

## Technical Education and Training for Changing Rural Income in Bangladesh: Prospects and Challenges

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### Abstract

*Technical education and training is a tool to improve employability of individuals, increase micro entrepreneurs' initiatives as well as productivity of industry and reduce poverty. This article aims at providing an assessment on the ability of technical and vocational education (TVET) seeks to create competent and self-reliant citizens to contribute to the economic and social development of the country, thus improving the livelihoods and sustain ably reducing poverty in order to increase the life skills in changing the quality of life. Quantitative and qualitative methodological techniques have been used to collect the primary data. This article is based on survey findings conducted among the rural people who are getting technical education and skill based special training on entrepreneurship development, economic outcomes, and measures of well-being. The respondents (n=120) have been selected for KIIS (key informant interviews). Findings revealed that the available educational institute and training organization can facilitate village level society's members which have significant role to involving poor people in rural society and changing rural income with proactive role. In addition, more than 80 percent of the rural workforce in studied area is self-employed through small businesses and household enterprises (as opposed to wage work), making entrepreneurship and vocational training programs in this context more relevant than formal job training programs. Vocational training intends to impart practical skills, increase awareness of higher-paying job opportunities, and improve knowledge of how to access better jobs and how to connect to potential employers. Proper technical education has different positive impacts on livelihood development, changes in life styles by creating employment opportunities and increasing productivity. On the basis of findings, it is recommended that peoples interest for technical education, collaboration of public-private technical training, priorities of need based and diversified technical training with materials according to industrial and mechanical skills and workforce development, efficient*

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*operation and maintenance skill as well as availability of necessary equipments and technology for training should be strengthened for sustainable development in Bangladesh.*

## **Introduction**

“Education is the back-bone of a nation”- is the foundation for creating moral and other human related social values among people. Quality education is not an easy concept to qualify. Scholars argue that countries need a well diversified education system in order to gain sustainable development through education. The recent approval by the Government of Bangladesh of the National Skills Development Policy is a major milestone in the country’s history. The term Technical / Vocational Education and Training (TVET), as used in this systematic review, follows the definition used by UNESCO as “those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in various sectors of economic life”. It incorporates: technical education, vocational education, vocational training, on-the-job training, and apprenticeship training (or any combination thereof). Training and development encompasses three main activities: training, education, and development (UNDP 2004, PP-34).

- **Training:** This activity is both focused upon, and evaluated against, the job that an individual currently holds.
- **Education:** This activity focuses upon the jobs that an individual may potentially hold in the future, and is evaluated against those jobs.
- **Development:** This activity focuses upon the activities that the organization employing the individual, or that the individual is part of, may partake in the future, and is almost impossible to evaluate.

The conceptual definition of TVET used in this review cuts across education level, type of learning arrangement, mode of delivery, setting, and type of provider/regulator [9]. It includes provision of (i) initial training for young people from the age of 15/16 years after compulsory school, but prior to entering work; (ii) continuing education and training for adults in the labor market leading to personal, flexible and/or vocational competencies; and (iii) training for unemployed persons currently available for and seeking work (including retraining for those made redundant). Single- and multi-service TVET interventions were eligible for inclusion in the review, as were interventions delivered for any length of time or frequency.

This paper explores the situation for Bangladesh for its development by providing technical and vocational education. The World Bank (2002) described Bangladesh as lagging behind the economic growth of technical and technological modernization, but went on to note that “Bangladesh’s greatest strength is its people (World Bank, 2002, p.6). The World Bank

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also noted that Bangladesh has no more alternatives in order to gain development, except properly utilizing its population. To improve the quality of employees, Bangladesh's people need to be trained in modern professional based and job oriented technical, technological and vocational programs. To address employability and promote self-employment, the Government of Bangladesh launched some technical Education and vocational training program for the vulnerable youth and rural people with opportunities for skill acquisition and employment. Working with the government, researchers conducted a randomized evaluation of the program's effect on skill development, economic outcomes, and measures of well-being. While the results indicate that the training generally led to increased skills development and improved well-being. Human development is about much more than the raising of national incomes. It is about creating an environment in which people can develop their full potential and lead productive, creative lives in accordance with their needs and interests. People are the real wealth of nations. Development is thus about expanding the choices people have to lead lives that they value. And it is thus about more than economic growth, which is only a means—if a very important one— of enlarging people's choices UNDP (2002, p. 2). Investment in education and training produces benefit both to the individual and to society as a whole. The return on investment for society will be a skilled workforce that will enable global competitiveness and economic growth, while the return of the individual will be a better career path, increased earning and a better quality of life (Alam, 2007). The number of polytechnic institutions is also low in comparison with most other countries, and the Bangladesh population. One government vocational teachers training institute offers in service training for the teachers, but its effectiveness is questionable (World Bank, 1990). This brings question how effectively TVE teachers are performing in teaching. Additionally, the present TVET system does not provide any in service training for workers. So secondary school leaver workers have little chance to undertake professional training in their lifetime, and instead gain experience from work. It seems that Bangladesh has not made desired progress to moderate and to innovate and provide up to date TVET programs (Rafique, 1996; World Bank, 1990).

### **Objectives**

The general objective of the study was an assessment on the ability of technical and vocational education and training to focus upon prior work to provide a clearer picture of the types of TVET interventions being used to improve employment prospects for rural people,

The specific objectives of the study were to:

- a. review the development activities of village societies member through some projects with special emphasis on training on technical education and vocational training;
- b. assess the socio economic characteristics of respondents and the overall effectiveness of TVET in order to increase their life skills in changing the quality of life;
- c. make recommendation and way out based on the findings of the study.

### **Scope of the Study**

This study was conducted among the people of village societies, which has been implemented by some projects of government and non government organization as like Bangladesh Academy for Rural development BARD (CVDP), rural youth who got technical and vocational training from Technical Training Centre (TTC), CCN Polytechnic Institute and Comilla Government Polytechnic Institute. Minimum thirty people from each institute were participated in the interview schedule. The scope of the study was confined to the following variables:

- Respondents Socio economic condition i.e. respondents by age, sex, house hold size;
- Occupation, income and expenditure;
- Training and educational status;
- Interlink with the entrepreneurship development, economic outcomes, and measures of well-being and support services.

### **Methodology of the study**

#### **Selection of Sample Areas**

In order to assess the effectiveness of rural people, the sample survey method was followed. This study was conducted in four different institutes i.e. BARD (CVDP), Technical Training Centre (TTC), CCN Polytechnic Institute and Comilla Government Polytechnic Institute. Mainly purposive sampling procedure has been followed in this study.

#### **Selection of Respondents**

The primary data of this study were collected through structured questionnaire and checklist of the sample villages. The respondents 30 from each institutes (n=120) for KIIs (key informant interviews) have been selected through purposive sampling procedure from the village society members who received relevant training and utilize that acquired knowledge and skill for increasing access to quality of life of rural people.

#### **Methods of Data Collection**

Survey methods were used to collect relevant data from the study areas, which were purposively selected and key informant interviews (KIIs) was

conducted through structured questionnaire and checklist. Relevant data were collected from both primary and secondary sources.

### Data Processing and Analysis

Collected data were processed, analyzed and presented in such a manner that the reader could get a clear idea of potential, uses and scope of technical education and vocational training in rural areas of Bangladesh. Data were collected during July to October 2015.

### Findings and Result Discussion

The profile of the Study Institutes is given bellow

Table 1: Location, catchments area and establishment of the study institutes, 2015

Issues	Name of the institutes			
	CCN Polytechnic Institute	BARD (CVDP)	Govt. Comilla Polytechnic Institute	Technical Training College (TTC)
Upazilla	Sadar Dhakkin	Sadar Dhakkin	Sadar Dhakkin	Sadar Dhakkin
District	Comilla	Comilla	Comilla	Comilla
Year of Establishment	2001	1957	1962	1979
Total area	30 acres	156 acres	20 acres	10 acres

Source: Primary data from field survey, 2015.

From the above table, it has been found that, Comilla Polytechnic Institute, TTC, BARD bears the sign of ancient tradition among these four institutes. All of these institutes are situated in green beautiful areas.

Table 2: Physical Facilities of the study Institutes, 2015

Issues	Name of the Institutes			
	CCN Polytechnic Institute	BARD (CVDP)	Govt. Comilla Polytechnic Institute	Technical Training centre (TTC)
Physical structure	pucca & tin	pucca	pucca	pucca & tin
Total class Rooms & Teachers Rooms	54	48	65	55
Teacher student/Trainer ratio	1:16	1:40	1:37	1:57
Electricity in Institutes	Yes	Yes	Yes	Yes
Safe Drinking water supply	Inadequate	Adequate	Adequate	Inadequate
Toileting facility	Inadequate	Adequate	Adequate	Inadequate
Teachers Quarter/ Hostel	No	Yes	Yes	Yes

Issues	Name of the Institutes			
	CCN Polytechnic Institute	BARD (CVDP)	Govt. Comilla Polytechnic Institute	Technical Training centre (TTC)
Physical structure	pucca & tin	pucca	pucca	pucca & tin
Auditorium and library use	Not Satisfactory	Satisfactory	Satisfactory	Satisfactory
Proper laboratory use	Satisfactory	Not Satisfactory	Satisfactory	Satisfactory

Note: *pucca* means permanent structure

Source: Primary data from field survey, 2015.

In Bangladesh the shortage of adequate physical facilities for training institutes is a major problem. But among the four studied institutes situated at kotbari, comilla Bangladesh Academy for Rural Development (BARD) has made an effort for rural development endeavor under village based cooperative organization through Comprehensive Village Development Programme (CVDP). CVDP is a national project of the Bangladesh Government. The CVDP believes in individual's entrepreneurship in one hand and inclusiveness of villagers on the other, motivate the members for own initiative development through training and capability improvement. Therefore, these provides training for the eleven-fifteen extension workers of village societies on various fields such as leadership, trade based skill training, eco sanitation, agricultural development and income generation through entrepreneurship development. On the other hand CVDP arranges technical training for the youth members of the society and giving training on electrical, plumbing, refrigeration, tailoring and solar installation training. Data reveals that village societies under CVDP project villages of BARD, out of the total respondents 51% in service and work in abroad. The rest 19% household people engage in trade with petty business. In the study village, average 78% people are literate because of project initiatives and better school facilities. The village society's member under CVDP program revealed that on an average yearly 55% and 58% respondents of selected institutes got training on electrical and solar installation, mobile servicing and management from the Technical Training Centre (TTC) of Comilla. It was observed that trained rural people utilize the acquired knowledge to be self employed in their respective fields. It was found that out of the total people of the studied village, 70% use solar PV system in maintaining light, fan, television, charging of electronic devices etc. Again the trained member of CVDP program gives expertise in repairing and maintenance support to the solar PV using families according to their needs. Again solar PV powered Street light has been installed. Government Polytechnic Institute

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has comparatively better physical facilities such as the adequate teaching equipment, availability of safe drinking water and healthy toilet facilities than that of TTC and CCN Polytechnic Institute.

Table 3: Number of currently attending learners and trainees by gender in the study Institutes, 2015.

SI. No.	Name of the Institutes	Total Students			Percentage (%)	
		Male	Female	Total	Male	Female
1.	CCN Polytechnic Institute	127	139	266	47.74	52.25
2	Govt. Comilla Polytechnic Institute	413	332	745	57.14	44.56
3.	Technical Training College (TTC)	440	320	770	53.33	46.67
4.	BARD (CVDP)	320	160	480	66.67	33.33

Source: Primary data from field survey, 2015

From the above table it is found that the total numbers of learners/trainees are 770 in TTC which is higher than that of other three institutes due to substantial number of other institutes exists near by same area. Among the total students, number of male is 440 and female is 320. The percentage of male is 53.33 and female is 46.67 respectively.

Table 4: Types of training received by the respondents, 2015.

Subjects	CVDP (N=30)	Govt. Comilla Polytechnic Institute (N=30)	TTC (N=30)	CCN Polytechnic Institute (N=30)
Electrical	10	9	19	5
Plumbing	6	-	8	-
Solar	8	-	10	2
Civil	-	11	3	12
Electronics	9	5	10	7
Garments Design	12	-	14	8
Computer Technology	2	13	11	11
Medical Technology	-	-	-	19
Mechanical Technology	-	17	12	15

Source: Primary data from field survey, 2015 (multiple answers are given)

From the above table it has been found that, electrical, solar, civil, electronics and computer technology are the common subject for all the four institutes. On the other hand, only CCN polytechnic Institute deals with the medical technology which leads to access the quality of life.

Table 5: No of persons utilized their learning and training knowledge and skills received through in the study area, 2015

Name of the Institutes	No. of total respondents	No. of person utilized	Percentage of total
CVDP	30	30	100
Govt. Comilla Polytechnic Institute	30	27	90
TTC	30	24	80
CCN Polytechnic Institute	30	26	86

Source: Primary data from field survey, 2015

It has been found that all of the respondents utilized their learning skills under the CVDP project. TVE has two roles - preparing skilled manpower for the world of work, and opening the door for TVE students to pursue higher education with a solid foundation. The majority respondents informed that they utilized their acquired knowledge and skills in respective areas.

Again some of them couldn't utilize their learning because of not using their acquired skill and knowledge which they received through different training programmes. Unfortunately, higher education is very limited for TVE school graduates in Bangladesh. In addition, once a student has a gap of two years academic study, he/she cannot enroll in further higher education. In these circumstances if a TVET graduate joins his/her job after completion of secondary and higher secondary education, he/she cannot come back into further education.

Table 6: respondent's opinion regarding TVET, 2015

Issues	BARD (CVDP) (N=30)	Govt. Polytechnic Institute (N=30)	CCN Polytechnic Institute (N=30)	Technical Training Centre (N=30)
Competency achieved	23 (76%)	20(66%)	17(58%)	20(68%)
Improved skills and creativity	22(75%)	20(68%)	21 (70%)	21 (69.5%)
Raising rural income	23 (77%)	19 (63%)	20 (65%)	22 (72%)
Qualification divert to industry	21 (69%)	20 (67%)	19 (63%)	21 (71.3%)
Employability	22 (75%)	21 (69%)	20 (66%)	21 (69%)
Quality training and teaching	23 (78%)	21 (71%)	21 (69%)	22 (72%)
Focus on gender equality	21 (71%)	20 (68%)	19 (64%)	21 (69%)
Flexible and responsive TVET	21 (69%)	19 (62%)	19 (63.2%)	20 (68%)

Source: Primary data from field survey, 2015



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From the respondent's opinion, it has been observed that as a poor country, achieving a high budget for education is a real challenge for Bangladesh. It is also added that budget for TVE is very low in comparison with other sectors of education. Providing good TVE needs more money for practical workshop facilities, and also demands industrial attachments for internships vocational and practical subjects 'pedagogic systems have unusually multifarious expensive requirements (such as equipments materials, resources, curriculum, support system, personnel, managements requirements, etc.), which are not easily met. Trainer opines that training increased participants' ability to calculate profit and increased the likelihood that a respondent knew how to start a business, to examine whether study, participant and intervention characteristics to improve upon prior work by systematically examining the evidence base to provide a clearer picture of the types of TVET interventions being used to improve employment prospects for youth, to identify the overall effectiveness of TVET, to examine whether study, participant and intervention characteristics.

Table 7: Problems faced by the respondent's in the study Institutes, 2015

Issues	Name of the Institutes							
	BARD (CVDP) (N=30)		CCN Polytechnic Institute (N=30)		Govt. Polytechnic Institute (N=30)		Technical Training Centre (TTC) (N=30)	
	Opinion	No.	Opinion	No.	Opinion	No.	Opinion	No.
i) Problems faces for overall course curriculum system	rarely	30	frequently	24	sometimes	26	sometimes	22
ii) Location and communication	Suitable	28	Less suitable	26	Suitable	30	Less suitable	24
ii) Systematic and lesson preparation	Yes	27	Yes	26	Not much	18	Yes	21
vi) Uses of equipments for training	Not much	25	Yes	23	Yes	27	Yes	29
viii) Fear of getting future job	Not much	28	more	25	Not much	26	more	25

Source: Primary data from field survey, 2015.

It has been found that most elite parents think that their children should not become a laborer. Even if their children are less academically able, parents try to push their children into higher education disobeying the law. Social elites and political leaders in Bangladesh do not bother much about the law. They also send their children to study abroad. In such circumstances, poor parents become disappointed about their children's education. Again most

of TVET schools are also located far from rural areas; meaning village students cannot have access to them easily.

Finally tables depict that, those who graduate with distinctions and with a high number of credits have good chances of finding employment in prestigious companies or of going on to further studies. Feedback from industry where the graduates find employment suggests that all is well in the institute, which has striven to improve and maintain the high performance of trainees. Although instructors were highly qualified and dedicated to their work and had high morale, which has tended to counteract this burden. The administration ensures that the competencies of faculty and all workers in the institution have been improved on a continuous basis. Graduates from the institution also share information about the institution and their experiences with prospective students. The data analyzed revealed that the performance standards of the students are high. Additionally, career guidance and counseling personnel regularly advise students on their academic and social life. The rural setting seems to provide a suitable ambient learning environment. Some graduates even went on to further studies. Enterprising graduates entered self-employment. The institute lays emphasis on quality and seeks to improve and maintain the high performance of its trainees. The feedback mechanism from industry helps the institute evaluate its standards and to improve its programmes. Facilities are adequate and trainees gain hands-on experience, as well as being exposed to working practices during a three-month industrial attachment. In our country situation, it is observed that in almost all the lower classes the numbers of students both male and female are more, but in the upper classes students' participation is lower. Because some of the students discontinue education cycle before completing their study at the school level of education.

### **Concluding Remarks**

Within the scope of this paper, it is not possible to present a full picture of TVET for Bangladesh. But it was possible to make an argument of the proposed topic. In the present circumstances, it is seems that drop out rate at the secondary level is quite high.

Furthermore, it is clear that inadvertently and haphazardly offering TVET programs not only increases the use of scarce educational resources, but also raises questions about the achievements of education, and may well make barrier to achieving national and individual educational aims.

To progress well in the face of increasing global competition, it is essential to provide modern up to date technological knowledge to students;

– On the other hand, it is notable that not all students have the academic ability or interest to gain technological knowledge; and In addition to the above issues, other professions such as agriculture, the garment industry and so on, can play a vital role in country's developmental progress. After all, a balanced, skilled workforce can play a separate more holistic role in national development. Considering the above, few TVE subjects such as agricultural science (in all its diversity), computer science, information technology, garments and textile technology, fashion and design, need to be offered especially at the secondary school level, and students should take several TVE subjects. This may help the drop out students to become more skilled in a variety of tasks, and in addition provide a solid foundation to continue into higher education. It also should be noted that Bangladesh needs to provide in service training programs at different levels, and for different subjects. This may help employees to cope with changes in TVE, and help primary school leavers to cope better with their jobs. In conclusion, the following overall recommendation is made. A well timed TVE program may help Bangladesh to improve its economic growth, which may then aid social equity and freedom; the country urgently needs to take substantial steps (such as, increasing budgets, preparing modern course curriculum etc.) if it wants to develop TVE education.

### **Recommendations**

The following recommendations are put forward:

1. Higher authority and staffs of TVET institutions should be highly qualified individuals in the relevant technical areas and should also have some administrative skills.
2. Goal-setting or some kind of (theoretical) framework that ties in with the vision and mission of the institution and its strategic plan are an asset in helping the institution to carry out its functions.
3. Higher authority and staffs should carry out their responsibilities in such a manner that their staff perceives that management is working in their favors and is responsive to their needs; one such example being to undertake corporate social responsibility.
4. Tangible targeted results should be recorded every time they occur in order to encourage persons to work harder and achieve more. This, in itself, is an incentive scheme. Payments should be related to production; for every result there must be a reason or an explanation.
5. Higher authority and staffs should apply modern approaches in human-resource management since these are critical in changing the perceptions of moribund institutions.
6. Bureaucracy should be flexible and not the only agency responsible for the running of a TVET institution. People outside the administration

must be allowed to give suggestions about what can be done to overcome a particular problem and should be permitted actually to perform some activities themselves.

7. The system should have a real time online service that accepts forecast data from industry and from Government for both skill demand and supply.

My personal feelings are that, with the support of academic staff, workers, trainees, the community and other stakeholders, it has become a centre of excellence able to prepare trainees to meet the challenges of the job market. This requires dynamic leadership of the caliber demonstrated by the principal.

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