc)/ HSC/ HSC(voc)	4 years	Public and Private Polytechnic Institutes
Certificate & Diploma in Voc. Teaching	SSC(Voc) for Cert. and SSC(Voc)+cert. for Diploma	1 year – cert. and 1 year – diploma	VTTI (Vocational Technical Training Institutions)
B.Sc (Tech) and Diploma in Technical Education (DipTech)	Diploma in Eng. for DipTech and Diploma (Eng)+ DipTech for BSc	1 year Diploma and 2 years B.Sc	TTTC (Technical Teacher Training Colleges)

Source: Department of Technical Education

33. **These institutions are managed by a number of ministries**. These include: (a) technical schools and colleges run by the Ministry of Education (MoE) – these form the vast majority of the entire system; (b) Technical Training Centers financed and managed by the Ministry of Labor and Manpower (MoLM); (c) the Ministry of Local Government; (d) the Ministry of Agriculture (MoA); (e) the Ministry of Forestry; (f) the Ministry of Textiles; and (g) the Ministry of Defence. A total of 11 ministries administer accredited VET programs. Additionally, a number of ministries offer training through non-accredited courses, such as the basic training in livestock, pisciculture, and poultry farming provided by the Ministry of Youth and Sports to youth under 30 years of age.

34. **Primary responsibility for the formal system rests with two agencies within the MoE portfolio: the Directorate of Technical Education (DTE) and the Bangladesh Technical Education Board (BTEB).** DTE is responsible for administering VET institutions that are financed and operated by MoE.[7] In additional, DTE is also responsible for the overall development of the entire vocational education and training system. BTEB, a statutory agency, is responsible for maintaining the qualifications framework for VET: setting training standards (and relevance to the labor market), student assessment, certification of results, and accreditation of institutions. BTEB covers *all* accredited institutions, both government and non-government institutions. (See Figure 2-1 for the organogram of the VET system).

[7] Other ministries are responsible for administering their own institutions - those financed by the Ministry of Labor (MoL), for example, are the responsibility of the Bureau of Manpower, Employment and Training (BMET)

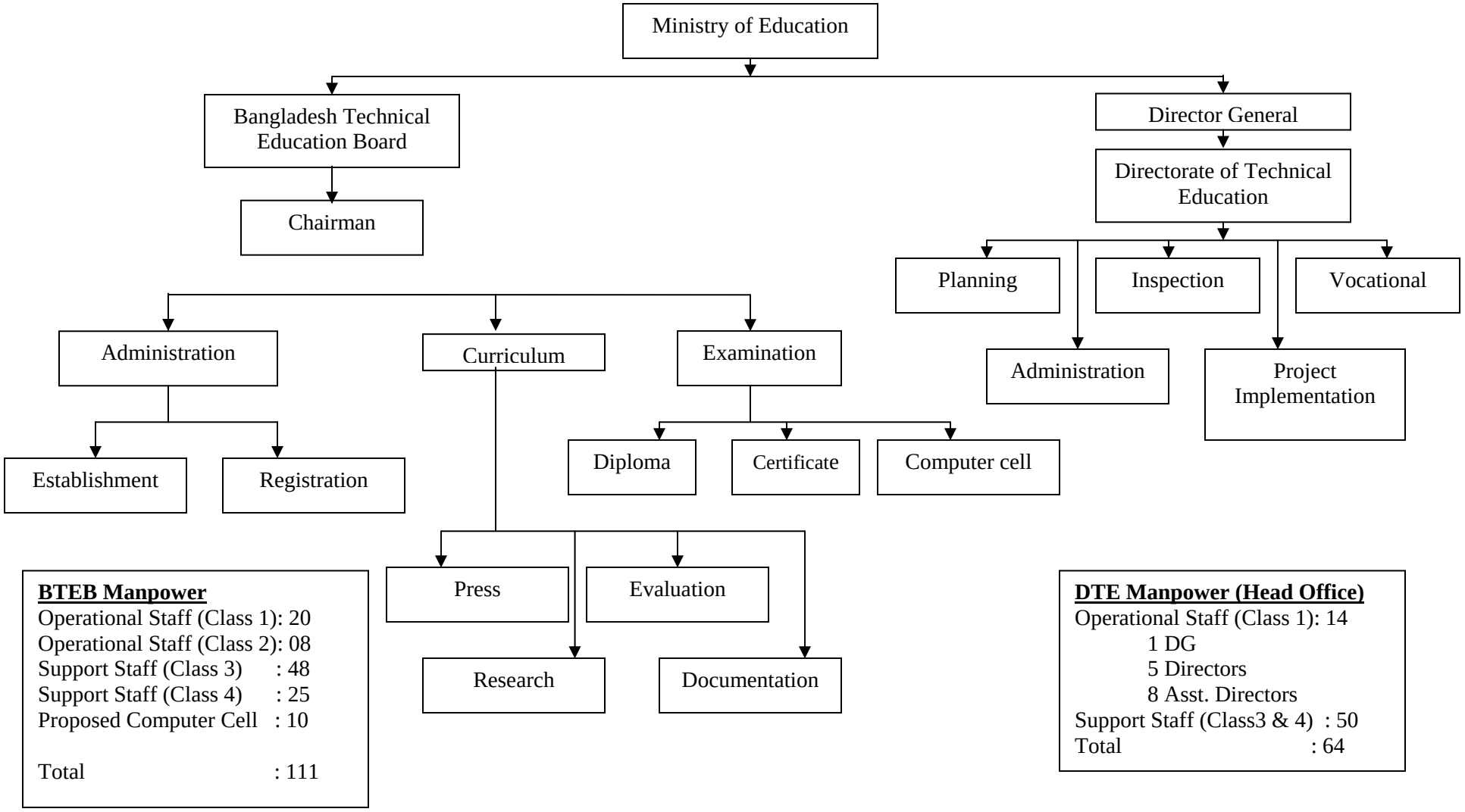
35. **DTE is responsible for VET policy**. It formulates government policies on VET, implements government programs, and liaises with private and government organizations related with VET. It is headed by a Director General, who is supported by five directors and ten assistant directors, and numerous support staff (there are 50 support workers in DTE for only 20 operational staff). These staff are located in one head office and four project offices. DTE's main functions are summarized below:

- Assessing the need for skilled and semi-skilled manpower at all levels.
- Preparing policy guidelines for consolidating, improving and expanding VET.
- Preparing project proposals.
- Continuous monitoring and evaluation of the development and implementation projects.
- Preparing the annual budget and allocating funds.

36. **BTEB is responsible for accreditation and certification**. Its responsibilities include:

- Prescribing courses of instruction.
- Developing learning materials.
- Setting admission standards and conditions for transfer of students.
- Conducting and regulating examinations, publishing results, setting and collecting fees.
- Granting diploma and certificates.
- Accrediting VET providers to offer certificate or diploma programs developed by BTEB.
- Withdrawing or withholding grant affiliation for non-government institutions.
- Monitoring teaching facilities and procedures of institutions.

Figure 2-1: VET Management Organogram



II. TRAINING WITHIN INDUSTRY

37. **This section discusses skills upgrading practices of Bangladeshi manufacturing firms**. Some of the questions addressed include: How much in-service training goes on in manufacturing enterprises, and do firms in Bangladesh train more or less than their competitors, both regionally and globally? If levels of enterprise training are low in Bangladesh, what factors constrain them from providing training to employees? Who are the main providers of in-service training – the employers themselves, public training institutions, private sector training providers, or other firms? What are the main factors that shape employer decisions to provide employees with training? Is investing in in-service training worthwhile, in terms of improving levels of productivity in the firms, as well as beneficial to workers in the form of higher wages?

38. **These questions are addressed using firm-level data from the Bangladesh Investment Climate Survey (ICS)**. This was conducted by the Bangladesh Enterprise Institute (BEI) and World Bank in late 2002 (Box 2-2). The ICS included a total of 1,000 firms in Dhaka (and surrounding areas) and Chittagong, and covered industries such as garments, textiles, food and food processing, leather and leather products, electronics, and chemicals and pharmaceuticals.

Box 2-2: The Bangladesh ICS

Investment Climate Surveys have been fielded by the World Bank in over 40 developing countries. Each ICS includes information on establishment size (number of employees, sales and assets); years in operation; sales, debt and growth performance; sources of finance; and a mix of qualitative and quantitative assessments by employers of the business environment in the country, including indicators of governance, predictability of economic policy, the judicial system, access to finance, and general constraints to business operations.

In addition, many ICS include modular questions on firm competitiveness and workforce skills. Detailed information is collected on enterprise innovation, research and development, use of new technologies, the education and skills of workers, wages and productivity. The module on training practices asks about formal training provided by employers, number of workers training by occupation and source of training, and it distinguishes between in-house training and training obtained from various external training providers, both public and private.

The Bangladesh ICS is uniquely suited for two reasons: First, the survey asked employers detailed questions about their workforce and training practices; these data, together with information on different enterprise attributes and production, allow us to ask not only which firms provide in-service training, who they train, how much, and where they get training but also what are the productivity and wage outcomes of training. Second, similar ICS have been fielded in many developing countries, so that the training practices of Bangladeshi firms can be compared to that of similar firms in other countries. Such comparisons across countries can provide insights into whether or not training incidence in Bangladesh is low, and if it is, to help policymakers design training policies to remedy identified weaknesses in training practices of Bangladeshi firms.

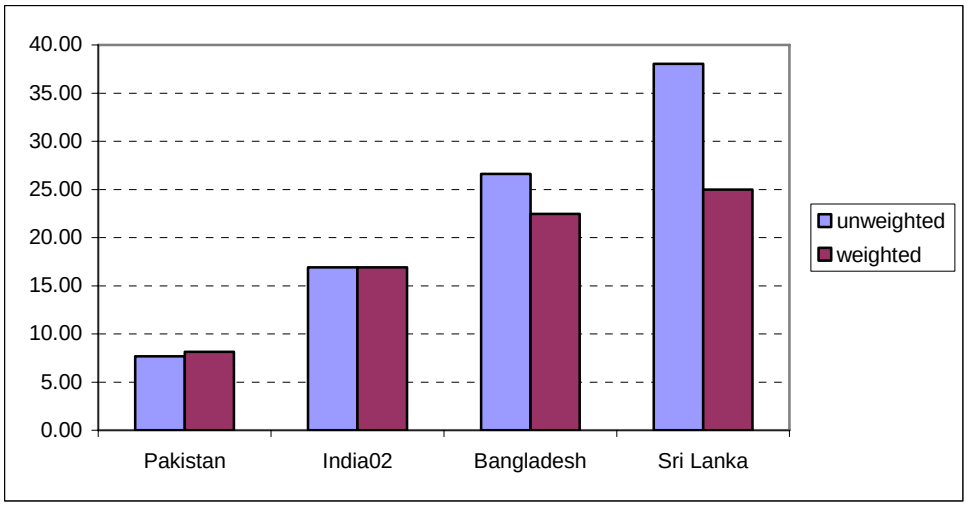
Source: World Bank Investment Climate Surveys

39. **The incidence of training among firms is among the highest in the region, but still low as compared to other countries – particularly in East Asia**. Figure 2-2 compares levels of in-service training in Bangladesh with those in India, Pakistan, and Sri Lanka.[8] The un-weighted

[8] Estimates are presented with and without adjustments to reflect differences in the firm size distribution of ICS samples across countries, specifically the fact that the Bangladesh ICS included a higher proportion of

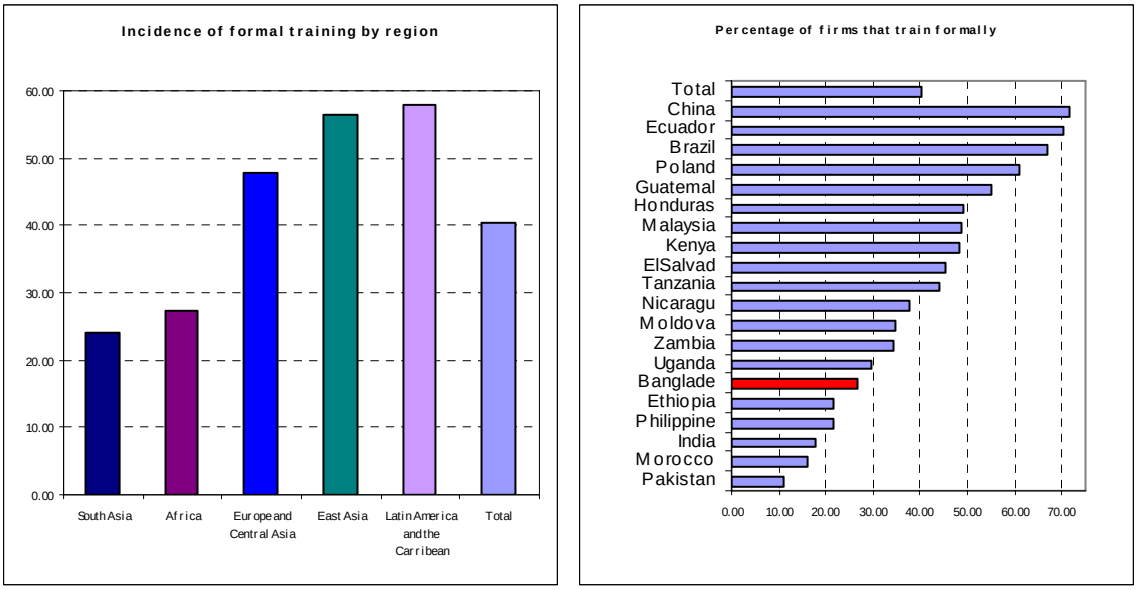
tabulations of the ICS suggest that 26 percent of manufacturing establishments in Bangladesh provide their employees with in-service formal training. Bangladesh compares favorably with both India (17 percent) and Pakistan (8 percent), but not Sri Lanka at 37 percent. Using India as the norm, the weighted incidence of in-service training in Bangladesh falls to 22 percent – which is still higher than in India and Pakistan. As a region, South Asia's training incidence is among the lowest in the world, being less than half that of the average for Europe and Central Asia, East Asia and Latin America. But this training deficit is especially pronounced when Bangladesh is compared to individual East Asian countries (the right panel), such as Malaysia (training levels are twice as high) and China (three times higher) (Figure 2-3).

Figure 2-2: The Incidence of Formal Training in Firms in South Asia



Source: Tan and Sachenko (2006)

Figure 2-3: Incidence of Formal Training – Regional Averages and Country Means



Source: Tan and Sachenko (2006)

large firms (which tend to train), while the India ICS has a more representative sample of firms of different sizes.

40. **In contrast to the finding for firms, the incidence of training among individuals is among the lowest in the region.** Table 2-3 tabulates the percent of workers getting in-service in each one of four occupational groups—managers, professional staff, production workers, and non-production workers. The table indicates that conditional on providing training, Bangladeshi employers extend in-service training to only a small fraction of its workforce. These figures are comparable to those in Pakistan, but are low relative to the proportion of workers trained in India and Sri Lanka. Needless to say, these figures are much lower than those for East Asia - for example, a World Bank study (1997) for Malaysian manufacturing estimated the overall proportion of workers receiving in-service formal training in 1994 to be 22 percent.

Table 2-3: Share of Workers Trained By Occupation – South Asia

Country	Managers	Professionals	Production	Non-production workers
Bangladesh	1.9	3.0	1.2	0.4
India	6.0	7.3	7.0	2.9
Pakistan	2.0	3.5	3.3	0.4
Sri_Lanka	10.4	11.3	22.4	6.0

Source: Tan and Sachenko (2006)

41. **In house training and training in vocational schools are the predominant sources of training**. In Bangladesh, about 18 percent of enterprises report having in-house programs and 13 percent report external training; in India, the corresponding figures are 14 and 8 percent, respectively (Table 2-4). This result is consistent with the notion that general education and workforce skills need to be complemented by specific training tailored to the requirements of individual enterprises. Bangladeshi firms tend to report vocational schools (31 percent) and private sector partner firms (26 percent) as the most important sources of external training. This may be contrasted with Indian and Sri Lankan firms that emphasize both public and private training institutes (between 35 to 60 percent of firms) as external training sources.

Table 2-4: Percent of Firms Training by Source

Country	Formal Training			External sources conditional on training				
	Any	In-house training	External training	University	Private partners	Govt. institute	Private institute	Vocational school
Bangladesh	24.1	17.7	13.1	6.9	25.7	17.6	19.8	31.1
India	16.9	13.8	8.0	10.2	10.2	34.7	53.1	46.3
Sri Lanka	25.0	15.7	18.0	7.6	15.9	59.1	41.3	n.a.

Source: Tan and Savachenko (2006)

42. **While the incidence of training remains low, some interesting initiatives have emerged.** NGOs such as UCEP, for example, have developed strong linkages with industry - far more so than government institutions and agencies - and reap for their graduates great benefits from doing so. As an example of private-sector faciltated TVET, the Bangladesh Garments Manufacturers Export Association (BGMEA), in association with UNICEF and ILO, has established a Garment Workers' Education Program to provide basic education and vocational education (to those who qualify) to former child laborers in the garment industry. The Program meets half the cost of the courses provided, while the other half is met by the students or their families. BGMEA has also established a training institute of its own, the BGMEA Institute of Fashion and Technology (BIFT) to meet the requirements of its industry, including the need to "increase the efficiency, productivity and product value of the industry."

43. **Larger firms are more likely to train.** Regression results show that the likelihood of in-service training is higher in larger firms and firms that export in international markets. However, unlike other South Asia countries[9], the analysis found no significant relationship between R&D and training. The probability of training also rises with the average years of schooling attainment of the firm's workforce, a result consistent with the empirical evidence from many developing countries.[10] Educated workers are not only more productive in performing given tasks, but they benefit more from training than less educated workers. A related hypothesis – that more educated managers know the benefits of training and are thus more likely to implement in-service training – found no empirical support. Finally, the share of females in the workforce was not significantly related to the likelihood of training (see Annex 4).

44. **Training has a positive impact on productivity and worker wages.** Regression analysis also confirms that in-service training, particularly in-house training, raises firm level productivity and worker wages (see Annex 4 for more details).

III. FINANCING VOCATIONAL EDUCATION AND TRAINING

45. **The Government is the major financier through its annual budget, which is allocated to a number of ministries**. Government funds are used to finance public sector institutions and to provide subventions to private providers at the vocational education level. Students also contribute to VET financing by paying tuition and examination fees. However, student 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. Industry also pays for training either by buying training for their employees from public or private providers or through financing on-the-job training.

(a) Government Financing

46. **Although budgets are allocated to numerous ministries for VET, the largest recipient is the Ministry of Education (MoE).** MoE 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. MoE accrues roughly 70 percent of the total government budget allocated on VET. Other major recipients include the Bureau of Manpower, Employment and Training, and the Ministry of Agriculture (MoA). BMET is administered by the Ministry of Expatriate Welfare and Overseas Employment (MoEWOE). The Ministry of Agriculture is responsible for colleges running diploma courses in agriculture. Recent budgets for these agencies are shown in Table 2-5, and Table 2-6 shows a breakdown of resources received by MoE.

[9] Similar probit models estimated for India, Pakistan and Sri Lanka found positive and statistically significant relationships between R&D and in-service training, results also found in many other developing countries in East Asia and Latin America.

[10] See Tan and Batra 1995 for estimates on the education-training relationship from five developing countries in East Asia and Latin America; Tan 2000 and World Bank (1997, 2005) for related training analyses for Malaysia.

Table 2-5: TVET Budget Allocations across Ministries, 2000-01 to 2005 (current prices)

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
	- Taka '000s -					
Directorate of Technical Education	463,828	438,568	396,406	414,479	495,754	771,100
Bureau of Manpower, Employment and Training[1]	137,589	164,490	77,856	154,946	175,618	193,824
Ministry of Agriculture	71,495	62,136	63,331	65,326	72,724	81,170

Source: Ministry of Finance, Demands for Grants and Appropriations, Various Years
Notes: The Table excludes finance to DSHE for subventions to private institutions.

1. In 2003-04, the Bureau of Manpower, Employment, and Training, which had been within the Ministry of Labor, was transferred to the Ministry of Expatriate Welfare and Overseas Employment. The budget line item for BMET has since been funded through the latter Ministry.

Table 2-6: Consolidated Fund Expenditures and Allocation (Non-development Budget), 1997—2008

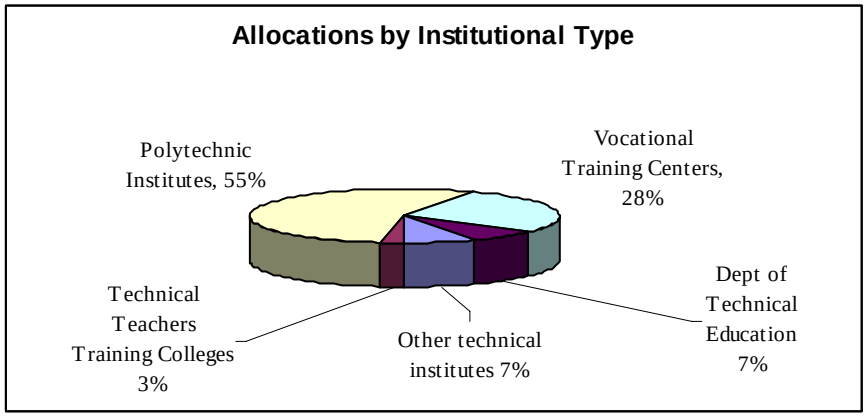
	Actual 1998-99	Actual 1999-2000	Actual 2000-01	Actual 2001-02	Actual 2002-03	Actual 2003-04	Revised 2004-05	Budget 2005-06	Projected 2006-07	Projected 2007-08
	- Taka '000s -									
Department of Technical Education	10,250	8,973	12,232	12,234	9,544	30,767	67,990	89,369	98,438	103,228
Technical Teachers Training College	12,611	12,144	19,497	16,112	9,578	9,322	10,679	14,329	15,843	17,013
Polytechnic Institutes	257,274	263,628	278,265	256,745	216,896	233,671	246,669	399,233	418,986	440,320
Vocational Training Centers	126,450	136,848	120,871	123,057	133,754	104,737	132,066	214,571	224,262	245,711
Other Technical Institutes	29,412	27,306	32,964	30,420	26,634	35,982	38,350	53,598	88,050	96,417
Total - TVET	**435,997**	**448,899**	**463,829**	**438,568**	**396,406**	**414,479**	**495,754**	**771,100**	**845,579**	**902,689**
Increase on previous year	9.6%	3.0%	3.3%	-5.5%	-9.6%	4.6%	19.6%	55.5%	9.7%	6.7%
Total - Secondary and Higher Education	**14,348,683**	**15,593,256**	**17,552,669**	**18,800,318**	**20,055,166**	**22,382,132**	**25,746,341**	**33,172,950**	**33,879,981**	**34,279,826**
TVET as % of Secondary & Higher Education	3.0%	2.9%	2.6%	2.3%	2.0%	1.9%	1.9%	2.3%	2.5%	2.6%

Source: Ministry of Finance, Demands for Grants and Appropriations, 1998—2005

47. **Both the development and revenue budgets are sources of continuous financial support**. The usual distinction between these two budgets has become blurred for VET. Since 2003, the development budget has met the majority of salary-related costs in public VET institutions despite the fact that salaries should be properly accounted for as a recurrent cost. Within vocational education, for example, the development budget finances approximately 62 percent of all public teachers' and officers' salaries.[11,12] This use of the development budget began with the large scale hiring of approximately 1,800 new teachers and support staff under a development project in 2003 and 2004. The reassignment of these expenses to the revenue budget is "in process", according to DTE, though it is moving somewhat slowly.

48. **A majority of public spending on VET (approximately 55 percent) is given 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 institutes'. Technical Teachers Training Colleges, meanwhile, receive the smallest share of funds at about 3 percent of the total. This breakdown of spending by type of institution is depicted in Figure 2-4.

Figure 2-4: Proportion of Budget Allocated to Institutions, By Type



Source: Ministry of Finance, Demands for Grants and Appropriations, 1998-2005.

(b) Private Finance

49. **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 and officer pay. Private vocational education institutions, as with all accredited non-governmental schools, receive government subventions, which cover 90 percent of staff salaries.

50. **A recently conducted institutional survey highlights the difference in source of funding between different types of institutions.** The survey covered 357 accredited vocational education and vocational training institutions. Close to 70 percent of revenues for government institutions are from government grants. Public vocational training institutions raise about 20 percent of their resources through fees (Table 2-7).

[11] Department of Technical Education, Vocational Education Budget, 2005-6.
[12] Further discussion of the composition of spending from the development and revenue budgets is discussed below.

Table 2-7: Composition of Sources of Funding, By Public v. Private and Type of Course

Source of Financing		Government			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*	*0.0-*	*51.0*
Tuition and other fees	Amount	52.8	277.7	80.6	200.2	1,428.1	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	Amount	1,070.5	1,382.0	1,100.4	1,383.3	1,859.2	1,456.4

Source: Authors' calculations based on Institutional Survey conducted by team

51. **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.

52. **On the other hand, private vocational training institutions raise most of their revenues from fees**. There are large differences between the fees charged in private and public vocational training institutions, primarily because private training institutions do not receive government subsidies. Hence close to 80 percent of revenue of private institutions are generated through fees, as compared to 20 percent in the case of public institutions. For example, the highest charging institution, Bangladesh Institute of Fashion Technology (BIFT), is completely self-funding through fees. BIFT charges at least Tk 85,000 for a one-year training course. Shorter courses seem to average about Tk 5,000 a week.

53. **Neither private nor public institutions raise a significant share of resources from the sale of goods and services, such as the provision of training to the private sector**. This is a discouraging sign – particularly for the private sector institutions, which might be expected to be more attuned to the needs of the market.

3. OUTCOMES OF THE VET SYSTEM

54. **There is little evidence available on the internal and external efficiency of the system.** This section attempts to shed some light on these issues based on information collected through administrative data, institutional surveys, surveys of employers and a tracer study.

I. INTERNAL EFFICIENCY

55. Most of the evidence on the internal efficiency of the system pertains to capacity utilization and pass rates, as there is little information available on drop out or repetition rates.

56. **Capacity utilization in the system is low.** 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 3-1).

Table 3-1: 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

Source: Authors calculations based on Institutional Survey conducted by team

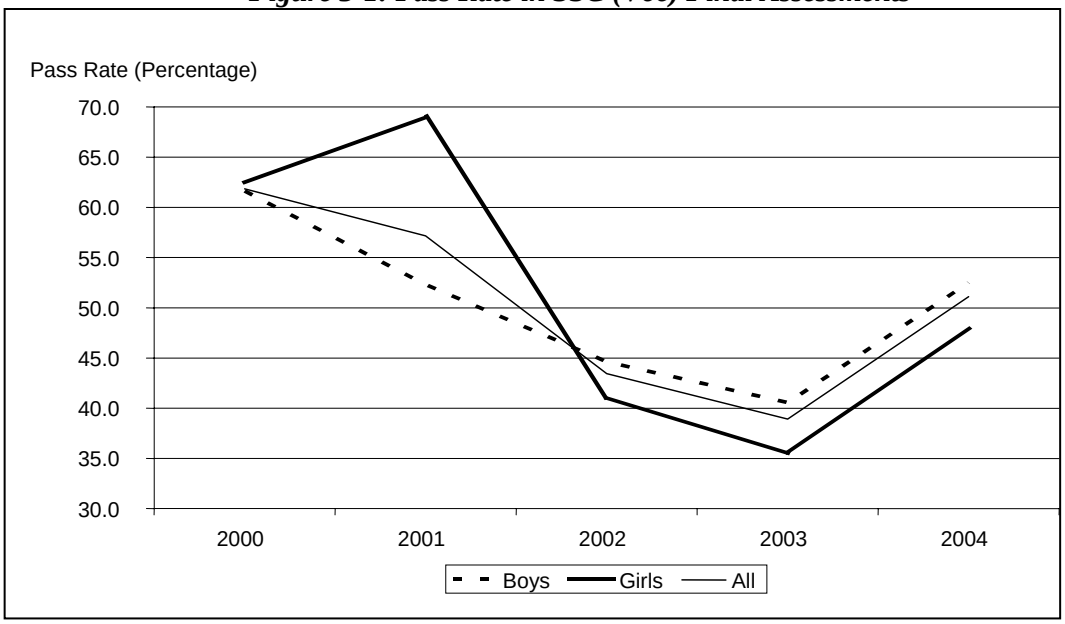
57. **While the number of students who have appeared in examinations for the SSC (Voc) certificate has increased at a dramatic rate, the pass rates have declined sharply**. In the five years from 1999 to 2004, while the number of examinees increased almost four-fold; pass rates in standardized examinations has declined. The downward trend in the pass rate for SSC (Voc) may be due to tighter examination controls designed to address cheating but a significant factor may also be the poor quality of instruction in institutions – especially those which have sprung up recently in large numbers (Table 3-2 and Figure 3-1).

Table 3-2: SSC (Voc) Examination Results

	No. Appeared In The Board Exam			No. Passed		
Year	**Boys**	**Girls**	**All**	**Boys**	**Girls**	**All**
1997	NA	NA	1,586	NA	NA	998
1998	NA	NA	5,276	NA	NA	1,954
1999	6,438	2,165	8,603	NA	NA	5,860
2000	10,683	3,877	14,560	6,585	2,420	9,005
2001	14,241	5,814	20,055	7,449	4,014	11,463
2002	17,189	8,401	25,590	7,670	3,450	11,120
2003	21,460	10,168	31,628	8,703	3,606	12,309
2004	21,613	9,893	31,506	11,345	4,754	16,099

Source: Guardian 2005

Figure 3-1: Pass Rate in SSC (Voc) Final Assessments



58. **The number of students who have appeared in examinations for the HSC (BM) certificate have increased in recent years, although pass rates have also climbed** (Table 3-3). The increasing pass rate should, however, be interpreted with caution. HSC (BM) institutions have financial incentives to increase their pass rates artificially because the final assessment of those institutions depends heavily upon internal assessments undertaken by the institutes. For this reason, the dramatic increase in the pass rate in the past two years does not necessarily represent enhanced quality of education.

Table 3-3: HSC (BM) Examination Results

	Appeared In The Board Exam			N. Students Passed			Pass Rate		
	Boys	Girls	All	Boys	Girls	All	Boys	Girls	All
2002	9,873	3,786	13,659	4,373	1,653	6,026	44.3	43.7	44.1
2003	13,141	5,083	18,224	8,373	3,192	11,565	63.7	62.8	63.5
2004	15,046	5,297	20,343	10,209	3,683	13,892	67.9	69.5	68.3

Source: Guardian 2005

II. EXTERNAL EFFICIENCY

59. **Until recently there has been no reliable information on the employment outcomes for TVET graduates**. In 2002 BTEB conducted a limited tracer study of labor market outcomes for TVET graduates. The study surveyed employers and through them traced graduates who *had found work* (and only with the employers surveyed), providing no information on those who had failed to do so or had found other employment. The study found that 55 percent of those who were surveyed had found their job within one year of graduating, the remainder having found their job between one and two years of graduating. The respondents would have graduated over many years; they were not from a particular group of graduates.

60. **In order to provide further information, the team undertook its own analysis during preparation of this report.** The study was divided into two parts: (i) a small employer survey - consultations with selected employers in order to get an assessment of the VET system from their perspective; and (ii) a tracer study involving following-up recent VET graduates.

(a) Employer Survey

61. The employer survey involved group consultation and structured discussions with three employers' associations and with several types of industries (see Table 3-4). These industries are the key industries involved in hiring graduates from training institutions.

Table 3-4: Survey of Employers; Scope and Coverage

	Number	Name
Employers' Associations	3	01. BGMEA, 02. BKMEA 03. BTMA
Industries		
Garment Manufacture	2	01.South China Garments 02. Paddocks Pvt. Ltd.
Automobiles	1	01. Autoscan Ltd.
Electronics	1	01. Phillips
Textile	2	01. South China textile 02. Bengal Denim

Source: Employer Survey conducted by team

Box 3-1: What do Employers Want – the case of BGMEA

Most workers in the industry are either process workers (machinists, sewers, machine operators) or are among the sundry skilled, semi-skilled and unskilled workers that can be found in any industry. The Bangladesh Garment Manufacturer's and Employers Association (BGMEA) asserts that when its members come to recruit workers, especially from among young new entrants to the labor force, they pay little attention to whether applicants have a background in general or vocational education.

Instead, BGMEA members look for something quite different: work attitudes and the ability to adapt and learn. Recruits are given on-the-job training, which for some type of work could, admittedly, be minimal. Other work will require more attention, but can still be handled through on-the-job training or through the shorter courses run by the Bangladesh Institute of Fashion and Technology (BIFT). If BGMEA were to determine that new skill requirements had emerged, leading to damaging shortages, its approach would again be to address the problem head on as it has done through BFIT.

BGMEA's approach is not to suggest that the VET system need not or should not be developed so as to ease the recruitment and training issues of the industry. But it does suggest that the system needs to know in detail what employers look for, particularly among its young recruits. The VET system in Bangladesh should be developed only in concert with groups like BGMEA. Their willingness to support what is needed has been clearly demonstrated.

Source: BIFT Prospectus (2005) and discussions with BGMEA

62. **Employers were found to hold a relatively positive view of elements of the vocational training system and negative views of the vocational education system**. Employers felt that some vocational training institutions (e.g. diploma in textile technology) were producing graduates for which there was some labor market demand. However, they felt that the vocational

education system was not producing employable graduates. Furthermore, they stated that both the vocational education and vocational training trades are not evolving in line with market demand, primarily because the system has poor linkages with the private sector. Employers perceived that the system is continuing to produce graduates for old and marginal trades, which have no market demand, while newer trades with substantial skilled labor needs are left unmet. Employers were also, in general, not content with available VET training facilities including machinery, equipment and trainers (see Box 3.1).

63. **Key suggestions by employers for improving the quality of the system include:**

- Given that so many employers are unaware of the numbers of graduates and types of skills being produced by the VET system, the government should play a more proactive role in providing information on the types and quality of training. This would enable better matching of supply and demand.
- The VET system should be flexible and adapt to market needs. Newly emerging sectors should be identified and emphasis should be given to these sectors, while obsolete courses such as typing and shorthand should be discontinued. Employers felt that they should be more involved by the government in identifying these sectors. Employers often cited UCEP's experience in this regard: the decision-making body for UCEP has representation from the private sector to identify growth sectors and design appropriate training programs.
- Government should take more initiative to ensure private sector participation. Employer participation in the planning and design of the VET system (sentence fragment). They are keen to be involved in policy development. They also expressed their interest in participating in the training process by providing trainers, permitting use of their premises for training, accepting apprentices, and assisting with developing curricula.
- General business skills and management training for all VET graduates is very important. Because they lack these skills, most employed graduates fail to get promoted. This further discourages better students from entering the VET system.
- More diploma (vocational training) holders should be produced. The scale for diploma-level education is inadequate given market demand.

(b) Tracer Study

64. **The tracer study should not be seen as a substitute for a rigorous impact evaluation.** While the tracer study is useful in order to examine how graduates from the system have been performing, it cannot substitute for a rigorous impact evaluation which compares the wages and employment outcomes for graduates of the VET system with a control group of similar students (e.g. secondary school graduates). It will be imperative for the Government to conduct such an evaluation to better understand the outcomes of the system.

65. **The tracer study was based on a mail survey to institutions and students.** 550 VET institutions were initially invited to respond to a mail survey, 357 of which responded (see Table 3-5 and Annex 5). Respondents were asked to send addresses of all students who completed their courses in 2003 (hence had graduated from their VET institutions for at least two years).[13] From the list provided, more than 5,000 students were contacted by mail and were requested to fill out a survey questionnaire regarding their VET experiences and employment histories. There were 2,302 responses, a surprisingly high response rate that lends credibility to the findings. Furthermore, as seen below, the proportions of respondents in various courses, closely mirror the

[13] The tracer study only focused on graduates from these institutions and does not include dropouts.

enrollments in these courses as discussed earlier in Chapter 2. This lends further credence to the survey results. However, several caveats should be kept in mind while reading the results – (a) as the employed individuals could have migrated to other cities, thus making them less likely to respond, there may be an ovesampling of the unemployed; (b) as not all institutions responded, the sampling frame was somewhat different from the original random sampling frame.

Table 3-5: Tracer Study: Scope and Coverage

Stage- 1	Institutes - (Information)	Requested – 550 Responded – 357
Stage- 2	Institutes – (Address of passed students)	Requested – 357 Responded – 251
Stage- 3	Students	Requested – 5,000 Responded – 2,302

Source: Authors calculations based on tracer study conducted by team

66. **The tracer study represents a good sample of VET graduates, with 2,303 responses out of 5,000 initial VET graduates contacted.** About 71 percent of the respondents were male, and most of them (about 92 percent) were between 14 to 25 years of age, with about half of them below 20 years of age (Table 3-6).

Table 3-6: Age Distribution of Respondents

Age Group	Male	Female	Total
14-20	704	324	1,028
21-25	806	274	1,080
26-30	73	39	112
30+	13	3	16
Didn't mention age	44	22	66
Total	**1,640**	**662**	**2,302**
% Total	**71.2**	**28.8**	**100.0**

Source: Authors calculations based on tracer study conducted by team

67. **More than 71 percent of respondents graduated from private VET institutions.** Roughly 44 percent of the respondents are SSC (Voc) graduates, 54 percent of which earned their certificates from private institutes. About 32 percent of the respondents are HSC (BM) graduates, while the rest are graduates of basic trades and of the vocational training system (Table 3-7).

Table 3-7: Respondents by Qualification and Type of Provider

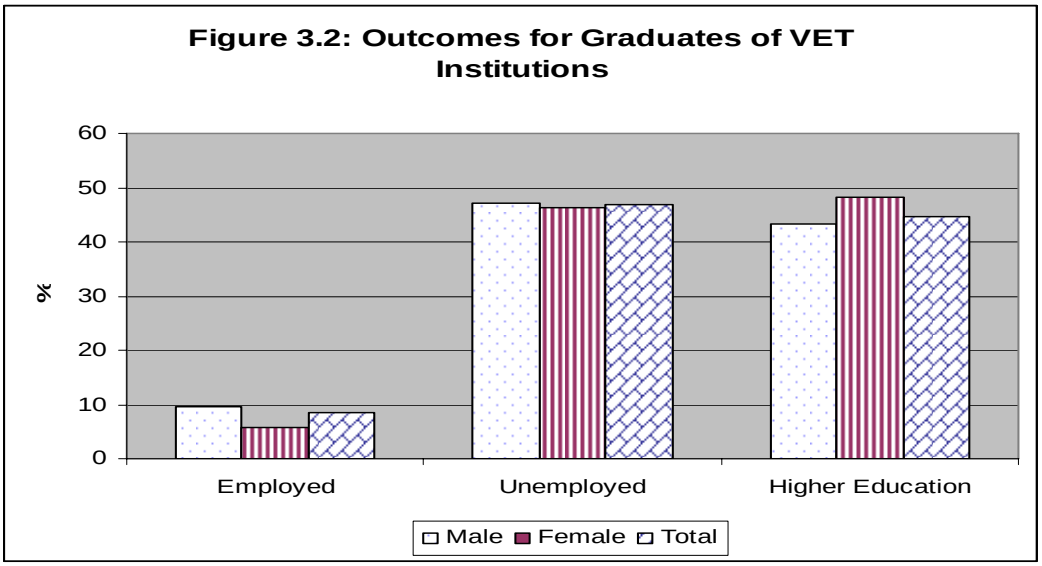
Courses	Government	Private	Total	Percentage
Vocational Education…				
Basic trades	51	147	198	8.6
SSC (Voc)	460	543	1,003	43.6
HSC (Voc)	91	-	91	4.0
HSC (BM)	-	737	737	32.0
Vocational Training…				
Diplomas	27	54	77	3.5
Other	29	141	170	7.4
Didn't mention course	3	18	21	0.9
Total	**660**	**1,642**	**2,302**	**100.0**

	28.7	***71.3***	***100.0***	

Source: Authors calculations based on tracer study conducted by team

68. **The results of the tracer study indicate that the expansion of the VET system has not met with considerable improvement in the labor market outcomes for its graduates.** Only 9.7 percent of male participants claimed to be employed. These numbers are even lower among females at 5.2 percent and 0.5 percent respectively (what do these numbers refer to?). Thus, only about nine percent of the respondents reported to be employed, while at least 47 percent of them said they were unemployed. Approximately 45 percent of respondents reported that they were pursuing additional education at various levels higher than their VET degree (Figure 3-2).

Figure 3-2: Outcomes for Graduates of VET Institutions



Source: Authors calculations based on tracer study conducted by team

69. **Private institutions do not seem to be providing more market relevant skills.** This is reflected in Table 3-8. At the vocational education level, graduates from private institutions are slightly more likely to be employed. However the situation is reversed in the case of graduates from vocational training institutions. Roughly the same proportions of graduates from public and private institutions are unemployed.

Table 3-8: Status of VET Students After Graduation

	Employed (%)			Self-Employed (%)			Higher Ed. (%)			Unemployed (%)		
	Gov.	**Pvt.**	**Total**	**Gov.**	**Pvt.**	**Total**	**Gov.**	**Pvt.**	**Total**	**Gov.**	**Pvt.**	**Total**
Vocational Education												
Basic trades	9.80	15.60	14.10	2.00	4.80	4.00	21.60	24.50	23.70	66.70	55.10	58.10
SSC (Voc)	2.80	3.30	3.10	1.10	0.70	0.90	46.70	47.90	47.40	49.30	48.10	48.70
HSC (Voc)	28.60	NA	28.60	1.10	NA	1.10	20.90	NA	20.90	49.50	NA	49.50
HSC (BM)	NA	4.70	4.70	NA	0.70	0.70	NA	53.50	53.50	NA	41.10	41.10
Vocational Training												
Diploma and Others	28.55	15.32	18.25	1.79	2.53	2.39	21.41	36.24	32.92	48.22	45.89	46.41
Total	**9.10**	**6.50**	**7.26**	**1.23**	**1.29**	**1.28**	**39.03**	**46.91**	**44.66**	**50.58**	**45.29**	**46.84**

Source: Authors calculations based on tracer study conducted by team

Table 3-9: Time Taken to find Employment (for those employed)

	< 6 months			6 months-1 years			1-2 years			24+ months		
	Gov.	**Pvt.**	**Total**	**Gov.**	**Pvt.**	**Total**	**Gov.**	**Pvt.**	**Total**	**Gov.**	**Pvt.**	**Total**
Vocational Education												
Basic trades	33.3	69.0	62.9	33.3	10.3	14.3	33.3	10.3	14.3	0.0	10.3	8.6
SSC (Voc	41.2	31.8	35.9	5.9	13.6	22.1	17.7	50.0	35.9	35.3	4.5	17.9
HSC (Voc	55.6	NA	55.6	7.4	NA	7.4	33.3	NA	33.3	3.7	NA	3.7
HSC (BM)	NA	23.7	23.7	NA	26.3	26.3	NA	36.9	36.9	NA	13.2	13.2
Vocational Training												
Diploma and Others	66.0	61.7	63.0	26.6	9.0	14.2	0.0	24.0	16.9	7.4	4.9	5.8
Total	**44.7**	**35.1**	**38.1**	**10.0**	**18.5**	**16.1**	**19.6**	**37.3**	**32.1**	**25.8**	**9.0**	**13.7**

Source: Authors calculations based on tracer study conducted by team

70. **The unemployment rate of graduates is close to 90 percent using the ILO definition of employment**. The unemployment rate is defined as the total number of individuals who are not employed but are actively seeking employment as a proportion of the labor force (i.e. number of individuals who are not employed but actively seeking employment and the number employed). As seen in Table 3-10 below, about half of those pursuing higher education and over 90 percent of those currently not employed are actively seeking work – hence they these individuals will be counted as part of the labor force. Using this definition, the unemployment rate for graduates from VET institutions is about 88 percent – only 12 percent of this labor force is employed.

Table 3-10: Tracer Study - Proportion of Respondents Actively Looking for Work

	Currently Pursuing Higher Education	**Currently Not Employed**
Male	45.7	94.0
Female	57.3	89.0
All	49.3	92.6

Source: Authors calculations based on tracer study conducted by team

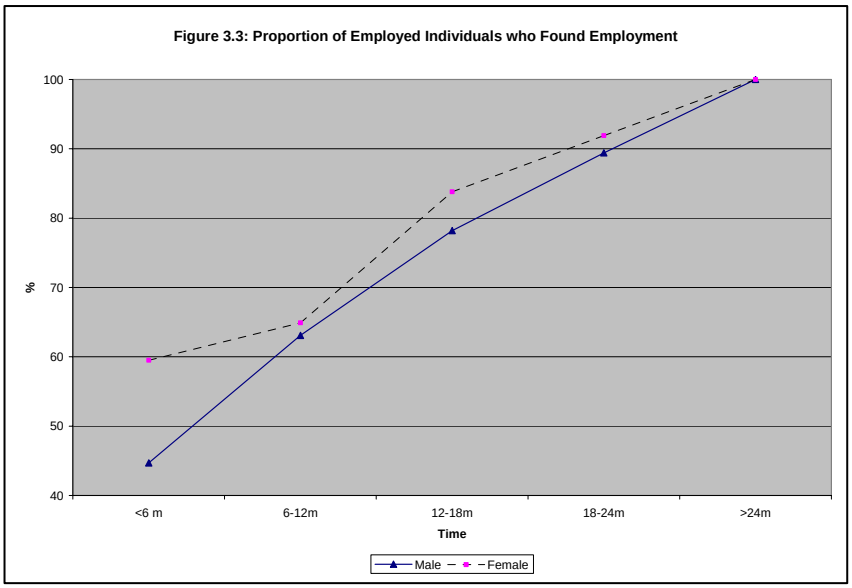
71. **These generalizations mask differences across streams**. Using the ILO definition presented above, the unemployment rate of HSC (Voc) graduates is about 70 percent, while the corresponding numbers are significantly lower for the remainder of the vocational education system. Similarly the unemployment rates of graduates of the vocational training system (diploma holders) are about 65 percent. However, these marginally higher numbers do not detract from the fact that neither the vocational education nor the vocational training systems to be producing employable graduates – even for the better streams, unemployment rates are at least 60 percent.

72. **The time taken to find employment varies by stream.** Overall, over 50 percent of those employed took more than six month to find a job, while 45 percent took longer than a year. Among those employed, graduates of the vocational training stream and those of the HSC (Voc) are likely to find jobs quicker – about 65 percent found employment in the first six months after graduation, possibly as these skills are more in demand in the labor market. However, the time taken to find employment for other streams is significantly higher – for example, over 65 percent of the employed SSC (Voc) graduates needed at least one year to find employment.

73. **Similarly, there are some differences in time taken to find employment for graduates of different types of institutions**. Graduates of government institutions are more likely to find employment within the first six months after graduation as compared to graduates of private institutions (Table 3-9 – previous page). However this difference becomes non-existent within 12 months of graduation. Graduates of private institutions are more likely to find employment within the second year.

74. **Across all streams, female VET graduates typically found a job more rapidly than their male counterparts**. This may be partly because of the recruitment of female laborers with garment and sewing-related basic trade certificates into the garment industry. These figures can also be explained in part because of cultural norms, which drive women more than men to work in home grown or small cottage industries (Figure 3-3).

Figure 3-3: Proportion of Employed Individuals who Found Employment



Source: Authors calculations based on tracer study conducted by team

75. **Respondents highlighted the failure of VET to target local needs and opportunities.** More than 60 percent of respondents, both male and female, think that courses do not respond to local demand and believe this is the reason it is so difficult to find a job. Another important impediment to finding a job is employers' requirement of experience on top of training. HSC (Voc) graduates who were successful in finding employment, for example, marked this as more important than the previous "local need" issue. Very few respondents (less than 5 percent) feel that there is lack of demand for trained labor. Finally, employers' pessimistic attitude towards training is also reported as an important factor making it difficult to find a job (Table 3-11).

Table 3-11: Respondents' Reasons for Failure to Find Work

	Not Enough Local Demand	No Demand for trained labor	Experience matters more than training	Employers don't value training	Excess supply of trained labor	Others
SSC (Voc)	65.6	4.9	16.5	9.4	2.0	0.5
HSC (Voc)	31.1	6.8	43.2	12.2	4.1	-
HSC (BM)	54.1	5.4	24.6	10.8	2.0	1.0
Basic trades	67.6	6.0	17.2	6.0	1.3	0.7
Diploma (Eng)	45.0	7.5	32.5	7.5	-	5.0
Diploma (Agr)	33.3	-	33.3	23.8	-	4.8
Other Diploma	66.7	-	33.3	-	-	-
Total	**60.3**	**5.0**	**20.6**	**9.9**	**2.0**	**0.9**

Source: Authors calculations based on tracer study conducted by team

76. **Market demand is the main factor driving students' choice of course.** This suggests that if courses are made available in accordance with market demand, more students will be interested to take those courses. In addition, students cited suggestions from experienced friends and families as major influences on their choice of course. A sizeable portion (more than 11 percent)

also identified the unavailability of other courses in their locality as the main reason underlying their choice of course (Table 3-12).\

Table 3-12: Respondents' Reasons for Choosing Course

	Suggested to respondent	Only course in the locality	Market Demand	Other
SSC (Voc)	35.1	10.8	45.5	5.6
HSC (Voc)	36.3	6.6	44.0	7.7
HSC (BM)	31.7	13.2	45.9	4.8
Basic trades	32.8	14.1	43.9	5.6
Diploma in engineering	24.5	10.2	53.1	8.2
Diploma in agriculture	25.0	7.1	57.1	7.1
Other Diploma	60.0	-	40.0	-
Total	**32.9**	**11.3**	**46.2**	**5.8**

Source: Authors calculations based on tracer study conducted by team

77. **Returns for graduates seem to be below those for graduates from the general education system**. Returns for graduates vary across streams but are almost universally lower than those of graduates of the general education system. The starting salary varies across graduates, with training system graduates attaining higher starting wages (about Tk. 3000/monh) than those from the vocational education system (about Tk. 2500/month). This is to be expected given the higher skill level of vocational training graduates. However, these wages are lower than the average wages for graduates from the general education system – the average monthly wage for SSC graduates was Tk. 3,500, while that for HSC graduates was Tk. 5, 300. This suggests a low return to the investment in vocational education and training (Table 3-13).

Table 3-13: Average Monthly Starting Salary of Employed Respondents

Type of institute	SSC (Voc)	HSC (Voc)	HSC (BM))	Basic Training	Diploma in Engineering	Diploma in Agriculture	Other Diploma	Other
Male								
Government	1,923	2,945	-	2,528	3,463	2,175	3,400	2,786
Non-Government	2,268	-	2,303	3,095	2,667	2,495	-	3,342
Total	2,112	2,945	2,303	2,959	2,985	2,353	3,400	3,137
Female								
Government	2,250	3,133	-			3,000	-	-
Non-Government	950	-	1,780	2,266	3,900		-	2,558
Total	1,470	3,133	1,780	2,266	3,900	3,000	-	2,558
All								
Government	1,964	2,968	-	2,528	3,463	2,340	3,400	2,786
Non-Government	2,070	-	2,228	2,809	2,843	2,495	-	3,081
Average	2,023	2,968	2,228	2,761	3,068	2,418	3,400	2,998

Source: Authors calculations based on tracer study conducted by team

4. ISSUES FOR CONSIDERATION

78. **Numerous constraints in the VET system result in generally poor outcomes**. These constraints include weak governance of the system, poor coordination among those managing the sector, lack of relevance of training to market needs, limited involvement of the private sector in managing training, and ineffective system financing. Based on the discussion above, this chapter lays out the key challenges that the system faces.

I. GOVERNANCE AND MANAGEMENT OF SYSTEM

79. **The current institutional framework for VET leads to poor coordination between the main actors, especially DTE and BTEB**. Currently, BTEB is responsible for curriculum development, examinations, and accreditations of non-public courses. DTE is responsible for implementing new courses, staff recruitment and the establishment of new institutions. However inadequate coordination between these two agencies leads to overlap of activities, and burdens both agencies with a workload for which they do not have sufficient resources. Furthermore, the National Council for Skill Development and Training (NCSDT), formed in 1979 to coordinate training policies and programs is defunct – not having met in over 20 years. There is a complicated delegation of authority between MoE, DTE, BTEB, and heads of the institutions. This can be seen clearly in the multiplicity of institutions overseing SSC (Voc) schools, which generally fall under the Directorate of Secondary and Higher Secondary Education (DSHE), but are bound to policies and instructions from DTE and BTEB for their accreditations, examinations, curriculum, staff issues, financing, and facilities.[14]

80. **Notwithstanding the considerable expansion of private places in recent years, serious concerns remain about the accreditation process**. Procedures are said to be time consuming, complicated and rigid, yet are often not followed properly. There have also been allegations of political interference in the process. Under normal procedures, after receiving an application, BTEB sends a team to inspect the facilities available for VET courses. However, the resources to carry out such inspections are severely limited, which introduces delays into the accreditation process, and often leads poor quality institutions receiving accreditation (see Box 4-1).

81. **There is virtually no way for a students, entrepreneurs, training providers, or other organizations to get consolidated and reliable information regarding VET**. Students should have access to information to decide which course will be most appropriate for them. Education providers need to be aware of recent developments and trends in the local and international labor market so that they can update their courses accordingly. Above all, adequate and systematic data are the prime elements by which a policymakers design successful models of service provision. A separate information center dedicated only to VET may not be worthwhile at this point, but some type of informational body could be established under BTEB, or alternatively, BANBEIS, which has substantial statistical resources and which is the main information agency of the government for post-primary education.

[14] DTE disputes this assertion and claims there is no problem. According to them, schools have the same school management committee and principal for all courses, and therefore there is no issue of dealing with multiple authorities. BTEB, however, claims that principals face dual administration because schools must have courses approved by BTEB even though their subventions come from DSHE. This difference of opinion is in itself evidence of the point being made, which is that the institutional framework is in need of streamlining and better coordination.

Box 4-1: Approval and Accreditation of Institutions

One of the key functions of BTEB is approving setting up and accrediting institutions. There are fairly comprehensive criteria for granting approval and accrediting institutions relating to distance from nearest institution, land, number of students, the physical state of the classrooms and library, laboratory equipment, teacher qualifications etc..

In practice these criteria are rarely adhered to. There are only a limited number of personnel involved in inspecting schools and monitoring the approval/accreditation process. Given the sharp increase in the number of institutions that have been setup over the past few years, increasing pressure has been placed on the limited capacity of BTEB to inspect the schools for approval and/or recognition. There is little scope for officials to spend time with those setting up the institution, checking that all criteria are fulfilled and making a measured decision as to whether approval should be given or not. Furthermore, there are instances of interference by vested interest groups – with influence being exerted on BTEB to relax the criteria.

This has resulted in two sets of problems. First, many of the institutions that have been approved and recognized are of dubious quality. Second, while there has been a glut of new institutions in urban or peri-urban locations where private entrepreneurs are likely to maximize profits, poorer rural areas have been left underserved.

82. **The system is 'examination-bound' and concentrates on longer courses**. The system, especially at the vocational education level, revolves around the use of written examinations, which has a potentially distorting effect that would be avoided by applying appropriate performance criteria to the system. Relying solely on criteria such as the number of examinees and the pass rates in examinations could serve only to further distort the use of examinations. Among other consequences, the system has come to concentrate on longer courses; most school courses are two years long and the system favors longer diploma courses in colleges. At one time most of these courses were in 'blue collar' fields (e.g. mechanical, electrical and building trades) but the recent expansion in HSC (BM) courses has changed this. However, the usefulness of these and other school-level courses is uncertain. The system also attaches importance to full diploma courses. For example, there has been some concentration on IT skills courses, which are now included in all public polytechnics as 4-year courses. However, many IT-related occupations require training for as little as a few weeks.

83. **At the institutional level, there are serious concerns about the quality of education**. Institutions suffers from under-utilization of resources, lack of equipment, unavailability of qualified instructors, low levels of enrolment, high drop-out rates, shortages of teachers' training facilities, and a high degree of centralization. The lack of resources and under-utilization of those that are available is indicative of poor distribution and management of resources. Students often cannot participate in practicums, for example, and are forced to observe due to a lack of sufficient equipment. One issue of particular importance to internal efficiency is the over-centralization of curriculum development and staff and resource management in Dhaka. This severely limits the scope for taking advantage of local level responsibilities and initiatives. However, recent initiatives have encouraged better use of available resources by introducing, for example, double shifts at the diploma-level polytechnic institutions, permitting the SSC- and HSC-level schools to use laboratories at TSCs and providing basic level courses in the diploma-granting institutions.

84. **Institutions have few incentives to improve their performance**. The main problem is the way institutions are governed. Principals of public sector institutions and those provided subsidies by the government have little autonomy to replace training courses with new ones, ensure that students receive quality training, change curricula, and involve the private sector in

decision making at the institutional level. At the same time institutions are not held accountable for performance.

85. **There are too few qualified teachers and instructors, and the scope for teacher training is very limited, even though training institutes are under-utilized**. There is a dearth of teaching staff in vocational training institutions across the country – especially in the public sector (Box 4-2). A key problem, as mentioned above, lies in the fact that there has been a sudden expansion in the number of institutions and the supply of teachers has not matched this growth. This has also adversely impacted teacher training. There are two teacher training institutions: the Vocational Teachers Training Institute (VTTI), which has the capacity to train annually 240 teachers for TSCs; and the Technical Teachers Training College (TTTC), with a capacity to train 80 teachers and instructors for diploma-granting polytechnic and monotechnic institutions. Although all teachers and instructors in public institutions are supposed to receive training, most do not owing to the low capacity of the system. Furthermore, there has not been equivalent emphasis on training teachers for private institutions, especially given the rapid expansion of such private providers. These private providers tend to employ untrained instructors and do not send their staff to a training institution.

Box 4-2: Shortage of Teachers in Vocational Training Institutions

A large number of faculty posts remain vacant in the state-run polytechnic institutes across the country. According to Directorate of Technical Education, out of 38 public polytechnics, 28 currently have no principal while 20 have no vice-principal. Similarly, some 140 out of 256 posts of instructor too lie vacant.

Bangladesh Polytechnic Teachers Association (BPTA) says the number of vacant posts in the government-run polytechnics is higher than the one claimed by the directorate. According to recent BPTA findings, 31 out of 38 institutes have no principal and 25 have neither a principal nor a vice-principal. BPTA says about 50 percent of instructor posts in 20 old polytechnics financed by government revenues also remain vacant for long.

The Polytechnic Teachers Association alleged that irregular promotion and recruitment, failure to formulate an acceptable gradation list for the teachers, complicated recruitment procedure and above all, the concerned authorities' indifference to the needs of the polytechnics have accounted for the prevailing teacher crisis.

Expressing concern over the teacher crisis at the polytechnic institutes, President of Institute of Diploma Engineers, Bangladesh Rafiqul Islam said, "Quantity as well as quality of the diploma engineers will come down alarmingly if such an acute shortage of teachers persists."

Source: Daily Mail (2006)

86. **Curriculum development - including the introduction of new courses, the expansion of high demand courses, the closing of obsolete courses, etc - is rigid and time consuming.** Curricula are revised only every five years or so. Part of this weakness stems from inadequate resources, but revisions ought still to be more frequent given the pace of technological change. To cite one example, polytechnic institutes were extremely slow to integrate computers as a part of training. Introducing new courses and closing those with decreasing levels of demand is also a difficult and oftentimes sluggish process. For instance, the SSC (Voc) courses in 15 trades were first started in 1995. Since then, training in areas of high demand for labor, such as agriculture (horticulture, poultry, diary, agro-based food, forestry, aquaculture) and leathermaking have been suggested and planned, but have yet to materialize more than 10 years later.

II. LINKAGES WITH MARKET NEEDS

87. **The tracer study of graduates presents strong evidence of low rates of employment, long periods necessary to find a job, a generally low salary structure, a failure to target market demand and local needs, and a moderately costly training system.** The participation of VET graduates in higher education, evidence of which was presented in this study, indicates that VET is not viewed as a dead-end for secondary school students. However the outcomes of the system are poor. Part of this problem arises from the problems of governance, management and lack of efficiency of institutions mentioned above. However, poor outcomes are also a result of the lack of involvement of the private sector, or understanding of market demand.

88. **There are insufficient links between VET institutions and employers, which results in slow and inadequate responses to labor market developments**. Employers have no scope for participating in policy development, developing curriculum or providing trainers. DGET/BTEB do not consult employers in setting policy, curriculum design or vetting accreditation procedures. Courses are not offered on the basis of labor demand or in consultation with employers. It is doubtful that demand is predicated on knowledge of the labor market given the lack of labor market information generally available.

89. **Too little attention is paid to local labor market needs**. Many VET students, especially at certificate level, will seek their first jobs in rural areas or small towns. The needs in these areas are less likely to be for workers with complete skill certificates and more likely to be for workers with basic skills and the ability to learn on the job. Even students who fail to complete long courses could have skills that are in demand or skills that could be used to generate opportunities for self-employment. Poor outcomes are held to be worse in rural than in city areas and consequently more consideration needs to be given to the way courses and techniques are used to meet labor market needs. Labor market outcomes cannot be divorced from the state of the labor market itself. No matter how good the education and training, in places where jobs are limited, the outcomes will be poorer.

90. **Too little attention is paid to the important roles of the informal and the rural sectors.** While a significant majority of employment continues to be in the informal sector, little thought has been given to enhancing the skills of people working in that sector. Most employment will also continue to be in the rural sector, although a decline in the rural share of the labor force will be noticeable. The economy is also crowded with micro- and small businesses. The formal training system is not designed to offer skills to low-educated people and particularly not to those in the rural non-farm sector. But neither are there other providers to fill the gap. Most workers in this sector continue to learn trades on the job through informal apprenticeships at their place of work from other low-skilled craft people.

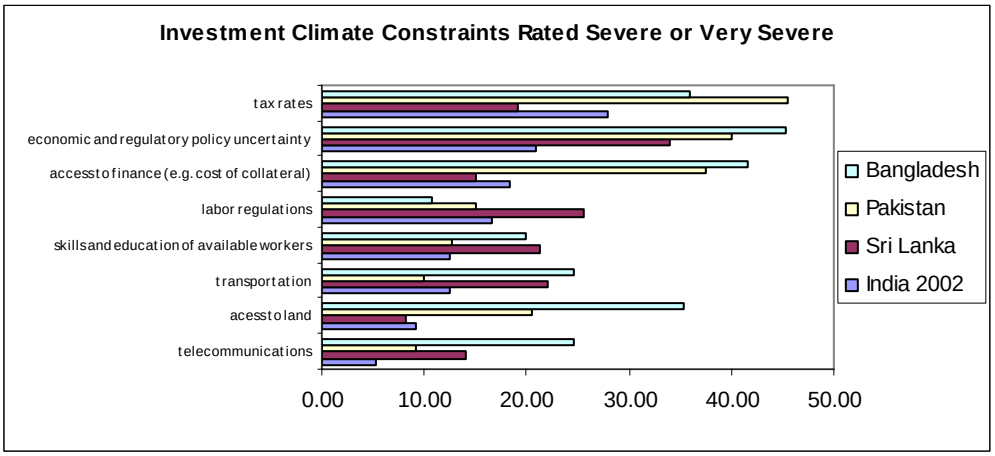
III. IN-SERVICE TRAINING

91. **Firms are under investing in worker skills**. Only about 22 percent of all firms provide formal training to their employees. While these incidence figures compare favorably with those of other countries in the region, such as India or Pakistan, they are low when compared to fast growing economies in East Asia such as Malaysia. Furthermore, when firms do train, they tend to extend training to a much smaller fraction of their workforce than other countries in the region or elsewhere. Given that in-service training is critical to the effective use of new technologies

and to productivity growth, as the literature suggests, than Bangladesh's under-investment in the skills of its workforce places it at a competitive disadvantage relative to other countries.

92. **Bangladeshi employers appear more preoccupied with other constraints than with the skills of their workers**. Figure 4-1 shows that Bangladeshi employers rank four other constraints as more important than "skills and education of available workers". The top three constraints are "tax rates", "policy uncertainty", and "access to finance". In fact, while other countries also rank these three constraints highly but a higher proportion of employers in Bangladesh identify education and skills as a constraint as compared to Indian and Pakistani employers.

Figure 4-1: Investment Climate Constraints



Source: Tan and Savchenko (2006)

93. **International experience suggests there are three main reasons for employers not training workers**. The reasons, identified from the World Business Environment Survey are: (a) firms use "mature" technology that does not require workers to be trained; (b) firms cannot afford to train; and (c) skilled workers can be easily hired from elsewhere (see Figure 4-2). These reasons apply generally but are specifically cited by firms in the region and Bangladesh.

Figure 4-2: Reasons for Not Providing In-Service Training

Source: Batra and Stone (2004) using data from World Business Environment Survey.

IV. THE FINANCING OF VET

94. **Institutions have been funded in an ad hoc, supply-driven manner. However, DTE is moving towards a more predictable and less supply-driven system for allocating funds to individual institutions**. Since 2004, it has asked institutions to request funds based on inputs such as number of students, number of teachers, equipment requirements, number of practicums, etc. This reflects a change in policy, moving away from the less accountable and less autonomous system of lump sum payments that existed before (see Box 4-3 on subvention system). VET was financed mainly through incremental public funding, i.e. with lump sum allocations assigned in an incremental manner based on previous allotments, with upward adjustments for annual inflation, and perhaps on the basis of ad hoc, including political considerations. The change in policy toward a more transparent system through which school administrators request funds in line with institutional needs, if adequately implemented and monitored, should assist in ensuring funds are allocated to under-funded components of VET, such as maintenance of machinery/equipment, purchase of consumables, and training of teachers, particularly if school administrators are given incentives to maximize school performance.

Box 4-3: The Salary Subvention System

Once an institution is recognized, it receives monthly government subventions. This system (known as the Monthly Pay Order (MPO) system), was begun in the 1970s and prescribes a fixed and uniform proportion of salary grants to be extended to all non-governmental teachers and employees of all recognized educational institutions. The present system of subvention grants started out at 50 percent of the initial step of the national pay scale, and has subsequently increased. The government now finances 90 percent of the salaries of teaching staff in private vocational education institutions. To ensure that schools have an incentive to maintain high levels of performance, the subventions were supposed to be linked to performance criteria (mainly the results of standardized examinations). Financing is supposed to be withdrawn if schools do not meet the minimum performance criteria for a period of five years.

In practice, once schools attain eligibility to receive the MPO, subsidies flow regardless of performance. This is demonstrated by the fact that between 1999 and 2003, less than two percent of schools have had their subventions suspended. Information on school performance in standardized examinations is not readily available – hence stakeholders do not know how schools are performing. They are hence unable to have informed discussions with school managers on quality and performance, and schools faces little pressure to rigorously observe regulations governing the linkage of subventions with performance.

95. **If not adequately monitored, this financing reform can also be subject to abuse.** Indeed, by linking funding to numbers of enrolments or courses, this funding model may actually exacerbate current problems by creating incentives to expand underperforming facilities, and by failing to establish incentives for greater linkages with the job market.

96. **Supervisory control over VET expenditures is relatively weak and subject to infrequent and/or inadequate auditing**. All institutions overseen by DTE are supposed to be audited annually but DTE does not have the staff to carry this out systematically. Consequently, it utilizes teachers and administrators from institutions to conduct audits on other institutions. DTE establishes the parameters for the audit and then temporarily 'borrows' the human resources from their home institutions, who subsequently report back directly to the head office. According to DTE, these audits are performed once a year and are supplementary to MoF's own independent audits of the education system. There is some reason to believe, however, that audits do not occur as frequently as intended on account of capacity constraints.

97. **Because of inadequate or non-existent disbursement records, compounded by human resource constraints, there is serious scope for abusing the system and a possibility that public resources intended for salaries and allowances could be usurped for other purposes.** There is insufficient documentation of the disbursement process of Monthly Pay Orders (MPOs) for salary subventions. This improper record-keeping makes rigorous financial audits of VET institutions extremely difficult if not impossible, and exacerbates the problem caused by the lack of human resource capacity described in the previous paragraph. Concern about financial irregularities is supported by the available evidence.[15]

98. **The administration of government subventions to non-government schools suffers from the same difficulties that beset the financial management of non-government schools in the broader secondary and higher education system.** These include insufficient documentation and transparency with regard to proof of payment against the MPOs, and occasional payments to schools ineligible for government subventions because they have closed entirely or are not operating as per expectation, such as, for example, the school at which no Class IX students were in attendance at the time of a recent DFID survey.

99. **VET is very expensive compared to other education sub-sectors**. According to administrative data, the annual unit cost of education in government vocational education institutions is Tk 13,810. World Bank's calculations, based on data provided by DTE on budget allocations per enrolled student in public vocational education institutions, yielded a figure of nearly 16,000 Taka annually, or roughly 70 Taka per student per school day. This is nearly three times the cost of general government secondary schools. Similarly, the unit costs in public vocational training institutions are about Tk 13,530 a year. This is also about three times the per capita cost of general higher education; the average annual unit cost in government colleges, for example, is only Tk. 4,720.

100. **The high cost of VET can be attributed to a number of factors.** These include the low student to teacher ratios, the large fixed and recurrent costs of machinery, the constant need for consumables, and a stipend/scholarship scheme provided to the large majority (about 65 percent) of students. The cost of VET to students is greatly reduced through these stipends and through subsidies for hostel and dormitory accommodation.[16] This stipend/scholarhip is awarded on the basis of academic merit (measured at the time of entry) and has no income or means tests applied. For most students there are, therefore, considerable financial benefits in participating in public institutions; rather than making a financial contribution to the cost of their own training students receive additional, and possibly unnecessary, incentives to participate. By contrast, fees in non-public institutions can rise to as much as Tk 3,000 with none of benefits associated with public institutions.

101. **Expenditure in institutions is heavily skewed towards salaries, which consistently account for over 50 percent of recurrent costs.** A driving force behind this is the low student

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[15] DFID's forthcoming Social Sector Performance Survey presents evidence of leakages *in government secondary schools* after comparing on a line-by-line basis their survey data with that of the Comptroller General of Accounts (CGA). Out of 640 budget lines seven cases were discovered of institutional spending on allowances without any corresponding allotment, and there were an additional 145 cases in which CGA expenditure was greater than allotments, two-thirds of which related to pay and allowances. These discrepancies averaged roughly 6 percent across the sample of 28 upazilas. It should be noted that the survey did not specifically cover TVET institutions. Nevertheless, the financial management and auditing system of the TVET sub-sector is very similar that in secondary schools under DSHE, and in all likelihood suffers the problems.

[16] Education Sector Review, Vol. III, World Bank (2000). Dhaka: University Press Ltd.

to teacher ratio, which is significantly less (about 18:1) than that of secondary education (about 40:1). These deficiencies detract greatly from the quality of education that teachers are able to provide. A consequence of prioritizing salaries to such an extent is that there have been inadequate funds for sufficient instructors, equipment, in-service training, and consumables for supplies, maintenance/repair of machinery, and other critical infrastructure. It should be noted, however, that, these expensive characteristics of VET are, with the important exception of the stipend/scholarship scheme, not unique to Bangladesh. They tend to be features of *any* VET system, a pattern that necessitates not only increased resource allocation but also innovative means of putting resources to the most effective use.

5. INDICATIVE POLICY OPTIONS

102. **The government recognizes that the VET system faces many challenges and has outlined a reform agenda in the NSPR.** The challenges identified are similar to those raised in the previous section. This agenda for the future calls for an expansion of VET, but only after ensuring that the appropriate enabling environment is in place (see Box 5-1).

Box 5-1: The Government's Reform Agenda for VET as Outlined in the NSPR

According to the NSPR, the public Vocational Education and Training (VET) system is disconnected from the job market. Its failure to diversify its clientele and to make the programs more flexible, adaptable and responsive to market needs and geared to the informal economy have led to the system failing to help the poor improve their employment and income.

Stated government policies and goals are to substantially increase the proportion of post-primary students enrolling in VET. The objective is to increase the proportion of participants in VET to 20 percent of the students enrolled in the secondary stage by 2020—from the present proportion of around 3 percent. However prior to doing so, six issues must be addressed: (i) VET has to be made responsive to job market needs; (ii) the system has to pay more attention to underprivileged groups (the poor, adolescents, women, etc.) who do not make it to grade VIII or the SSC level; (iii) the quality and efficiency of public training must be enhanced and public-private-NGO collaboration should be encouraged; (iv) all training centers, government or private, should be registered and brought under a common regulatory framework; (v) VET courses should be flexible in terms of duration, time-table and curriculum and should be flexible in terms of age structure and academic qualification for the students; and (vi) VET institutions should develop cooperation with micro-credit providers to support self-employment of trainees.

Source: NSPR (2006)

103. **The model on which the system is designed is the right model**. This model which involves limited public provision, and extensive private provision which is selectively financed by the government, is the model that has been adopted by successful VET systems worldwide. The key issue is that of ensuring that the system is managed effectively, and its quality and relevance are enhanced.

104. **The Government is also taking steps in the right direction along the lines laid out in the NSPR**. Recent attempts by the government to link financing to some input measures, facilitate private provision of in-service training, and tighten financial controls on expenditures are encouraging. However, more needs to be done to enhance the efficiency of Bangladesh's VET system.

105. Based on international experience and lessons from innovations undertaken in Bangladesh, this section attempts to provide some policy options and implementable actions to address these challenges and move towards achieving the goals as laid out in the NSPR.

I. THE IMPORTANCE OF GENERAL EDUCATION

106. **General schooling is still the best option for students, even in labor market terms**. While the government wants to expand its VET system rapidly, international experience shows that vocationalization may not be necessarily appropriate. Much of what can be taught in HSC (BM) courses, for example, could be incorporated into general courses. Basic IT skills should be

part of general schooling. Employers want their workers to be willing and adaptable, qualities that do not depend on their having done any particular type of vocational schooling. At least until the end of Class 10 general schooling should be the priority. Beyond that some vocationalization can be useful but the important thing is to do it properly. As Box 5-2 illustrates, increasing vocationalization may not be appropriate in the Bangladeshi context.

Box 5-2: International Evidence on the Relevance of Vocational Education

This box summarizes some key findings on international experience of vocational education.

- Vocational subjects are desirable on general education grounds, as part of a well-rounded education intended for everyone but they should not detract from efforts to improve the quality of core subjects. No study has shown that vocational courses offered as a minor part of a student's total curriculum give an advantage in finding work (let alone self-employment) within the first few years after leaving school. This is particularly so when the labor market conditions for youth are severely depressed. Vocational subjects may foster an interest in the types of work for which the subjects are broadly intended and the skills learned may have private uses but tracer studies have found no positive impact on access to work after students leave school and no strong effect on access to relevant further technical training.

- Vocationalization is costly. Most variants are more costly per student class period than general education subjects, primarily because of smaller classes and the greater cost of facilities, equipment, and consumables. Unless a course can be taught to a full class of students (few can), operating costs will be more than twice that of non-laboratory academic subjects.

- Enrollment in some types of vocational courses is often strongly gender biased. Many skills taught are culturally identified with one gender only; for example, domestic science and secretarial skills with girls, industrial arts skills with boys.

- Vocationalization is hard to implement well. It requires specially trained instructors, preferably with work experience in the types of skills being taught. Teachers with these qualifications are hard to recruit and retain. Time spent on vocational skills training can detract from the teaching of basic academic skills, which are badly in need of improvement and also essential for labor market purposes.

Experience worldwide, as well as discussions with employers in Bangladesh which are presented here, suggests that employers want to recruit trainable workers and whether the individual possesses specific vocational skills is not necessarily their major concern. What they want most from young workers are the basic academic skills that are taught in primary and, especially, general secondary education – the ability to communicate, solve problems and teamwork. With these skills, it is easier and more cost-effective to train workers who are adept at learning.

Source: Johanson and Van Adams(2004)

107. **Even countries that have a developed vocational education system are placing increased emphasis on general education.** An excellent example of this transformation is the Korean vocational education system, which has evolved considerably since it was set up in the early 1960s. While initially the emphasis was on churning out semi-skilled workers for the industry, the current focus is on equipping students with basic knowledge and skills and providing them with a foundation which will enable them to learn further. Some key features of the system include: (i) delaying streaming into vocational education till high school (for three years after grade 11). All students undertake a common national curriculum in the first year of high school, following which they choose to enter the general or vocational stream for the remaining two years – however the vocational stream includes extensive elements of general

education; (b) financing vocational education through government and private resources – about 40 percent of financing for vocational education comes through entrance and tuition fees; and (c) linking up vocational schools with specific industries to ensure that curriculum and outputs match industry needs. Even though the vocational system is flexible, the number and proportion of entrants into the system has been declining rapidly – just 30 percent of graduates at the secondary level are enrolled in the vocational stream, down from 45 percent in the mid-1990s.

108. **Adding vocational courses to general education in order to improve the options open to students may be useful but it is not a key to success**. Such courses run the risk of introducing streaming into schools, with the majority of students being directed to high cost vocational courses as a way of rationing entry to higher education. They could also exacerbate the poor articulation between the levels of education, sending the problem further down into secondary schools. Because of inadequacies of current teaching staff, a decline in standards is just as likely to follow. The introduction of modular courses, however, would allow a best choice to be made as to whether courses should be offered through schools or through training institutes. In any case, streaming should not begin too early, ideally not before Class 10, and certainly not before Class 8. Before that point, the benefits of general education outweigh any advantage that might be obtained through 'vocationalization'.

II. THE ROLE OF THE PUBLIC SECTOR

109. **Given the poor outcomes of the system, an important question is whether the public sector has a role to play in VET**. No government today can afford to provide and finance all the skills needed by a modern economy, and, to its credit, Bangladesh does not do so. The key is finding the appropriate balance in government and non-government provision and financing of skills. The highest priority for any government is in getting the policies right to facilitate skills development that encourages each of the partners to pursue its comparative advantage in a market context. However, there are many things that the non-government sector cannot do – developing policies and standards, preparing teaching materials, training instructors, provision of information on training – and it is in these areas that the government has a very important role to play. Its success in playing these roles will ultimately determine whether the Bangladeshi government can play a relevant role in the administration and management of the system.

(a) Governance and Management of the System

110. **There is no clear policy statement on how the VET sector should be developed or even what it encompasses. Such a statement, which is long overdue, should stress the unitary nature of VET**. The policy statement should clarify the role and responsibilities of the different government institutions (e.g. DTE, BTEB) and ministries in the management and implementation of the VET system, as well the role that public and private training institutions are expected to play. Given that the private sector has until now played a very limited role in the system, it will be critical to involve employers and industry associations in the development of such a policy framework.

111. **As a preliminary step, industry could be represented on the existing BTEB**. Although this would not necessarily alter the operations of BTEB it would establish ground rules for further industry participation. It would also makes clear that vocational education and training should be viewed a partnership between industry and government. However, this partnership should extend to letting employers play a decision-making role, not only playing an advisory function.

112. **In the medium term, an autonomous Board of Vocational Education and Training (BVET) should be established, constituted by public and private sector interests and by industry interests**. The preferred membership of the Board could be:

- Independent Part-time Chairman, preferably from industry
- Four government representatives comprised of nominees from the Ministries of Education, Labor, Agriculture and Industry
- Four industry representatives, typically from appropriate employer associations including associations involved in placing Bangladeshi workers overseas
- Four non-government representatives, typically nominees from associations of training providers and umbrella NGOs.

The Board would be supported by a full-time Chief Executive Officer of the Secretariat.

113. **Most functions of the DTE and BTEB would be subsumed by BVET**. The functions to be transferred would include policy development, monitoring and evaluation and overall management, financing and administration of the VET system. However, as a matter of principle, the Ministry of Education (MoE) should retain a unit to oversee the activities of the Board. Many countries (Argentina, Australia, Brazil, Chile, Mauritius, South Africa and the U.K.) have constituted such agencies (see Box 5-3). To respond effectively to skill needs of the economy, these authorities are set up as autonomous bodies, independent of line ministries. They play a key role in the coordination of the overall training system, in financing training, curriculum development, supervising skills testing, certification and accreditation, and provision of information on the quality and effectiveness of institutions. Critical to the success of these bodies is the role of employers – unless employers are given sufficient role in the decision making process, training may not be adjusted sufficiently to meet the needs of employers.

Box 5-3: Australia's Systemic Level Reforms

A major reform in Australia was the establishment of the Australian National Training Authority (ANTA) by the federal and state governments. The authority was established as a company, with the federal and state governments being equal shareholders, but these governments recognized that their role in managing VET reform could not supersede the role of employers and workers. ANTA has a board of five industry representatives and the aims of ANTA include: (a) developing a national VET system with agreed objectives and priorities, assured funding, consistent national strategies and a network of providers delivering high quality programs at the state and local level; (b) ensuring close interaction with industry and VET providers so that the strategic plan reflects industry needs and priorities; (c) developing effective training market with public and private provision of both high level, advanced technical training and further education opportunities for the workforce and community generally; and (d) enhancing efficiency and productivity of publicly funded providers that could compete effectively in the training market

In addition, Australia ensured extensive coordination among the relevant government VET agencies at the federal level for more coherent policymaking and allocation of public funds. This has led to distinct changes in the relationship between the ministries of Employment and Education. The government had increased the Ministry of Employment's responsibilities for developing traineeships, interacting with employers to determine the types of training required, and implementing programs for the unemployed, but VET, which fell under the purview of state education ministries, remained the country's major vehicle for the system's formal training component. The federal government became unwilling to tolerate the division and combined the ministries of Employment and Education ministries into the Department of Education, Employment and Training. Bearing in mind that its role in education was mainly as financier rather than administrator, the federal government took major initiatives in setting policy. Its actions eventually led to some states also to combine their education and labor ministries.

Source: Abrahart (2000), Clarke (2005)

114. **Apart from being an equal if not the dominant partner in the proposed BVET, linkages with industry would need to be tightened at a local level and within specific industry sectors**. There are several aspects to this:

- ***To develop Industry Training Councils*** with industries such as garments, leather, resources and power, information technology and building and construction being used for pilot programs. The Councils would oversee curriculum development and the assessment of students.
- ***To develop arrangements for students to be attached to industry as part of their course work***. Ideally, this would mean developing dual training systems or apprenticeship systems. However, it is doubtful if this would be feasible in Bangladesh. Nevertheless, a model that involves *no* attachments whatsoever is grossly deficient.
- ***To establish joint government-industry training centers***, equipped as full workshops and used as outlets for on-the-job training. The centers would be staffed with industry-recruited trainers and jointly managed by government and industry. The government would finance the staff but the centers would have management boards chaired by employer representatives. The training centers would also provide job placement centers.
- ***To establish public-private partnership for managing diploma-level institutions***. This should proceed on a pilot basis, with each pilot covered by a management agreement between the government and the associations involved, giving associations a long-term contract (say 5-10 years), during which the institute's performance would be assessed. The government would own the institutions but there could be an option to transfer ownership to the associations if the pilot projects were successful. The institutes would be properly accredited, with the curricula, examinations, assessment procedures, and certification of courses being finalized through a joint industry-government panel. Institutions would receive a subvention specified in the management agreement. The institutions would be released from regulations concerning entry-level requirements for students, and from staffing and finance regulations. They would select their own students and set their own fees. The Government could consider implementing a scheme to meet the fees those who cannot afford them but who otherwise qualify for entry.
- ***To introduce in-service training for teachers using industry-government training centers***. The centers would have two goals: to develop the skills of public sector trainers through hands-on experience, and to upgrade the skills of industry-based trainers.

(b) Accreditation and Qualifications Framework

115. **Institutions must be allowed to seek accreditation from internationally recognized accreditation agencies.** Currently BTEB is entrusted with the task of accrediting training institutions. However, owing to limited capacity, BTEB cannot perform this function effectively. While some non-public providers are refused accreditation, for good reason, others, already accredited, may be delivering education and training that is no better or even worse than the failed institutions could deliver. Institutions, once accredited, remain accredited irrespective of the labor market outcomes for their students or even the pass rates of their students. An option that has been introduced successfully in many developing countries is to allow training institutions to pay fees and seek certification and accreditation from internationally recognized agencies – e.g. City and Guilds of the U.K., Singapore's Workforce Development Agency, and Australia's National Training Authority. By reducing the workload, this will allow BTEB to perform its functions more effectively, while allowing institutions greater flexibility in the choice of certification providers. Institutions who aim to get accredited by these international agencies will also need to ensure that the quality of training they are providing meets international standards. The ultimate beneficiaries will be students and employers – as the quality of

institutions will improve and they will have better information about the quality of training provided by institutions. This will also allow students greater portability in qualifications which should ease their job search.

116. **This will be extremely beneficial to migrating workers.** Skilled Bangladeshi workers will find it much easier to find employment in other countries if their degrees/courses are accredited by internationally recognized institutions. This will likely reverse the trend of Bangladeshi workers migrating abroad not being able to get good quality jobs because of their low skills.

117. **As BVET is established, a key role it can play is in the accreditation of institutions and development of a Qualifications Framework (QF)**. There can be debates about the effectiveness of a qualifications framework. They have, for example, been criticized as introducing additional regulatory constraints on the hiring of labor and on the accreditation of non-government training courses. Certainly, they can introduce more complexity into the training market. However, it must be stressed that a qualifications framework need not suffer from undue problems. In fact, the problems arise from the regulatory framework within which the framework is introduced. In other words, it is the use that is made of them by officials that causes – or resolves – problems.

118. **For our purpose we need define for the moment only the functions a QF would be asked to fulfill**. These would be:

- To develop a system of inter-related competencies and qualifications
- To develop and maintain the training standards to be used for courses that go to make up competencies and qualifications
- To set entry-level pre-requisites for courses
- To assess student achievement in courses against those standards
- To issue certificates recognizing those achievements
- To set procedures for students moving between competencies and qualifications
- To set procedures for students upgrading their qualification
- To set the credit that could be offered to students making such moves
- To accredit courses as meeting the requisite standards.

119. **Developing an overall structure is not difficult – but developing the standards and courses that go to make up a qualification is onerous**. Industry cooperation is crucial in this respect. One particular problem is how to set the entry-level pre-requisites for students wishing to enter VET from schools. A second problem is how to set entry-level pre-requisites for students wishing to enter higher education from VET. The VET system must be rationally anchored at both ends.

120. **Accreditation would be for particular modules within certificate and diploma courses**. The structure of complete courses would be expanded for a greater variety of course units (competencies) to be included in the eventual certificate or diploma. Students who satisfactorily complete course units would be given certificates of competency for these units. A wider variety of institutions would be accredited to provide modules, including employer associations and individual employers where appropriate.

121. **There would be no entry restrictions to short courses**. Entry to full courses would depend only on applicants satisfying entry requirements. Prerequisites should be relaxed for mature age students returning to VET and to students agreeing to pay full fees for courses. If the

attainments of participants in industry training are certified, the VET system will eventually be able to recognize prior learning.

III. MAKING THE SYSTEM RELEVANT TO MARKET NEEDS

(a) Institutional Management

122. **At an institutional level, involving employers should be a key management objective.** For institutions to be responsive to market demand, employers have to be closely involved in their management. This element is conspicuously absent in Bangladesh, either in the case of public or privately managed but publicly subsidized VET institutions. As the example of India's Industrial Training Institutes demonstrates (Box 5-4), involvement of employers in decision making at the institutional level is likely to significantly enhance the responsiveness of these institutions to market demand.

Box 5-4: The Development of Institute Management Committees in India

Industrial Training Institutes (ITIs) in India are increasingly managed by Institute Management Committees (IMCs), which are chaired by local industry representatives. IMCs are being given considerable local autonomy. They are responsible for:

1. Managing an institute's finances. This includes:
- Generating income by managing the training services provided to local industry. Guidelines for providing training consultancy are laid down in consultation with the IMC.
- Approving Capital Expenditure. IMCs are involved in specifying the procurement of equipment. Proposals for procuring equipment and for undertaking civil works must be approved by IMCs.

2. Managing an institute's staff and faculty. This includes:
- Providing staff training development including through industry placements for faculty members.
- Evaluating faculty though Steering Committees whose recommendations carry weight and recognition.
- Transferring faculty. IMC are consulted if members of faculty are being transferred from one institute to another, although the decision is not actually theirs.
- Engaging mentors from industry and guest faculty. Mentors are engaged for groups of students belonging to particular trades. They are considered role models for students and must be good experienced skilled workers. In effect, they are like industry-appointed 'skilled masters'.

3. Managing students. This includes:
- Selecting students. Although procedures must accord with national guidelines, including being open and transparent, the selection is left to IMCs.
- Supervising examinations. Theoretical examinations are jointly supervised by industry and practical examination and assessments are supervised jointly by industry and external examiners.
- Providing vocational guidance to students.
- Assisting students to find employment when they graduate.

4. Developing curricula. This includes:
- Revamping curricula. IMCs may include new trades and discontinue obsolete trades.
- Establishing Trade Advisory Committees (TAC) to improve the effectiveness and relevance of training for particular trades. TACs must include trade experts from industry.
- Organizing seminars, workshops and exhibitions for the benefit of trainees, faculty and industry.

Source: Ministry of Labor (Directorate of Employment and Training), India (2005)

123. **However, employers will only get involved in institutional management if institutions have more autonomy and are more accountable for their performance**. This will mean letting institutions administer themselves and keeping the funds they raise through fees and production, thus forcing them to find their own markets. This breaks the long decision-making circuits in centralized systems that militate against realistic timetables when trying to react to labor market developments. Relationships between training centers and enterprises are easier to promote at the local level. Elements of autonomy that should be introduced include: (a) letting VET institutions, in consultation with employers, decide on their own training programs; (b) giving institution managers the freedom to hire and fire teachers, especially contract teachers and non-teaching staff – this may, over time, help solve some of the problems that many institutions have with poorly qualified staff (also see next paragraph); (c) allowing institutions to generate revenues by selling goods and services; and (d) allowing institutions to set fees.

124. **Autonomy should include giving institutions the right to select teachers – but based on a transparent process.** Teacher recruitment could be made more transparent following the example of the Bangladeshi secondary education system. Rather than allowing public and privately subsidized institutions to hire teachers in an arbitrary manner, as is currently being done, the VET system can follow the practice that has recently been introduced at the secondary education level in Bangladesh, for which a Non-government Teacher Registration and Certification Authority (NTRCA) has been set up to screen and certify a pool of individuals eligible to be hired as teachers in secondary and higher secondary institutions (see Box 5-5).

Box 5-5: Teacher Recruitment Reforms Introduced by MoE in Bangladesh

To ensure that standardized and transparent criteria are adhered to in the recruitment of teachers at the secondary level, MoE has established an autonomous National Teacher Registration and Certification Authority (NTRCA). The main function of this authority is to screen and certify a pool of qualified teachers. All schools that receive a subvention have to recruit new teachers from the pool selected by the authority. The certification will be based on academic qualifications and a standardized examination conducted on an annual basis. The list of certified teachers will be published and made available to all schools. School Management Committees will still retain the authority and flexibility to recruit teachers, but these teachers will have to be selected from the pre-qualified pool.

This reform is expected to lead to teachers meeting basic entry standards, and will also significantly reduce the scope for corruption and nepotism in the selection of teachers.

125. **Institutions should have the freedom to drop courses which have low capacity.** There are several streams (e.g. diploma in avionics, diploma in shipbuilding) where the total capacity is less than 25 students. While it is not possible to compute the unit costs for such courses – they are likely to be extremely high. In cases such as these, it may be better to drop these courses and replace them with others which have high market demand and lower unit costs.

126. **Institutions should also have greater freedom to introduce short courses in response to labor market needs.** Shorter courses, especially in technical institutions, have the advantage of being more easily adapted and therefore more responsive to labor market needs. The courses offered by BFIT are a typical example, with cost recovery coming from charges for participation in courses rather than from examinations. Because the public system is 'examination-bound', it is not so easy to develop courses designed to meet employers immediate needs and individual institutions have too few incentives to introduce courses that fill the gap. Short courses do not require the same process of certification as long courses and those designed to meet short-term employers' needs would require little written examination. Modular courses also have a number of advantages:

- Students could enter the labor market with at least some competencies even if they did not attain complete SSC or HSC certificates.
- Complete SSC (Vocational) or HSC (Vocational or Business Management) certificates could be obtained with more flexibility as to how the competencies are accumulated. They could, for example, be accumulated in different institutions and in different ways over a number of years.

Modular courses facilitate the recognition of prior learning (RPL). RPL allows competency certificates to be issued to workers with recognizable skills, learned either on-the-job or informally. This allows workers to get recognition and course credits for any full certificate courses they might later wish to enter.

127. **Autonomy is not a panacea.** International experience shows that institutional autonomy can be fraught with problems unless it is carefully planned. Specifically, it ought to be accompanied by a new accountability framework for VET institutions. Indicators of internal and external efficiency will have to be developed so as to measure the performance of institutions and to match performance to financing. Any move towards institutional autonomy should include the development of appropriate management capacity, new accounting systems and training for board members.

128. **In terms of preparing potential employees for the international market, greater linakes need to be built with the overseas employment agency.** Currently, there do not seem to be any linkages between the overseas employment agency and the training system. Overseas employers are unaware of the skills of Bangladeshi trainees, and the training system is unaware of the needs of these employers. This could be part of the reason that the more skilled workers are unlikely to get employment overseas. Bangladesh could attempt to emulate the example of the Philippines where a partnership exists between the Philippine Overseas Employment Administration (POEA) and the training system which provides overseas employers with informationn on the skills of Filipino migrants, and allows the training system to adapt to the training needs of potential overseas employers (see Box 5.6).

129. **Another option to increase employability of Bangladeshi training graduates overseas is through allowing institutions to seek accreditation from internationally recognized accreditation agencies.** This option has been discussed in the previous section - allowing training institutions to pay fees and seek certification and accreditation from internationally recognized agencies – e.g. City and Guilds of the U.K., Singapore's Workforce Development Agency, and Australia's National Training Authority. This will benefit students whose certification will be internationally recognized when they attempt to migrate and seek work abroad as employers will have better information about the quality of training provided by institutions.

Box 5-6: Skills Development for Migrating Labor in the Philippines

The Philippines is the second largest labor exporting country in the world with about seven million Filipinos working abroad – over five million of them legally. Many of these workers are skilled workers and their employment abroad is regulated by the Philippine Overseas Employment Administration (POEA).

POEA was established by the Executive Order No. 797, dated 1 May 1982. The objective of the POEA, as the lead government agency under the Ministry of Labor and Employment, is to formulate and implement policies and programs for the overseas employment of Filipino workers. In coordination with appropriate entities, it undertakes systematic programs for promoting and monitoring the overseas employment of Filipino workers, taking into consideration domestic manpower requirements and the need to protect their rights to fair and equitable employment practices.

POEA promotes and develops overseas employment opportunities for Filipino workers of varying skill categories through organized and comprehensive manpower programs and strategies and provide integrated placement and processing services to facilitate the fast delivery of qualified Filipino workers to worksite of employee. In terms of skills development, it coordinates closely with the public and private skills training system to provide training to Flipinos in line with requirements of employers overseas and ensure that training centers are accredited and the graduates of these centers certified on the basis of their specific skill capabilities. This coordination is fostered by regular meetings between the training providers and POEA. POEA provides regular information to the providers about the potential skill demands for Filipino migrants abroad and interested training providers attempt to modulate their training courses to meet this demand. In the countries receiving migrants, POEA provides information to the governments and potential employers about the skill levels and accreditation of potential migrants. This fosters the development of a good match between overseas employers and Filipino trainees.

(b) Making Training More Relevant to Informal Sector Needs

130. **While a significant proportion of employment is in the informal sector, training does not seem to be geared to the needs of this sector.** Over 80 percent of employment is in the so called 'informal' sector, with employees working in relatively low productivity jobs. Provision of appropriate skills may thus be an important intervention to increasing the productivity of this workforce. However, supply-side constraints have inhibited skills development for this sector. The efforts are fairly small, not well coordinated, and often do not take into account the holistic needs for training and other support services of informal sector workers (see Box 5-7).

131. **The training needs of the formal and informal sectors are quite different**. Employment in the formal sector may be more technically specific but it may not be as broad in scope as informal employment. Workers in the informal sector, most of whom are effectively self-employed, have to perform a variety of functions. Even if they are performed at a low level, they still amount to typical small or micro-business functions.

132. **Trying to reorient public training institutions to meet the needs of the informal economy is neither reasonable nor feasible.** Public institutions are struggling enough as it is and they could not possibly serve both the formal and informal sectors. It would require a major investment to upgrade facilities and equipment, to attract, develop, and retain new staff, and to develop the necessary curricula. Trying to generate the required resources through fees difficult in view of constraints on family incomes among the target groups and what families would regard as the poor benefits of past training.

133. **International evidence suggests the government can facilitate a broader role in training among NGOs.** Instead of delivering training themselves, governments could focus on creating an environment to support non-public providers through:

- establishing a policy framework (regulations and incentives);
- supporting curriculum development, training of trainers, and competency-based skills testing; and
- stimulating investment through tax incentives or financial support so as to increase the capacity and the quality of training.

Box 5-7: Training for the Informal Sector in Bangladesh

Bangladesh, as in other developing countries, has a substantial informal sector. Training for this sector is scanty, fragmented and not cohesive. However, GoB, some NGOs and other social organizations offer sporadic training to this sector. Most of these training come from social protection initiatives, often as a conditionality to transfer (unclear). It should be noted that both the national rural development policy and the national women development policy emphasize vocational training. However, GoB does not have a clear policy or strategy for training for the informal sector

Among the government's initiatives, the Vulnerable Group Development (VGD) program is the largest to offer training. VGD provides income generation activity (IGA) training to its beneficiaries on 26 topics. These include simple activities like poultry rearing or advanced skills training like sericulture. Among the NGOs, Care-Bangladesh provides training to beneficiaries of the Rural Maintenance Program (RMP). VGD training is relatively shorter than the size and variety of training provided by the RMP program. VGD program provides 20 hours IGA training and 64 hours IGA refreshers training in their two year program cycle. CARE-RMP starts IGA training usually during the last year. A total of 9-12 training sessions are conducted on various topics. CARE-RMP staff also provides counseling and guidance to RMP members on their business operation and problem solving. During the last six months, RMP beneficiaries perform road maintenance, work three days in a week, and the remaining days of the week are granted for operating their planned IGAs.

This training is not sufficient for income generation activities. A recent survey (Ahmed (2004) SPDP #0520) finds that about half of the IGVGD beneficiaries and 40 percent of the RMP beneficiaries do not find their training sufficient to allow an income generating activity. Participants feel that this training can be made more useful by improving the intensity training program and by increasing the quality of training.

134. **Non-government training providers can often be more effective in providing the training needed in the informal sector.** Bangladesh has a plethora of NGOs, many of them relatively large and already active in training in the informal sector. Anecdotal evidence suggests the impact of these programs is positive but much of it revolves around training for micro-credit borrowers. As discussed above, the VGD program (Vulnerable Group Development), for example, provides 150 hours of training for its participants with the prospect of a microcredit loan being provided upon graduation. On the other hand, the Underprivileged Children's Education Program (UCEP) is a program that is training young people for the informal sector on a more general scale.

135. **One successful approach has been Mexico's Integral Quality and Modernization Program (CIMO)**. 99 percent of firms are small and medium sized enterprises employ close to 70 percent of the workforce. This example shows that partnerships between the public and private sector to provide training and a whole range of support services can be effective to enhance the productivity of the informal sector (Box 5-8). CIMO has been successful because the government facilitates the provision of training to small and medium sized enterprises and

because enterprises receive a package of services, including information on how to run a business, technology, new production processes, quality control techniques, and marketing.

Box 5-8: Mexico: A Proactive Approach to Small and Medium-Size Enterprise Support

The Integral Quality and Modernization Program (CIMO – now renamed as PAC), established in 1988, has been effective in reaching small and medium-size enterprises and assisting them to upgrade worker skills, improve quality, and raise productivity. Set up as a pilot project to provide subsidized training, CIMO evolved when it became apparent that lack of training was only one factor contributing to low productivity. By 2000, CIMO was providing a package of training and industrial extension services to over 80,000 enterprises each year and training 200,000 employees. Private sector interest has grown. More than 300 business associations now participate in CIMO, up from 72 in 1988.

All states and the Federal District of Mexico have at least one CIMO unit, each staffed by 3 or 4 promoters. Most units are housed in business associations that contribute office and support infrastructure. The promoters organize workshops on training and technical assistance services, identify potential local and regional training suppliers and consulting agents, and actively seek out enterprises to deliver assistance on a cost-sharing basis. They work with enterprises to conduct an initial evaluation of the firm, as the basis for training programs and other consulting assistance. CIMO is expanding in two directions - assisting enterprises with specific sectoral needs, and providing an integrated package of services, including information on technology, new production processes, quality control techniques, and marketing as well as subsidized training.

Evaluations found that CIMO has been effective in improving the performance of targeted companies. Compared to a control group, CIMO firms increased investments in worker training, had higher rates of capacity utilization, and were more likely to adopt quality control practices. These improved outcomes were associated with increased productivity. Evaluations found CIMO-PAC to be a cost-effective way of assisting small and medium-size enterprises. Other performance indicators were: (a) increased profitability, sales and capacity utilization, (b) wage and employment growth, and (c) reduced labor turnover, absenteeism, and rejection rates for products. The most dramatic impacts were among micro and small firms.

Source: Tan et al (2004)

136. **Similar to the CIMO example, the Government has an important facilitating role to play in Bangladesh.** While NGOs can be effective in expanding their role in providing training for the informal sector, the government needs to support this through creating an enabling environment which allows such providers to flourish. This involves establishing an appropriate policy framework and stimulating greater investments through providing financial support to such training providers to enhance training capacity and improve quality of training.

IV. ENHANCING IN-SERVICE TRAINING

137. **The key to addressing under-investment in in-service training is to push policies and reforms that improve the business environment in general**. Improving the investment climate in Bangladesh should, of itself, create incentives for the private sector to invest in physical and human capital. Private sector demand for training would be increased by policies to improve access to new technologies and to funding for investments in technology and worker skills.

138. **Strengthening the in-house training capabilities of Bangladeshi firms should be a priority for policymakers**. Public institutions have typically focused on pre-employment training in basic skills and may have little capacity to provide, on demand, the kinds of tailored training programs that firms want and that private providers can deliver. Given the limited

capacity of public institutions, private providers - firms themselves, industry associations, buyers and equipment suppliers, and private training institutes - are an important means of expanding the resources available for workforce skills development. There are also some excellent examples of this in Bangladesh (see Box 5-9 as well as the example of CSDC in the next section).

Box 5-9: The Bangladesh Institute of Fashion and Technology (BFIT)

The Bangladesh Garments Manufacturers and Employers Association (BGMEA) members want a level of technical skill and knowledge that includes prior education and training rather than simply on-the-job training. For some time there has been a shortage of workers familiar with the technology of the industry and with the skills to manage and maintain that technology. Overcoming that shortage became one of BGMEA's priorities. Concluding that the response from the government system was inadequate, BGMEA took matters into its own hands and established the BGMEA Institute of Fashion and Technology (BFIT).

BIFT, which is affiliated with the National University of Bangladesh, began operations in 2000, offering a B.Sc. in Apparel Manufacture and Technology, one-year Diploma courses in Merchandising, Apparel Manufacture and Technology; and Fashion Design and Technology. It also offers nine specialist six-month certificate courses and a variety of shorter courses required by the sector; central facilities are in Dhaka but there is a subsidiary campus in Chittagong.

The number of students and graduates is still small, but has been rising each year – there are now 150 B.Sc. students and 105 diploma students (in 2005-06). In terms of necessary pre-qualifications, degree students must have completed at least the HSC level, while diploma students must have a B.A. or B.Sc., must have completed the HSC plus one year of relevant work experience, or must have completed the SSC level plus three years of relevant work experience.

After an initial period with high set-up costs, BIFT has now become self-financed through fees. The total cost of a four-year B.Sc. course is Tk. 300,000 or more. The cost of a one-year diploma course is about Tk. 85,000. Six-month certificate courses cost about Tk 30,000. Short courses (6 weeks, 2 days a week) cost Tk 10,000-Tk 12,000.

BFIT has shown that employers are quite willing to support education and training when the need is clearly evident. After an initial setting up period, BIFT has become self-financing through fees that are well in excess of those charged by government institutions. Many of these fees are met by employers who are upgrading the skills of their workers through BIFT's shorter courses.

Source: BIFT Prospectus (2005)

139. **Market failures diminish employer incentives to train and the appropriate policy response depends on the nature of the failure**. International experience suggests that there are three market failures that constrain training, particularly among small firms: (a) the high cost of training; (b) lack of adequate information; and (c) high turnover of skilled workers. The first can be addressed by financial sector reforms that improve access to funding for all kinds of investments, including training. The appropriate policy response to the second is to disseminate widely the evidence of the productivity benefits of training, best practices in training know-how, and information about the availability, offerings and cost of services from different public and private sector training providers. The problem of high turnover (or "poaching" of skilled workers by other employers) requires collective action. The Human Resource Development Fund of Malaysia is an example of a training policy that has successfully increased training among firms (see next section). There are also examples of increasing training being undertaken by firms as part of their corporate social responsibility agenda (see Box 5-10).

Box 5-10: Corporate Social Responsibility and Skills Development

As a part of Corporate Social Responsibility, some private sectors in Vietnam proactively support vocational education and training, and higher education. Private sectors honestly react to benefits. If private sectors see clear benefits in vocational education/training, they are willing to participate.

Toyota Motor Vietnam (TMV)
Toyota established Toyota-Vietnam Foundation in 2005. The foundation provides scholarships and sets up a manufacturing course at Hanoi University of Technology to cultivate human resources which will lead the industry. Toyota has a similar foundation in the Philippines, Thailand, and Indonesia in Southeast Asia. TMV also has implemented "Toyota Technical Education Program" since 2000, this program has been carried out in two colleges of Hanoi Transport and HCM City's Pedagogy of Techniques. Up to now, this program was given over USD 225,000 by TMV's education and training support equipments. The program is one of TMV's commitments to contributing to the development of the country's human resources in general and to the vocational system in particular. With these kinds of programs, TMV expects to create a highly-skilled technical workforce for the local automobile industry.

Sponsored by the Japan Ministry of Health and Labor's Overseas Vocational Training Association, TMV worked with the HCM City Pedagogy of Techniques University and the Hanoi Transport College to train trainers of automobile mechanics for all vocational schools and colleges during 2000-2002. Under the program, teachers of automobile mechanics will be equipped with the latest knowledge about Toyota technology. Particularly, Toyota donated $50,000 to the Young Talents Development Fund of Hanoi University of Technology in October, 2001.

- Scholarship: TMV provides approximately 200 students in Hanoi, Ho Chi Minh, and Da Nang with annual scholarships of US$100.
- Study-abroad program: The program has sponsored two students annually to the Toyota Technology Institute in Japan.
- Auto mechanics course: In 2000, TMV set up a new vocational training course for auto mechanics at a national vocational institution and teaches students with the latest equipment. The cost to Toyota is US$8 millions.

Source: JBIC Research Paper (2003), Toyota Motor Vietnam –Social Contribution-

140. **Consideration could be given to employer-targeted financing policies to remedy the under-investment in in-service training**. One option is to develop levy schemes that reimburse firms for the cost of training. Another option is for firms to group together and trainin their workers using their own resources, with the government playing a facilitating role. These and other options for financing vocational education and training are discussed in the next section.

V. FINANCING OF TRAINING

141. **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. Still, simply making available more funds is not enough, as numerous additional issues affect VET provision. A number of points that have come out of international experience should guide government policies in this regard. They are:

- 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.

142. **Important elements of this list are absent in Bangladesh**. The system is not demand-driven. The basis for allocating funds to schools is in accordance with government procedures, but those procedures have no labor market considerations built into them; they are simply another form of subsidizing teachers' salaries in secondary schools. Industry bodies have no management role. There is no competition for funds. Finally, there is no responsibility and accountability at lower levels of the training system; in fact insufficient accountability at any level.

143. **While the government will continue to remains a major financier of training, emerging skill needs need appropriate solutions**. The financing framework currently being followed has become inadequate to meet the skill development needs in a rapidly globalizing economy and it has become important to consider how financing can also foster increased in-service training among enterprises, greater private provision of training, as well as greater cost-sharing with beneficiaries. This is as a result of a number of emerging trends including: (a) ongoing technological change, structural adjustment policies, new and changing patterns of trade and competition, and globalization have combined to create the need for a much more flexible and responsive training system; and (b) increasingly, limited public sector budgets have seriously constrained the ability of the government to provide adequate and stable funding to the public training sector. Given this context, this section discusses two sets of issues: (a) how to best mobilize resources for training; and (b) how to allocate resources most effectively to arrive at the desired objectives.

(a) Sources of Revenue

144. **Beneficiaries of VET should bear some cost of training**. There are three groups of beneficiaries: government, trainees/students, and employers. The Government has recently increased its own allocation to VET. However, it may be useful for the government to conduct a thorough impact evaluation of the training system before deciding on any further increases or allocations to the system. Consideration also needs to be given to the contribution from the other beneficiaries, as well as from other sources. (non-sequitur from one sentence to the next)

(i) Students

145. **There is considerable scope to review and amend the structure of fees**. The purpose would be to increase the extent to which 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. An institution's policy on fees is more than a device for cost recovery and cost sharing; it provides a mechanism for varying fees across courses and target groups and can be a tool for developing an open, demand-oriented system of training. The model of BFIT is useful to bear in mind in this respect. At best the cost structure should be neutral, but given the high level of public subsidization of the sector, there seems to be significant scope to increase fees and charges. Realistic fees could, of course, shut out those who are unable to pay - the poor, minorities, and rural populations.

Targeted programs (scholarships or reduced subsidized fees) might be needed to offset any negative impact on these groups. Having said that, it should also be pointed out that international experience shows that even poor people will pay fees *provided* they can see the benefits. It should be realized, however, that in the near term, given the present poor outcomes, students will be unwilling to contribute to the system.

(ii) Employers

146. **There are different approaches to encouraging employers to finance training. These can take the form of employer contributions to government managed levy schemes, or of schemes fully financed by employers, where the government plays a facilitating role.** The latter is already being piloted in Bangladesh, as shown below, and may be appropriate in the current context.

Employer-Financed Training

147. **An appropriate model of employer contribution in the current context may be to get employers to pool resources together to finance training.** This novel approach is currently being piloted by the Chittagong Skills Development Centre (CSDC) (see Annex 6 and Box 5-11). CSDC is the first industry-led, non-profit skills training centre in Bangladesh. Its objective is to provide the highest quality, most cost-effective, valued-added skills training to its corporate members and other private companies. CSDC was initiated in late 2005 with technical support provided by the Penang Skills Development Center.

148. **CSDC's high quality, cost-saving advantage stems from its corporate members willingness to share their training resources, technologies, costs, trainers, space and equipment.** This ensures demand-driven, timely and calibrated training, without the overhead investment and delay of building a brand new centre. As a non-profit organization, CSDC focuses solely on delivering programs according to its members' present and evolving skill requirements. By sharing, developing and importing high-caliber training programs at affordable costs to members, CSDC can redress the lack of high-quality training services in Bangladesh and reduce companies' costly dependence on foreign training. This should lead in turn to sustainable industrial growth and global competitiveness.

149. **The initiative has generated considerable interest among the Chittagong business community.** CSDC currently has six members and this is expected to grow to about 20 in 2006/7 – and first year budgetary requirements have been exceeded by 20 percent. It has recently commenced its training operations – and expects to be training about 2500 workers per year in technical skills and 1200 workers in management skills by 2008. It will operate through its yearly membership fees and "training cost-plus," i.e. the actual cost to conduct its programs plus a margin to sustain the CSDC's operations. CSDC will operate as a private, industry-managed organization, comprised of a board of member companies' CEOs, who will closely develop and guide the centre's long-term strategy and management operations. The member companies' HR Managers will then determine the organization's precise training services to meet members' skill needs.

Box 5-11: CSDC Vision and Objectives

- Provide cost effective training and educational programs for the current and future workforce;
- Forge strategic partnership with local and foreign universities, training institutions and organizations to provide relevant programs and training interventions to enhance workforce competitiveness;
- Support the Human Resource Development (HRD) initiatives of Bangladesh's Private and Public Sectors;
- Share CSDC intellectual property, competencies and expertise beyond Chittagong and Bangladesh;
- Promote the development of local Small and Medium Enterprises to be National/Global Suppliers and Service Providers;
- Develop own CSDC training programs and courses;
- Generate sufficient income to sustain the CSDC operations and support human resource capacity building process in Bangladesh.

Source: CSDC Strategy Document (2005)

150. **The Government's key role in this model is facilitation.** From the Government's side, the Bangladesh Board of Investment (BOI) is a CSDC member, recognizing that such industry-focused skills training can galvanize the nation's abundant human resources to boost industrial productivity and growth. The government acts as a facilitator, by supporting PSDC through cash grants, and subsidized training materials, equipment and trainers, and assisting in evaluating the impact of the training. It is also represented on the management council of PSDC, but as an ex-officio member.

Levy-Schemes

151. **An alternative to this is levy schemes**. Over 30 countries have introduced them, with rates varying from 0.5 to 3 percent of payroll. In Brazil and Turkey, levies finance the public training system to provide pre-employment and in-service training courses – but this is fraught with the risk of ensuring the continuance of a supply-driven model. On the other hand, countries like Singapore, Korea, South Africa, and Malaysia use levies to provide firms with grants in proportion to the level of training that their employees undergo (Box 5-12).

152. **It may not be possible to introduce such schemes in the near future in Bangladesh.** International evidence shows that although levy schemes have a positive impact by increasing training by enterprises, they do have problems**.** Levies have been inequitable; large employers have benefited more than small or medium-size employers. Employer reactions to the schemes have been mixed. Most firms, especially on smaller businesses, feel that a levy is simply another unjustifiable tax – with money they contribute used to finance general revenues or going to finance training for big enterprises. Even in Malaysia, where such schemes are relatively successful, the take-up rate among small firms is relatively low. There are also problems in administering the funds. All the countries mentioned in the previous paragraph have more institutional capacity to manage a levy scheme than Bangladesh does presently. Hence it is likely that such problems would also occur in Bangladesh. Employer resistance is also likely to be high.

Box 5-12: Singapore's Skills Development Fund and Malaysia's HRDF

Singapore's Skills Development Fund (SDF) has been in operation since 1979. All employers, including public sector enterprises are required to pay a levy of 1% on the wages of all employees earning S$2,000 a month or less. The basic principle is to stimulate the employer to train its workers by reimbursing part or all of the training expenses from the Fund.

Funds are not restricted only to contributing companies. Any enterprise that undertakes training may apply. Applicants for grants must demonstrate the need to train their employees. Grants can be used for direct training costs, e.g. fees for external training, or for establishing training infrastructure, including the cost of employing trainers. Costs must be shared, with grants only covering between 30 and 70% of training costs. Trainees must be employees of the firms receiving the grants.

The present policy is to increase training for the service sectors, for SMEs, for the less educated and less skilled workers, and for older workers. There is an emphasis on training for certifiable skills.

The Fund has been responsible for massive growth in company training. In the financial year 2003, SDF had reached 100% of all companies with 10 and more workers, and 41% of those with less than 10 workers. The 578,271 training places created represented a ratio of one out of every four workers. Total company investment in training reached the target of 4% of payroll some years ago.

The Malaysian Human Resource Development Fund (HRDF), a levy reimbursement scheme, was established in 1992. The Human Resource Development Act created the Human Resource Development Council, with representatives from the private sector and from responsible government agencies, and a secretariat to administer the scheme. Under HRDF, employers pay a payroll contribution of one percent and are eligible to claim a portion of allowable training expenditures up to the limit of their total levy for any given year. The reimbursement rates vary by sector and type of training. The HRDF is considered to be one of the most well-run schemes administratively, and is extremely efficient in reimbursing claims and making application procedures easy to comply with. Close to 4000 companies have registered with HRDF.

Evaluation of HRDF. A survey of 1450 firms eligible to participate in the HRDF found that 402 firms (27.7 percent) were not registered with the HRDF. Of those registered, another 34.5 percent reported that they did not claim reimbursements under HRDF. Small firms (with 50 to 100 workers) are more likely to be non-compliant (49 percent) than large firms (8 percent). These data also revealed wide variations across sub-sectors in the take-up of the HRDF scheme. The highest take-up rates of the scheme were in professional and scientific instruments, general machinery, electric machinery, and ceramics and glass. Sub-sectors with low take-up rates were food, beverages and tobacco, textiles and apparel, and wood products and furniture.

Comparing the training experiences of two groups of firms, those registered with the HRDF and those who were eligible but chose not to register, provides some answers to whether HRDF has resulted in an increase in training among firms. In principle, the registered group would have increased incentives to train so as to recover their payroll levy contributions, while the non-registered group would not have the same incentives. The results show that HRDF has increased training modestly - 49 percent of the registered companies said that they had increased training and 39 percent firms said that their training had remained the same. In contrast, of the eligible firms not registered with the HRDF, 27 percent said that their training had increased while 47 percent firms said that their training had remained unchanged. Regression analysis showed that while HRDF did not have any impact on increasing training among small firms, it did have a role in increasing training among medium and large firms.

Empirical analysis showed that firms least likely to claim from HRDF are small firms and firms providing no or only informal training. Factors that employers cite as inhibiting their training are: the limited resources available for training, the use of mature technology with low skill requirements, the adequacy of skills provided by schools, and the availability of skilled workers who can be hired from other firms.

Source: Tan and Gill (2000), Pillay (2005), Pillay (2005)

(iii) Revenue-earning Activities

153. **Given that students may not be willing to pay more for training in the short-run, the most useful approach to raising revenue is to earn income from *core-services*, that is, from training**. VET institutions could earn some revenue of their own through fee-for-service courses for employers. This is a standard approach for post-secondary educational institutions around the world. To refer to BFIT again, this is precisely how the BGMEA has managed to create a self-sufficient training institution. Some of this does already occur. Teacher training colleges, for example, run courses for after normal working hours for workers and for unemployed people who are seeking to upgrade their skills. The cost of the course is offset by fees (sometimes paid by employers) that cover the cost of tuition (salaries, utilities, maintenance, and materials). Profits are returned to the Ministry of Finance. Some principals and teachers are sufficiently motivated to put on these courses. But they too are influenced by financial incentives and they and their institutions would benefit from more autonomy in running fee-for-service activities. Training institutions may also generate income from the sale of peripheral training services, including the renting out of underused facilities and providing consulting services to local enterprises.

154. **A less useful means of raising revenue is from the sale of *by-products*, that is, from the sale of goods produced in the course of training**. However, this runs the major risk that the by-products become the core business. It is extremely useful to gear training towards local needs; exposure to local markets may lead to more relevant, market oriented training, which means the by-products can be readily saleable. However, there has to be a healthy balance between the two activities. In the 1970s, institutions in Bangladesh were able to retain any earnings from sale of goods but this was abandoned when production became a major activity of institutions, to the detriment of normal teaching loads. The abandonment is understandable, although there should be a way to overcome the problem while still allowing some scope for institutions to retain some earnings. In any case, once an acceptable balance is struck between training quality and production for sale, the scope for cost recovery will be fairly limited, usually accounting for only a few percent of recurrent expenditure.

155. **The more important consideration is that institutions have little incentive to generate income from services or production**. Revenues are remitted to general government revenues as they are with student fees. Control over public sector providers would need to be decentralized and institutions given far greater financial autonomy if any form of income generation was to have an impact of the operations of institutions. Only then could the full potential of cost sharing and income generation be realized.

(b) Allocating Resources

156. **Instead of transferring resources to institutions on an ad hoc basis or the basis of teacher subventions, public resources could be transferred on the basis of input or output criteria.** This process is already underway in Bangladesh where some input based measures are being used to allocate resources. Institutions could be financed according to the estimated cost of inputs; for example by using norms such as the number of trainees enrolled or number of classes. However, although this is better than ad hoc funding, it does not overcome the inherent weaknesses of direct allocation: (i) the lack of incentives for quality assurance or efficiency (funding formulas based on average costs can actually promote expansion of institutions); and (ii) the lack of incentives to close the gap between training and employment needs.

157. **Performance-based funding rewards performance and pays on results**. Institutions that meet targets should be rewarded; those that do not are penalized. *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 labor market needs (e.g. job placement within a reasonable time). The key for both types of targets is to define transparent and measurable criteria that are easily collected but not easily manipulated. However, this can be difficult. Outcomes, for example, are not easily measured. Training providers also resort to "creaming" - screening out less promising candidates - so as to maximize results. Performance-based funding can also lead to instability, particularly in times of weak economic activity. Output-based funding may not be successful by itself. In some countries, a composite funding formula is used, combining both inputs and outputs/outcomes.

158. **To ensure that the poor and women are not underrepresented special consideration can be given to these groups.** Targeted programs like scholarships or reduced subsidized fees can be introduced for these groups. In addition, resource allocation criteria could be designed in such a manner that greater weight is given to the number of poor or women who are enrolled in or graduate from institutions.

159. **A further way to allocate resources is to issue vouchers directly to beneficiaries**. Vouchers allow trainees to purchase their own training, which can help to develop the demand side of the market. They can stimulate competition among providers, leading to better quality or lower cost. Institutions could become more responsive to student demands (a proxy for market demand). However, management and cash flow systems have to be designed carefully. Some compensation must be offered to cover marketing and distributing vouchers. Vouchers can also play a role in specific contexts – e.g. funding training in the informal sector in order to build demand-driven markets for informal training over the long term.

160. **A key element should be competition for funds.** Competition for funds, between public and private providers, is a key to ensuring improved institutional performance. Funding needs to be linked to some measures of input or output criteria, and recognized public and private providers should be allowed to compete for these resources. International evidence is by and large positive in this regard – competition for resources leads to a reduction in costs for training among competing institutions while also leading to positive labor market outcomes (see Box 5-13).

161. **In the medium-term, it is useful to consider one specific administrative means of managing finances—the creation of a National Training Fund**. A National Training Fund is usually associated with the collection of a training levy; in fact, it is essential if a levy is to be managed properly. But a Fund is just as noteworthy for its administrative mechanisms.

162. **A National Training Fund is a potentially valuable mechanism for aligning incentives with national and sectoral priorities, and could help shift financing away from supply-driven models toward more demand-driven ones**.[17] In such a funding structure, institutions apply for money from the training fund instead of being passive recipients of pre-determined, centralized, and/or ad hoc allocations from government. Further, were the VET sector to introduce competitive bidding among institutions for a given amount of funding, then the training fund could help to establish financial incentives for high quality and good performance, as institutions compete for a specific quantity of money along the criteria of inputs (e.g. number of students or classes), outputs (e.g. pass rates on examinations), and/or outcomes (e.g. job placement rates). Accordingly, a training fund should be careful to link the financing of individual institutions to performance measures reflective of internal and external efficiency, and

[17] See Abrahart et al. (2002) for a detailed discussion on the prospects of the Training Fund Model for Bangladesh.

to guard against the ancillary risk of institutions screening out less capable candidates for enrolment so minimizing any potentially negative impact on performance measures.

Box 5-13: Competition for Funds – the Joven Experience

A successful example of competition for public resources is the Joven experience in Chile and Argentina. In an effort to fight youth unemployment in vulnerable groups, Chile and Argentina have offered youth training programs (the 'Joven' programs). These programs offer a mixture of classroom formation and practical experience in firms. What is interesting about these programs is that they are closely oriented to labor demand with training institutions guaranteeing that a certain proportion of the students will be employed after completion of training. Public and private institutions compete for the contracts to train individuals, and training institutions are chosen on the basis of training costs and the track record of training institutions in placing graduates.

Evidence shows that these programs have generated a very vibrant training market with competent public and private training firms able to find the market niches and win the competitively bid contracts while the less effective training institutions do not capture any resources from this program.

However, even as this example shows, that training is not a panacea. While impacts are positive for these programs, they are not huge – again showing that training programs cannot correct for the problem of poor quality education.

Source: IADB (2005); de Moura Castro and Verdisco (2000)

163. **A Training Fund can be an important vehicle for improving the way that training resources – even budget funds – are allocated**. It is not that important as to what the source or volume of funds could be (unclear). A Fund unifies and augments public funding and allocates resources in line with national policies and priorities. Its main purpose is to move systems from supply-driven to demand-driven models—for that reason it should include even government contributions. Institutions are not *given* funds but are required to apply for them, ideally in a competitive field.

164. **Such a fund could only be feasible if employers were willing to contribute to it.** It will be important to ensure that the fund supports private sector initiatives, such as the Chittagong Skills Development Center (CSDC). If the fund is well-designed, initiatives such as the CSDC could benefit – as one of the windows of the fund could be used to support these initiatives. However, if employers perceive that the fund is not financing demand-driven training initiatives, it is unlikely to be viable.

165. **The National Training Fund could be administered by the proposed BVET**. Through the Fund, the BVET would administer the budgets for public institutions and subventions to non-public institutions. BVET would monitor the performance of public institutions, and monitor, audit and evaluate non-public institutions receiving subventions. It would determine allocations to public institutions based on performance. It would be able to withdraw subventions to non-public institutions because of inadequate performance. Adequate capacity would need to be built in within BVET to manage such a fund.

166. **Only non-public training providers who had signed a performance agreement with BVET would be eligible to receive financial assistance**. BVET would agree to provide subventions to cover specified operational costs of the institution. The institutions would agree to meet specified performance targets. As far as practicable, performance indicators and targets would be the same as those applied to public providers. The performance of institutions would be assessed through procedures written into agreements. Agreements would be for a fixed period only and would need to be reviewed regularly.

(c) Financial Management

167. **Steps are also being taken to improve financial management of the system and these should be encouraged.** Beginning in 2005, MoF embarked on a pilot scheme to apply a Medium Term Budgetary Framework (MTBF) in four ministries, including MoE. This is intended to make public financial management "more disciplined, efficient, dynamic and modern" by delegating responsibility for budget preparation to the ministries, which will be able then to better determine medium term priorities and plan expenditures according to targets and strategies (e.g. NSPR). MTBF budget estimates cover three to five years instead of the traditional one year, and there is no longer any demarcation between development and revenue budgets. Greater emphasis is placed on expected outputs from allocated inputs, thereby introducing a degree of performance measurement as an important criterion for future allocations; this replaces the previous system based on earlier years' receipts and expenditures. While the MTBF system has not yet decentralized by MoE to the level of the Directorate or individual institutions, it will be crucial that for these reforms to be internalized into the training system to improve it's financial management.

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ANNEXES

Annex 1: Key Data Sources and Data Limitations

Data Sources

The information complied in this report has drawn on several different data sources. The main ones used are:

- Labor Force Survey (LFS) conducted by the Bangladesh Bureau of Statistics (BBS) – This provides data on wages and education levels. The rounds used for the analysis were 1995/6, 1999/2000, and 2002/3.

- Bangladesh Technical Education Board (BTEB) and Department of Technical Education (DTE) data – Various data sources within BTEB and DTE have been tapped to obtain data on enrolments, number of training institutions and financing of vocational training.

- Tracer Study – The team undertook a tracer study of graduates of vocational education and training institutions and analyzed these data for the purposes of the current study.

- Investment Climate Survey (ICS) conducted by the World Bank and Confederation of Indian Industries – The 2002 Bangladesh Investment Climate Survey has been analyzed to study issues surrounding in-service training.

Data Limitations

The LFS data do not allow for a clear distinction between vocational education and general secondary education, and between vocational training and tertiary education. Hence, it is very difficult to do any detailed analysis of vocational education or vocational training on the basis of NSS data. There are also no other nationally representative data that provide such information. Furthermore, there are concerns about the quality of labor force data in some of the rounds – which may make some of the numbers suspect.

Another lacuna is the lack of evaluative evidence on the impact of vocational education or training. There have been no impact evaluations that have been conducted which examine the wage and employment outcomes for graduates of these institutions as compared to those for a control group of individuals who did not participate in these programs. This makes it difficult to make informed decisions about the effectiveness of vocational education or vocational training programs.

Annex 2: VET Statistics

Trades, Entry Qualifications, Number of Institutions and Enrolment Capacity - 1998

		Length of Study	Entry Qualification	N. of Trades	N. of Inst.		Enrolment Capacity	
					Public	Private	Public	Private
Teacher's Training								
	Diploma in Technical Education	1	Dip. Eng	3	1		120	
	Diploma in Vocational Education	1	Cert. in Voc. Edu	8	1		80	
	Certificate in Vocational Education	1	Trade Cert+ SSC	9	1		135	
Diploma (Vocational Training)								
	Diploma Engineering	3	SSC	13	20	3	4420	360
	Diploma Engineering Glass/ Ceramics	3	SSC	1	1		40	
	Diploma Engineering Printing	3	SSC	1	1		40	
	Diploma Engineering Survey	3	SSC	1	1		80	
	Diploma Engineering Textile	3	SSC	1			300	
	Diploma Agriculture	3	SSC, Science	1	11	4	8200	800
	Diploma Forestry	3	SSC		1		35	
	Diploma Engineering Marine	3	SSC	1	1		40	
	Diploma Engineering Shipbuilding	3	SSC					
	Diploma Commerce	2	SSC			5		400
	Total				36	7	13155	1160
HSC (Vocational Education)								
	HSC (BM)	2	SSC	5		220		8800
	HSC (Voc)	2	SSC (Voc)	9	51		1520	
	Total							
SSC (Vocational Education)								
	SSC (Voc)	2	Class VIII	21	62	510	5380	25800
	SSC (Tex)	2	Class VIII	2	27		1080	
	Total							
Basic Skills (Vocational Education)								
	NSS-II	1	NSS III	4		2		80
	NSS- III	1	Class VIII	7		5		340
	Sec. Class IX	360 hrs	Class VIII	21	64	3	14100	900
	Sec. Class X	360 hrs	Class IX	21	64	3	9400	600

Source: BTEB, WB 2000

Trades, Entry Qualifications, Number of Institutions and Enrolment Capacity - 2005

		Length of Study	Entry Qualification	N. of Trades	N. of Inst.		Enrolment Capacity	
					Public	Private	Public	Private
Teacher's Training								
	Diploma in Technical Education	1	Dip. Eng	4	2		120	
	Diploma in Vocational Education	1	Cert. in Voc. Edu	8			80	
	Certificate in Vocational Education	1	Trade Cert+ SSC	9			120	
Diploma (Vocational Training)								
	Diploma Engineering	4	SSC(Voc)	13	27	82	11894	
	Diploma Engineering Glass/ Ceramics	4	SSC(Voc)	1	1		80	
	Diploma Engineering Printing	4	SSC(Voc)	1	1		50	
	Diploma Engineering Survey	4	SSC(Voc)	1	2		264	
	Diploma Engineering Textile	4	SSC(Voc)	1	6	10	1210	
	Diploma Agriculture	4	SSC(Voc)	1	12	40	6460	
	Diploma Forestry	4	SSC(Voc)		1		50	
	Diploma Engineering Marine	4	SSC(Voc)	1	1		22	
	Diploma Engineering Shipbuilding	4	SSC(Voc)		1		22	
	Diploma Commerce	4	SSC(Voc)			7	616	
	Diploma Avionics	4	SSC(Voc)		1		22	
	Diploma Aerospace	4	SSC(Voc)		1		22	
HSC (Vocational Education)								
	HSC (BM)	2	SSC	5		955		50000
	HSC(Voc)	2	SSC (Voc)	8	64		5560	
SSC (Vocational Education)								
	SSC(Voc)	2	Class VIII	40	110	1303	23570	63450
	SSC(Tex)	2	Class VIII	2	30		1804	
Basic Skills (Vocational Education)								
	NSS Basic	360h	Class VIII	10	8	75	730	1780
	Computer training	360h	Class VIII	5	1	337	40	9960
	Basic Link Course	360h	Class VIII	10	67	4	11600	560

Source: BTEB, Guardian 2005

Annex 3 :VET Courses

Diploma In Engineering: Vocational Training

- Architecture Technology
- Civil Technology
- Power Technology
- Mechanical Technology
- Electrical Technology
- Electronics Technology
- Chemical Technology
- Computer Technology
- Industrial wood Technology
- Refrigerator and Air-conditioning Technology
- Automobile Technology
- Food Technology
- Glass and ceramic Technology
- Graphic arts Technology
- Surveying Technology

SSC (Vocational): Vocational Education

- Dress making and tailoring
- Audio-video system
- General electrical works
- Computer application
- Automotive
- Refrigeration and air-conditioning
- Machine tools operation
- Building maintenance
- Civil construction
- Plumbing and pipe fitting
- Poultry rearing and farming
- Farm machinery
- General mechanics
- Welding
- Drafting
- Wood working and cabinet design
- Fish culture and breeding
- Electrical maintenance
- Machinist

HSC (Vocational): Vocational Education

- Welding and fabrication
- Refrigeration and air-conditioning
- Electrical works and maintenance
- Fish culture and breeding
- Computer operations and maintenance
- Automobiles
- Electronic control and communication
- Agro-machinery

- Machine tools operation
- Clothing and garments finishing
- Building construction and maintenance
- Poultry rearing and farming
- Wood working and cabinet design
- Drafting

HSC (Business Management): Vocational Education

Broad Category of Areas Covered under HSC(BM):

01. Accounting
02. Banking
03. Computer Operation
04. Secretarial Sciences
05. Entrepreneurship

Courses offered under HSC(BM)

01. Business Specialties

a. Type Writing (Bangla and English)
b. Multi-Linguistic Shorthand
c. Organization And Introduction Of Business
d. Business Accounting
e. Principal And Process Of Management
f. Business Communication
g. Introduction to Insurance
h. Office Management
i. Entrepreneurship
j. Production Process And Accounting
k. Functions And Principals Of Banking
l. Banking Accountancy
m. Small Business Management

02. Basic Science

a. Business Statistics
b. Business Mathematics
c. Business Geography

03. Humanities And Social Science

a. Bangla
b. English
c. Economics

04. IT/ICT

a. Introduction To Computer And Word Processing
b. Q-Basic Programming
c. C Programming
d. Computer Operation And Spread Sheet Analysis
e. Computer Operation And Data Base Using
f. Database Programming

Annex 4: In-Service Training in Bangladesh

Correlates of In-Service Training in Bangladesh

While many firms in Bangladesh provide little or no formal training to employees, there are some employers that do. This section turns to an exploration of the most important attributes of firms that are associated with in-service training in Bangladesh. They include factors such as firm size, industrial sector, export-orientation, technological capabilities, education level of the workforce, unionization and the overall business environment. These training correlates are discussed below, supported by selected tabular information and results from estimating these relationships within a regression model framework.

Table 1 begins by reporting the incidence of training in Bangladesh by firm size and by two measures of skills demand. Establishments are classified into four size categories: micro with 15 or fewer workers, small with 16 to 100 workers, medium with 101 to 250 workers, and large firms with over 250 workers. The incidence of training is very low in micro enterprises, averaging no more than 2 percent of employers in this size category. In establishments with over 16 employees, the incidence of training is on average over 20 percent, rising to over 34 percent among large employers with over 250 workers. This size-training relationship is a common finding in all countries for which data are available, and reflects size-related differences in access to finance, scale economies in training provision, education levels of workers, managerial capabilities and use of new technologies.

Table 1: Incidence of In-Service Formal Training by Firm Size in Bangladesh

Firm Size	Formal Training			Export Status		R&D Staff	
	Any	In-house	External	No	Yes	No	Yes
Micro 15 or less workers	2.0	2.4	0.0	2.0	0.0	2.0	0.0
Small 16-100 workers	21.9	14.8	12.8	18.8	31.0	20.3	31.7
Medium 101-250 workers	24.6	19.0	12.8	28.2	21.4	24.0	26.9
Large over 250 workers	34.1	26.2	17.3	34.9	33.7	33.4	35.8
Total	26.6	20.0	14.0	23.4	30.0	25.1	32.7

Source: Bangladesh ICS.
Note: Data are unweighed.

Table 1 also reports estimates of training incidence for firms varying in export orientation and technological capacity, separately by firm size to hold constant the confounding effects of size which is highly correlated with both technology and export variables. The firm's export orientation is measured by an indicator variable, with a value of 1 if the firm exports and 0 otherwise, and the technology level of firms is captured by an indicator variable for the presence of R&D staff. [18]

Firms that export or have R&D staff are more likely to report in-service training, as compared to those that do not. On average, 30 percent of firms that export also train their workers as compared to just 23 percent of employers that do not export. Export orientation can have a salutary effect on training to produce high quality products meeting the exacting standards of

[18] Studies have used several proxy measures for technological capabilities, including investments in research and development (R&D), the percent of the workforce dedicated to R&D, the presence of technology licensing agreements, recent introduction of new products, or the adoption of new technologies within the last three years.

foreign buyers, and to increase labor productivity to meet competitive pressures (Tan and Batra 1995; Batra and Stone 2004). Similarly, 33 percent of firms with R&D train as compared to 25 percent of those that do no R&D. This technology-training relationship is consistent with studies that suggest that effective use of new technology requires a more skilled and trained workforce (Enos 1962; Bell and Pavitt, 1992).

The importance of these (and other) training correlates can be investigated within a regression framework using a probit model. The advantage of regression analysis over tabular information is that the independent effects of each variable (or set of variables) can be analyzed holding constant the effects of other hypothesized correlates. The probit model estimates the probability of in-service training by regressing the "any formal training" variable on a set of explanatory variables, including measures of firm size, exports, technology level, public sector or foreign ownership, workforce characteristics such as education, and unionization status.[19] To test for whether training is inhibited by investment climate constraints, a second model specification adds four constraints ranked as being severe by employers – access to finance, labor market regulation, macroeconomic and policy uncertainty, and infrastructure.

Table 2 reports the regression results for the likelihood of in-service training. The analysis confirms the importance of some key correlates of training provision, but also highlights the role of several other factors. First, bearing out the results reported in earlier tables, the likelihood of in-service training is higher in larger firms and firms that export in international markets, results that are statistically significant at the 1 percent level. Second, unlike other South Asia countries[20], the analysis found no significant relationship between R&D and training. Third, the probability of training rises with the average years of schooling attainment of the firm's workforce, a result consistent with the empirical evidence from many developing countries.[21] Educated workers are not only more productive in performing given tasks, but they benefit more from training than less educated workers. A related hypothesis – that more educated managers know the benefits of training and are thus more likely to implement in-service training – found no empirical support. On the contrary, the educational attainment of general managers was negatively related to the probability of training provision in the firm, which appears to be counter-intuitive. Finally, the share of females in the workforce was not significantly related to the likelihood of training.

[19] All probit specifications include indicator variables for missing values, a vector of city dummies, and principal industrial sector of operation.

[20] Similar probit models estimated for India, Pakistan and Sri Lanka found positive and statistically significant relationships between R&D and in-service training, results also found in many other developing countries in East Asia and Latin America.

[21] See Tan and Batra 1995 for estimates on the education-training relationship from five developing countries in East Asia and Latin America; Tan 2000 and World Bank (1997, 2005) for related training analyses for Malaysia.

Table 2: Probit Analysis of the Incidence of In-service Training

Dependent variable: Probit of any training	Model Specification	
	1	2
Intercept	-1.610	-1.895
	(-3.08)	(-3.56)
Firm Size		
Small size (16-100 workers)	1.236	1.214
	(2.80)	(2.76)
Medium size (101-250 workers)	1.293	1.226
	(2.88)	(2.73)
Large size (over 250 workers)	1.556	1.517
	(3.42)	(3.35)
Workforce characteristics		
Mean years of education of the workforce	0.028	0.032
	(1.89)	(2.10)
Education of the manager	-0.051	-0.045
	(-2.84)	(-2.49)
Percent workforce female	-0.155	-0.146
	(-0.65)	(-0.61)
Firm characteristics		
Year firm founded	-0.004	-0.004
	(-1.01)	(-1.11)
Unionized firm	0.554	0.563
	(4.09)	(4.14)
Exporting firm	0.244	0.286
	(1.79)	(2.08)
Firm with R&D staff	0.148	0.127
	(1.31)	(1.11)
Foreign-owned firm	-0.294	-0.222
	(-1.04)	(-0.79)
Government ownership	1.039	1.082
	(2.11)	(2.19)
Important Investment climate constraint		
Access to finance		0.231
		(2.16)
Labor market regulation		0.243
		(1.53)
Macroeconomic situation		0.081
		(0.77)
Power and infrastructure		-0.00
		(-0.04)
Control variables included		
Missing values	Yes	Yes
City indicator variables	Yes	Yes
Industry dummy variables	Yes	Yes
R-square	0.089	0.099
Number of observations	974	974

Source: Bangladesh ICS

Several other factors emerged as being important correlates of training. Unionized firms are more likely to provide training, a result consistent with the findings of other training studies in both industrialized and developing countries.[22] Government ownership of firm equity is positively associated with training, but foreign ownership is not.[23] None of the investment climate constraints – macro environment, infrastructure, and labor market regulations – appeared to affect training, the only exception being problems accessing finance and that relationship had the counter-intuitive result of being associated with a higher probability of training.

Productivity and Wage Outcomes of Training

Provision of in-service training only makes sense if employers' investments in the training and skills-upgrading of employees yield positive returns in the form of higher productivity and profits. In making these investment decisions, employers also need to decide where to get this training, and who should get this training. An important consideration will be what types of training yields the highest impact on the bottom line, and which workers will benefit most from the training. If training yields positive impacts on productivity, employers also need to determine whether, or how much, to share productivity gains from training with workers in the form of higher wages. This calculus will depend on how transferable skills gained from training are to other potential employers (see Becker 1976; Tan 1980; Acemoglu and Pischke 1998).

To address these questions, the productivity and wage effects of training were analyzed using the Bangladesh ICS data. These analyses can yield insights into whether in-service training is a profitable investment, and provide a check on why the incidence and share of workers trained are so low in Bangladeshi firms. If formal training is found to be associated with higher firm-level productivity, the question is which source of training (in-house company programs, or external training from public or private sector providers) has the largest impact on productivity? Answers to this question have ramifications not only for employers—what kinds of training to sponsor—but also for Bangladeshi policymakers interested in knowing where the policy focus should be in reforming education and VET policy.

For the productivity analysis, a production function approach is used. The dependent variable – the logarithm of value added – is regressed on the logarithms of capital (book value of physical plant and equipment assets), employment, measures of in-service training and a vector of control variables for capacity utilization, worker attributes (mean years of education), city and industry. The analysis experimented with alternative measures of in-service training – indicator variables for any formal training, in-house company versus external training from public or private sector providers, as well as the same training variables measured in terms of proportion of workers trained. In a previous section, it was observed that while Bangladeshi firm are more likely to train (as compared to India), they extend this training to only a small fraction of the workforce. These latter training measures were included to investigate the possible productivity ramifications of making training available to only a few workers.

[22] In theory, unions are thought to reduce the likelihood of training by negotiating higher levels of wages and reducing the ability of employers to lower wages to finance specific training through a training wage. However, when statistically significant union effects on training are found by empirical studies, they are invariably positive as in the India sample (see Lillard and Tan 1992; Tan et al 1992; Tan and Batra 1995).

[23] The absence of a positive association may be interpreted to mean that there is no effect of foreign ownership on training independent of export orientation and R&D, two activities which are common among most foreign-owned companies.

Table 3 reports the production function regression results for four model specifications using alternative measures of training. Before turning to the training results, some parameters estimated by these models are noteworthy. First, the estimated production function parameters of capital and labor coefficient are positive and statistically significant, and resemble those estimated for many other countries. Second, consistent with the belief that education raises firm-level productivity, the results indicate that increased educational attainment of the firm's workforce of one year is associated with higher levels of firm-level productivity of about 3 percent. Third, several characteristics of firms are associated with higher levels of productivity – firms with a smaller share of female workers, firms with R&D, firms with some foreign ownership, and unionized firms. Interestingly, export oriented firms are not more productive holding constant other firm and worker attributes.

While simple indicator measures of in-service training are not related to firm-level productivity, the proportion of workers trained is positively related to productivity at the 1 percent level of statistical significance. This holds true whether an aggregate measure of any training is used, or when training is distinguished by in-house versus external sources (see model specifications 1 and 2). When the model includes the proportion of workers trained (specifications 3 and 4), then any training becomes positive (0.377) and significant. Evaluating this coefficient at the sample mean of the share of workers getting any formal training (0.02) suggests that the productivity impact is about (0.377 x 0.02) or 7.5 percent. When the model distinguishes between in-house and all external sources of training, only in-house training has a positive and statistically significant effect on productivity (0.698) while external training is not statistically significant.

Table 3: Production Function Results for Bangladesh

Model :	Model Specification			
Dependant variable: Log(value-added)	1	2	3	4
Intercept	10.776	10.78	10.775	10.803
	(53.98)	(53.73)	(54.15)	(54.29)
Log(book value of fixed assets)	0.238	0.239	0.237	0.238
	(13.61)	(13.64)	(13.60)	(13.66)
Log(Labor)	0.739	0.741	0.744	0.738
	(21.67)	(21.65)	(21.87)	(21.63)
Capacity utilization	0.509	0.509	0.491	0.486
	(5.06)	(5.06)	(4.87)	(4.83)
Training Measures				
1,0 Indicator – Any formal training	0.028			
	(0.45)			
1,0 Indicator – In-house training		0.036		
		(0.48)		
1,0 Indicator – External training		-0.023		
		(-0.28)		
Fraction workers – Any formal training			0.377	
			(2.22)	
Fraction workers – In-house training				0.698
				(3.19)
Fraction workers – External training				-1.184
				(-1.69)
Worker Attributes				
Mean years of education of workforce			0.03	0.03
			(3.50)	(3.45)
Percent workforce female			-0.473	-0.472
			(-3.39)	(-3.38)
Firm attributes				
Export dummy			0.052	0.066
			(0.62)	(0.80)
Foreign ownership dummy			0.396	0.398
			(2.56)	(2.58)
R&D dummy			0.19	0.182
			(2.75)	(2.63)
Union dummy			0.201	0.211
			(2.36)	(2.48)
Age of the firm			-0.001	-0.002
			(-0.69)	(-0.76)
Control variables:				
Missing Values	Yes	Yes	Yes	Yes
City	Yes	Yes	Yes	Yes
Industrial sector	Yes	Yes	Yes	Yes
R-square	0.718	0.72	0.733	0.735
Number of observations	983	983	969	969

Source: Bangladesh ICS.

For the wage analysis, a wage model is estimated on the pooled sample of occupations in each firm that had usable occupation-specific information on training, wages, and number of workers.[24] In the wage model, the logarithm of annual wages per worker is regressed on the training variables, and a vector of control variables for occupation, worker attributes (years of education, age, and proportion of female workers), firm size, export and R&D indicators, unionization, and industry. In general, we would expect the correlates of wage models and production functions to move together since economic theory tells us that employers in competitive markets pay wages equal to the marginal product of labor.

Table 4 reports the wage regression results. Mirroring the production function findings, wages are higher in larger firms and firms that are unionized, controlling for occupation and industry effects. However, exporting firms and firms with R&D do not appear to pay wage premiums to their workforce. In terms of worker characteristics, employers pay higher wages for a more educated and older (more experienced) workforce, but tend to pay lower wages when the workforce is predominantly female. Turning to training, the wage effects of training when measured as indicator variables never attain statistical significance. Only the training variables which measure the proportion of workers trained in each occupational group are statistically significant. The wage effects of increasing the proportion of workers getting any in-service training is positive (0.196), and when distinguished by source, is positive (0.231) for in-house training but not for external training. These wage results mirror those reported in Table 5 for production functions and, together, they confirm that in-service training, in-house training in particular, raises both firm-level productivity and workers' wages.

[24] This strategy was necessitated by a problem with missing wage information, which resulted in reduced sample sizes. Pooling together non-missing occupation-specific data from all firms (and controlling for the common within-firm variance of occupational information) yielded a sample size of 3,012 observations.

Table 4: Wage Regressions for Pooled Firm-Occupation Cells - Bangladesh

Dependant variable: log(hourly wage)	Model Specification			
	1	2	3	4
Intercept	1.913	1.925	1.751	1.735
	(8.18)	(7.92)	(7.23)	(7.15)
Training Measures				
1,0 Indicator - Any Formal Training	0.038			
	(1.00)			
1,0 Indicator - In-house training		0.031		
		(0.74)		
1,0 Indicator - External training		-0.005		
		(-0.09)		
Fraction workers - Any Formal Training			0.196	
			(2.80)	
Fraction workers - In-house Training				0.231
				(2.99)
Fraction workers - External Training				0.003
				(0.02)
Firm Size (omitted micro firms)				
Small (15-100 workers)	0.177	0.179	0.177	0.179
	(2.47)	(2.50)	(2.48)	(2.50)
Medium (101-250 workers)	0.281	0.282	0.282	0.282
	(3.84)	(3.84)	(3.86)	(3.86)
Large (over 250 workers)	0.233	0.234	0.235	0.233
	(2.99)	(2.99)	(3.03)	(2.99)
Firm Attributes				
Exporting	0.071	0.072	0.072	0.072
	(1.36)	(1.37)	(1.36)	(1.37)
Has R&D staff	0.015	0.016	0.016	0.017
	(0.37)	(0.39)	(0.41)	(0.42)
Unionized	0.092	0.093	0.084	0.084
	(2.01)	(2.03)	(1.83)	(1.82)
Worker attributes				
Percent workforce female	-0.243	-0.242	-0.244	-0.242
	(-2.74)	(-2.72)	(-2.76)	(-2.73)
Mean age of workers	0.011	0.011	0.011	0.011
	(2.83)	(2.81)	(2.77)	(2.76)
Mean years of education	0.009	0.009	0.01	0.01
	(1.67)	(1.69)	(1.71)	(1.71)
Control variables				
Occupations	Yes	Yes	Yes	Yes
Missing values	Yes	Yes	Yes	Yes
City	Yes	Yes	Yes	Yes
Industrial sector	Yes	Yes	Yes	Yes
R-square	0.558	0.558	0.558	0.558
Number of observations	3,012	3,012	3,012	3,012

Source: Bangladesh ICS.

Annex 5: Tracer Study - Sampling Methodology

Two types of sample data were collected and analyzed for this report. First, a survey of the technical and vocational education and training institutions was conducted. Second, a tracer survey of the students of these institutions was conducted. In the case of institutional survey, the purpose was to understand the principal characteristics of these institutions. The purpose of the student tracer study was to gather information from the students on their current status and their evaluation of the institutions.

A. The Institutional Survey

The institutional survey was conducted only on institutions accredited by the Bangladesh Technical Education Board. At the time of designing and implementing the survey, total population was 3,126 institutions having a total intake capacity of 197,060 students. This population of institutions was distributed all across the country, both at the urban and rural areas. The survey covered the three levels of institutions. Each level had further categorizations. The sample of institutions for which questionnaire was administered are presented below:

Sample by institutional levels and category								
Diploma Level			**Certificate Level**			**Trade Level**		
	Govt.	Non-Govt.		Govt.	Non-Govt.		Govt.	Non-Govt.
Dip in Tech-Education	1	0	HSC (Voc)	15	0	Basic Trade Course	2	11
Dip in Engineering	17	23	HSC (BM)	0	162	Computer Short Course	1	46
Dip in Forestry	1	0	Dip in Com	0	2	Basic (Link Course)	24	2
Dip in Tex-Eng	2	3	SSC (Voc)	46	214			
Dip in Agriculture	5	12						
Total	**25**	**36**	**Total**	**60**	**375**	**Total**	**27**	**57**
Total		**61**			**435**			**84**
Total								**580**

Based on the number of institutions and student intake capacity, the institutional sampling was framed. The sample was drawn randomly on the basis of probability proportional to size. The basis for sample size is i) ninety-five percent confidence interval, ii) five percent tolerable error terms and iii) provision for fifty percent non-response rate adjustment. Based on the above parameters, the sample size was measured as 580 institutions. The sample institutions, representing nineteen percent of the population of institutions, were dispersed throughout the country.

A semi-structured questionnaire was developed. The questionnaire covered:

Section A: Details of Courses Provided by Institution,
Section B: Details of Students,
Section C: Financial Information,
Section D: Information on Infrastructural Facilities,
Section E: Monitoring and Evaluation,
Section F: Information on Staff,
Section G: Information on Constraints and Demand, and

Section H: Characteristics of Teachers.

The questionnaire was couriered to institutions with pre-paid postage for return. 317 responses were received, a 55 percent response rate.

B. The Tracer Study:

Students of technical and vocational education and training institutions were traced in two phases. In the first phase, a list of students was prepared who passed from such institutions in the year 2003 only was prepared. The rationale behind selecting the year 2003 was that these students were about two years into the job market since they passed the examinations. Such students are expected to have contemporary information to fulfill the purpose of the tracer study.

Into this direction, a letter requesting a list along with full contact details of the students was dispatched to the 317 institutions which responded to the institutional survey. Among these institutions 200 responded via postage paid envelops with such list. A database of over 5,000 students was then prepared.

A semi-structured questionnaire was developed for the tracer study. The questionnaire covered issues relating to the institution and courses they attended, expenses during study, their job status, and socio-economic elements.

In the second phase, all students from the list were contacted with the questionnaire. The questionnaire was couriered to institutions with pre-paid postage for return. 2,100 students responded, a 42 percent response rate.

Annex 6: A Tale of Two Second Cities: The Penang and Chittagong Skills Development Centers

The Penang Skills Development Center (PSDC)

The training model that has grown out of the evolution of the Penang Skills Development Centre (PSDC) represents an outstanding breakthrough in bridging institutional divides. In the first place it is a joint company training centre established in partnership with the support of the state. Secondly, it has evolved to become a full private higher education institution registered under the Act providing certificate and diploma level training leading to recognized qualifications. And finally the federal government invests in and uses the centre to carry out nation-critical public training programs in the same way as at the public institutions. In the PSDC, the government recognizes the strength of its industry based resources and training system. The PSDC also demonstrates the potential of private educational institutions being harnessed or "out-sourced" for public training purposes where these are not viable in themselves as private commercial undertakings, and without creating the facilities in the public sector, which also lack the training culture.

Begun somewhat modestly in the mid-1980s in Penang state in the wake of an economic downturn, PSDC has flourished to become a successful example of high quality in-service training financed jointly by enterprises. At core, the PSDC is a joint company-training centre, set up to meet common training needs. Starting with basic skills, the offerings have deepened over time with changing technology and as companies have appreciated its added value, now extending to team-building and management enhancement programs. The centre runs both standardized and customized programs. In recent years, the centre has enlarged its offerings to meet the needs of SMEs and cover supply and service companies. Centre membership has increased from the original 24 to 104 companies. The centre charges at cost, and companies can recoup the expenditure from the Malaysian Human Resource Development Fund (HRDF) to which they contribute one percent of payroll and in respect of which the PSDC is a registered Training Provider. The centre is therefore basically self-financing in the provision of company training.

The State provided the land and buildings. The founder members included the big multinationals, many of them with training traditions of their own. They uniquely established a culture of sharing among the Penang industrial community. Thus, member companies donate equipment, laboratories, and training modules. They also allow their staff to conduct the training. As a result, other member companies enjoy wider training facilities than otherwise, without having to create the same in-house capability. Small and medium size enterprises enjoy technology transfer from and can bench mark their standards against the multinationals. The latter in turn enjoy better support services. Vendors donate equipment to familiarize the company workforce with their products and promote sales.

In 1994, the Prime Minister of Malaysia upheld the PSDC as a national model. Eleven other Malaysian States (out of 13) have launched similar centers, with varying success. At the same time, the Federal Government began to fund specific developments and programs. Thus, the PSDC has a complete Federal-funded training facility in a separate campus to train school-leavers at the skill levels in Applied Engineering It is also launching a 1 year program to re-train unemployed graduates, fully funded by the central government. This in effect draws upon the contributions to the center of the Penang industries to strengthen national programs.

Lastly, the PSDC, in the mid 1990s, in a move to increase the availability of higher education for school-leavers in Penang, launched full time Diploma level training leading to the HND in Electrical and Electronics Engineering and Mechanical And Mechatronics Engineering, tied in with British institutions. They have two more in mind. Today these make up their largest day to day enrollment. They charge full cost. In this role the PSDC is registered as a Private Higher Education institution under the relevant Act with recognition by the relevant qualifications authorities. An interesting feature is that it sub-contracts curriculum development and even provision of lecturers to a private professional training company.

While still a company joint-training centre, the PSDC has taken on institutional functions to increase the provision of TVET for school-leavers, and has moved to become a professional training entity in its own right.

The Chittagong Skills Development Center (CSDC)

Chittagong Skills Development Centre (CSDC) is the first industry-led, non-profit skills training centre in Bangladesh. Its objective is to provide the highest quality, most cost-effective, valued-added skills training to its corporate members and other private companies. CSDC was initiated in late 2005 with technical support provided by PSDC.

CSDC VISION AND OBJECTIVES

- Provide cost effective training and educational programs for the current and future workforce;
- Forge strategic partnership with local and foreign universities, training institutions and organizations to provide relevant programs and training interventions to enhance workforce competitiveness;
- Support the Human Resource Development (HRD) initiatives of Bangladesh's Private and Public Sectors;
- Share CSDC intellectual property, competencies and expertise beyond Chittagong and Bangladesh;
- Promote the development of local Small and Medium Enterprises to be National/Global Suppliers and Service Providers;
- Develop own CSDC training programs and courses;
- Generate sufficient income to sustain the CSDC operations and support human resource capacity building process in Bangladesh.

Source: CSDC Strategy Document (2005)

CSDC's high quality, cost-saving advantage stems from its corporate members willingness to share their training resources, technologies, costs, trainers, space and equipment. This ensures demand-driven, timely and calibrated training, without the overhead investment and delay of building a brand new centre. As a non-profit organization, CSDC focuses solely on delivering programs according to its members' present and evolving skill requirements. By sharing, developing and importing high-caliber training programs at affordable costs to members, CSDC can redress the lack of high-quality training services in Bangladesh and reduce companies' costly dependence on foreign training. This in turn, should lead to sustainable industrial growth and global competitiveness.

The initiative has generated considerable interest among the Chittagong business community. CSDC currently has six members (Pedrollo Group, A.K. Khan and Company, AKTEL, Ericsson, Alcatel, Huawei and UCEP) and this is expected to grow to about 20 in 2006 –members contributions have ensured that first year budgetary requirements have been exceeded by 20 percent. It has recently commenced its training operations – and expects to be training about 2500 workers per year in technical skills and 1200 workers in management skills by 2008. It will

operate through its yearly membership fees and "training cost-plus," i.e. the actual cost to conduct its programs plus a margin to sustain the CSDC's operations.

CSDC will operate as a private, industry-managed organization, comprised of a board of member companies' CEOs, who will closely develop and guide the centre's long-term strategy and management operations. The member companies' HR Managers will then determine the organization's precise training services to meet members' skill needs.

From the Government's side, the Bangladesh Board of Investment (BOI) is also a committed CSDC member, recognizing that such industry-focused skills training can galvanize the nation's abundant human resource to boost industrial productivity and growth. By strategically leveraging the nation's cost-effective labor base into a skilled workforce, CSDC will help add greater value to existing and future Foreign Direct Investments, while strengthening Bangladesh's competitive advantage. A broader skilled workforce will further enable CSDC to expand and attract multinational and ICT manufacturing in Bangladesh for regional markets.