

Implementation of National Technical and Vocational Qualification Framework (NTVQF) in Bangladesh

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Abstract: Technical and Vocational Education and Training (TVET) plays a very significant role for sustainable development of a country. Skilled workers of a country are pillar of development. Technical and Vocational Education and Training is increasingly being seen as a valuable path to practical careers all over the world. However the present study has conducted to find out the progress of National Technical and Vocational Framework, to identify the number of standard developed and to assess the number of graduates passed out in the different levels. The study was conducted in Bangladesh. The study was descriptive in nature. Documentary analysis was used for the study. Data and information were collected from the secondary sources such as websites of Bangladesh Technical Eructation Board, annual report of Bangladesh Technical Eructation Board, website of Ministry of Education of Bangladesh, Journal, research report, books, internet etc. The study revealed that all the stakeholders involved in TVET are working eagerly, efficiently and effectively. From the study it was found that Bangladesh technical Education Board provides certificates to 44135 graduates which is milestone for Bangladesh. TVET provides an individual with the skills required by industries. In order for the goals established in the NSDP to be realized, a number of new systems and individuals have been developed and are being introduced in Bangladesh. After extensive analysis of our TVET system and the quality of our existing workforce, targeting the vision 2021 Government of Bangladesh approved “National Skills Development Policy-2011” on the 2012 with a view to promote the TVET in a holistic approach so that the country will be reached in middle income position by 2021.

Key words: Technical Education, Skill, Graduates, Competency, Standard, Framework, National, economic growth.

INTRODUCTION

Education plays a vital role for the rapid economic growth of a country. The economic growth and social development of a country depend on its manpower and the technologies used by the working force to increase productivity. There is a constant competition worldwide for development in every field. Countries having education on skill, knowledge and innovation can cope with any challenge and utilize the opportunity and strength to achieve economic growth. Technical and Vocational Education and Training (TVET) (is one of the sub sector of education sector in Bangladesh. Technical and Vocational Education and Training must keep abreast of the changing demands from industry and the community. Gradually the enrollment in TVET sector is increasing drastically due to the policy of Bangladesh Government. The Government has taken so many promotional activities to popularize TVET in Bangladesh.

Poverty elevation, creation of employment, self employment, unemployment, hunger and built corruption free Bangladesh, entrepreneurship development and to increase productivity there is no other alternatives other then Technical and Vocational Education. It is essential for expansion of technical and vocational education in Bangladesh to develop the country as middle income nation.

OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To find out the progress of National Technical and Vocational Framework
2. To identify the number of standard developed.
3. To assess the number of graduates passed out in the different levels.

METHODOLOGY OF THE STUDY

The study was conducted in Bangladesh. The study was descriptive in nature. Documentary analysis was used for the study. Data and information were collected from the secondary sources such as websites of Bangladesh Technical Eructation Board, annual report of Bangladesh Technical Eructation Board, website of Ministry of Education of Bangladesh, Journal, research report, books, internet etc.

RESULTS AND DISCUSSION**National Technical and Vocational Qualification Framework of Bangladesh**

By targeting 2021 and observing total development of Technical and Vocational Education & training (TVET), Government of the Peoples Republic of Bangladesh approved “National Skills Development Policy-2011” on 30 January, 2012 with a view to promote the country to a middle income one by 2021. With a view to achieve national and international accreditation, National Technical and Vocational Qualification Framework (NTVQF) have been developed and implemented. Job classifications along with the framework approved by the government have been shown in the table below. There are six NTVQF levels and two Pre-Vocational levels in the approved Framework.

Table 1: Bangladesh NTVQF with Job Classification

NTVQF Levels	Pre-Vocational Education	Vocational Education	Technical Education	Job Classification
NTVQF 6			Diploma in Engineering or equivalent	Middle Level Manager/ Sub Assistant Engr. etc
NTVQF 5		National Skill Certificate 5 (NSC 5)		Highly Skilled Worker/ Supervisor
NTVQF 4		National Skill Certificate 4 (NSC 4)		Skilled Worker
NTVQF 3		National Skill Certificate 3 (NSC 3)		Semi-Skilled Worker
NTVQF 2		National Skill Certificate 2 (NSC 2)		Basic- Skilled Worker
NTVQF 1		National Skill Certificate 1 (NSC 1)		Basic Worker
Pre-Voc 2	National Pre-Vocation Certificate NPVC 2			Pre-Vocational Trainee
Pre-Voc 1	National Pre-Vocation Certificate NPVC 1			Pre-Vocational Trainee

Documents Prepared by Bangladesh Technical Eructation Board

Bangladesh Technical Eructation Board Established in 1967 by government act and autonomous body Existence with the jurisdiction over the entire area of Bangladesh to organize, supervise, regulate, control and develop technical vocational education and training including newly introduced NTVQF in Bangladesh. To implement the National Skills Development Policy-2011, BTEB has developed and implemented different document to run NTVQF in Bangladesh.

- Development of the National Skills Quality Assurance System
- Development of the Qualification Standards for Teacher’s/Trainers
- Development of the Competency Standards of different Occupations
- Development of Course Accreditation Document for different occupations under NTVQF.
- Preparation Competency Based Learning Materials (CBLMs) according to Units of Competencies (UoC) of different Occupations
- Establishment of the NTVQF Cell in BTEB with professionals.
- Development of Management Information System (MIS) for registration & result processing of NTVQF Programme.
- Development of the NTVQF implementation manual
- Preparation of the Recognition of Prior Learning (RPL) Implementation Guideline for Assessment

As Article 20.17 of the National Skills Development Policy (NSDP) 2011 and Table 3, Bangladesh Technical Education Board (BTEB) has been entrusted with the responsibility for the implementation of the NTVQF with the support of the National Skills Development Council (NSDC), ISCs and TVET providers. Aligning with this policy BTEB established a separate NTVQF cell in 2012 with a MIS for registration and result processing of the trainee according to the job classification level from pre (VOC) to level 6 of NTVQF. Since 2012 the BTEB has approved 81 occupations tuned to NTVQF with 233 standards of 12 priority sectors covering from Pre-VOC to skills levels 5. NTVQF standard is one of the five key functions for which the BTEB has been entrusted with the responsibility for implementation. BTEB assess and certify Industry Assessors, Teachers/Trainers. BTEB provides approval to the training providing organizations to become Registered Training Organizations (RTO) and it also assess and certify the level of skills of assesses (s) through Recognition of Prior Learning (RPL) process for particular trades and competency standards approved by BTEB under NTVQF.

Number of Graduates Certified by the BTEB

Bangladesh Technical Eructation Board has certified 44135 Graduates of Industry Assessor, Teacher and Trainer, Graduates through RTO and Graduates through RPL certified in the different levels are given in the following table 2:

Table 2: BTEB achievement of the Certification under NTVQF by June 2018

Sl. No	Category of Certified Graduate	Number of Occupation	NTVQF Certification (in Number)						Total
			PV2	Level-1	Level-2	Level-3	Level-4	NC-IV	
1	Industry Assessor	28	25	740	332	151	77	899	2224
2	Teacher and Trainer	28	11	496	36	7	0	291	841
3	Graduate (RTO)	24	70	10662	770	0	0	0	11502
4	Graduate (RPL)	29	6,672	22718	142	36	0	0	29568
Total			6,778	34616	1280	194	77	1190	44135
Grand Total			44135						

APPROVED COMPETENCY STANDARD BY THE BTEB

BTEB has approved competency standard and course accreditation document in the different occupation under 12 Industry sectors of economy. Competency Standard which has been approved by the BTEB is shown as follows:

Table 3: Competency Standard approved by the BTEB

Occupation (Competency Standards)	NTVQF Levels (Qualification Standards)						
	PV-1	PV-2	L-1	L-2	L-3	L-4	L-5
Agro Food Sector							
1. Baking	0	0	1	1	1	0	0
2. Food Processing and QC	0	0	1	1	1	0	0
3. Food packaging	0	0	0	1	1	0	0
4. Refrigeration and Air-con	0	1	1	0	0	0	0
5. Food Safety & Hygiene	0	0	1	1	1	1	0
6. Poultry & Meat Processing	0	0	1	1	1	0	0
7. Chanachur & Jhuri Processing	0	0	1	0	0	0	0
8. Puffed & Flattened Rice Processing	0	0	1	0	0	0	0
9. Food Grain Machine Operation	0	0	1	0	0	0	0
10. Rice Processing	0	0	1	0	0	0	0
Information Technology							
11. Graphic Design	0	0	1	1	1	1	1
12. IT Support	0	0	1	1	1	1	1
13. Web Design	0	0	0	1	1	1	1
14. Computer Operation	0	0	1	1	0	0	0
15. Print Machine Servicing	0	0	0	0	1	1	0
16. Surveillance Security System	0	0	0	0	0	1	0
17. Professional Back Office Services	0	0	0	0	0	1	0
18. Digital Content Management	0	0	0	0	0	1	0
19. Medical Scribing	0	0	0	0	1	0	0
20. PCB Design	0	0	0	0	0	1	0
21. PCB Assembling	0	0	0	0	1	0	0
Leather goods Sector							
22. Machine Operator, footwear	0	0	1	1	1	0	0
23. Machine Operator, Leather Goods	0	0	1	1	1	0	0
24. Machine Operator, Tannery	0	0	1	1	1	0	0
25. Machine Maintenance	0	0	1	1	1	1	0
26. Supervisor	0	0	0	0	0	0	1
27. CAD (Computer Aided Design) Operation	0	0	0	1	0	0	0
28. Setting and Assembling Operations	0	0	0	0	1	0	0
Transport Sector							
29. Electrical Installation and Maintenance	0	0	1	1	1	1	0
30. Fitting	0	0	1	1	1	0	0
31. Welding	0	1	1	1	1	1	0
32. Motorcycle Servicing	0	1	1	1	0	0	0
33. Machine Shop Practice	0	0	1	1	1	1	0
34. Automotive Mechanics	0	0	1	1	1	1	0
35. Refrigeration and Air-con	0	0	1	1	1	1	0
36. Electrical & Navigational Equipment Installation	0	0	0	0	1	0	0

37. Installation of Heating, Ventilation, Air Conditioning (HVAC) & Refrigeration System	0	0	0	0	1	0	0
38. Auto Electricity Maintenance	0	0	1	0	0	0	0
39. Ducting	0	0	0	0	1	0	0
40. Marine Diesel Engine Artificer	0	0	1	0	0	0	0
41. Pipe Fitter	0	0	1	0	0	0	0
42. Cutting Machine Operation	0	0	1	0	0	0	0
43. Lasting and Assembling Operation	0	0	1	0	0	0	0
44. Total Quality Management (TQM)	0	0	0	0	1	0	0
Informal Economy	0	0	0	0	0	0	0
45. Beauty Care	0	1	1	1	1	1	0
46. Block Batik and Screen Printing	0	1	1	1	1	0	0
47. Solar Electrical System	0	0	1	1	0	0	0
48. Tailor and dressmaking	0	1	1	1	1	1	0
49. Embroidery	0	1	1	1	0	0	0
50. Television Servicing	0	1	1	0	0	0	0
51. Jute bag and box making	0	1	1	0	0	0	0
52. Karchupi Works	0	1	1	0	0	0	0
53. Mobile Phone Servicing	0	1	1	1	1	1	0
54. Agricultural machinery	0	1	0	0	0	0	0
55. Care giving	0	1	0	0	0	0	0
56. Cooking (domestic)	0	1	0	0	0	0	0
57. Poultry	0	1	0	0	0	0	0
58. Housekeeping (domestic)	0	1	0	0	0	0	0
59. Poultry Rearing & Farming	0	0	1	1	1	0	0
60. Carpentry	0	0	1	0	0	0	0
61. Wood Working Machine Operation	0	0	1	0	0	0	0
62. Upholstery Works	0	0	1	0	0	0	0
63. Lacquer Polishing	0	0	1	0	0	0	0
64. Mushroom Growing	0	0	1	1	1	0	0
Ready Made Garments	0	0	0	0	0	0	0
65. Sewing Machine Operation	0	1	1	1	1	0	0
66. Circular Knitting Machine Operation	0	0	1	1	0	0	0
67. Sweater Machine Operation	0	0	1	1	1	0	0
68. Apparel Screen Printing	0	0	1	1	1	0	0
69. Sewing Machine Operation (Knit)	0	0	1	1	1	0	0
70. Sewing Machine Operation (Woven)	0	0	1	1	1	0	0
71. Sewing Machine Operation (Denim)	0	0	1	1	1	0	0
72. Sewing Machine Operation (Lingerie)	0	0	1	1	1	0	0
73. Sewing Supervising	0	0	0	0	1	1	0
74. Sewing Machine Maintenance	0	0	0	1	1	1	0
75. RMG Industrial Engineering	0	0	0	0	1	1	1
76. Apparel Merchandising	0	0	0	0	1	0	0
77. Production Planning & Control	0	0	0	0	1	0	0
78. Pattern Making and Cutting Operation	0	0	1	1	0	0	0
79. Mid Level Supervising	0	0	0	0	1	0	0
80. Leather Sewing Operation	0	0	0	1	0	0	0
81. Social Compliance and HR Management	0	0	0	0	1	0	0
82. Industrial Engineering and Lean Manufacturing	0	0	0	1	0	0	0
83. Weaving Technology	0	0	0	1	0	0	0
84. Safety Management	0	0	0	0	1	0	0
85. Quality Control Management	0	0	0	0	0	1	0
86. Production Planning & Supply Chain Management	0	0	0	0	0	1	0
Construction Sectors	0	0	0	0	0	0	0
87. Electrical Installation and Maintenance (C.C)	0	1	1	1	1	1	0
88. Plumbing	0	1	1	1	1	1	0
89. Tile works	0	1	1	1	1	0	0
90. Masonry	0	0	1	1	1	1	0
91. Painting	0	0	1	1	1	0	0
92. Rod Binding	0	0	1	0	0	0	0
93. Finishing Carpentry	0	0	1	0	0	0	0
94. Aluminium Fabrication	0	0	1	0	0	0	0
95. Scaffolding and Form Fitting	0	0	1	1	1	0	0
Furniture	0	0	0	0	0	0	0
96. Wood Working Machine	0	0	1	1	1	1	0
97. Carpentry	0	0	1	1	1	1	0

98. Lacquer Polishing	0	0	1	1	1	1	0
99. Upholsterer	0	0	1	1	1	1	0
Tourism and Hospitality	0	0	0	0	0	0	0
100. Cooking	0	0	1	1	1	1	0
101. Housekeeping	0	0	1	1	1	0	0
102. Food and Beverage Servicing	0	0	1	1	1	1	0
103. Tour Guiding	0	0	1	1	1	0	0
104. Front Office Management	0	0	1	1	1	1	0
105. Ticketing and Reservation	0	0	0	1	1	1	0
Light Engineering Sector :	0	0	0	0	0	0	0
106. CNC Machine Operation	0	0	0	0	1	1	0
107. Lathe Machine Operation	0	0	1	1	1	0	0
108. Consumer Electronics	0	0	1	1	1	0	0
109. Electrical Installation & Maintenance	0	0	0	1	1	0	0
110. Foundry Works	0	0	1	1	1	0	0
111. Heat Treatment Operation	0	0	1	1	1	0	0
112. PLC Operation	0	0	0	0	1	0	0
Jute Sector :	0	0	0	0	0	0	0
113. Weaving Machine Operation	0	0	1	1	0	0	0
114. Spinning Machine Operation	0	0	1	1	0	0	0
Ceramic Sector :	0	0	0	0	0	0	0
115. Body and Glaze Preparing	0	0	1	1	1	1	0
116. Forming	0	0	1	1	1	1	0
117. Decoration & Printing	0	0	1	1	1	1	0
118. Glazing	0	0	1	1	1	1	0
Pharmaceutical Sector :	0	0	0	0	0	0	0
119. Machine Operation	0	0	1	1	1	1	0
120. Electrical & Electronics Installation & Maintenance	0	0	0	1	1	1	1
121. Industrial Mechanical Maintenance	0	0	0	1	1	1	1
122. Packaging	0	0	1	1	1	1	0
Textile Sector:	0	0	0	0	0	0	0
123. Garments Finishing	0	0	1	1	0	0	0
124. Textile Spinning Machine Operation	0	0	1	1	0	0	0
125. Textile Waving Machine Operation	0	0	1	1	0	0	0
Trainer Certification	0	0	0	0	0	0	0
126. CBT&A	0	0	0	0	0	1	1
127. Pro-vocational	1	0	0	0	0	0	0
Total	1	20	85	76	78	44	8
				312			

PROGRESS OF BTEB FOR IMPLEMENTING NTVQF

A total of 82 RTOs and Assessment centers have been established and operationalized during 1st phase Action Plan of 3 years duration from 2012 – 2015. BTEB has accredited 259 RTO & Assessment centres up to June 2018. Sixty (60) occupational standards are under process of development. BTEB already certified trainers, industry assessor and trainees in different occupations. One of the major achievements of BTEB is certification of the unaddressed skill workforce under the RPL (Recognition of Prior Learning) mode of assessment. Total 29568 trainees are assessed and already certified. BTEB has prepared action plan for implementation of National Skill Development Policy 2011 and sent to NSDC secretariat for incorporate National Action Plan. In this context achievement of BTEB 45% which is highest among the other stakeholders and partners. Achievement of the BTEB in the Implementation of NTVQF by June 2018 has been given in the Table.

Table 4: Implementation of NTVQF-At a glance

Item	Implementation status
No of Industry Skill Council (ISC)	12
No of Occupation	127
No of Approved Standard	312
Competency Standard Under process (2018)	60
No of RTO & Assessment centre	259
Certified Trainer	291
Industry Assessor	899
Certified Trainee	PV-2, 70 Level-1, 10662 Level- 2, 770

Certified Trainee (Through RPL)	PV-2, 6672 Level-1, 22718 Level-2, 142 Level-3, 36
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CHALLENGES TO IMPLEMENT NTVQF

In the past Bangladesh TVET system focused mainly on formal training institutions. As a result the system could not develop the skills of enough to meet the need of local and overseas employers, workers and the community at large. To considering the above Government has taken initiative for Reform TVET system. In this context Government approved and implemented Skills policy with qualification framework to overcome the skills shortage.

But Bangladesh has facing some challenge for effective implementation of NTVQF. The Challenges are:

- Develop Linkage and cooperation Between BTEB and ISCs
- Develop Occupation wise Industry Assessor for effective implementation Competency Based Training and Assessment (CBT &A) Programmes
- Skill and Pedagogical Training of Teachers for public and private TVET institutions in CBT&A programmes to Implement NTVQF.
- Strengthen Capacity of TVET Institutions in terms of infrastructure, tools and equipment to accreditate as RTO and Assessment centre
- Teacher Training and Certification for CBT &A programmes
- Placement of certified trainee to industries
- Establish and strengthen linkage between Industries and Institutions
- Strategies funding for Skills Development and search for new funding
- Fund for teachers for getting industrial experiences

CONCLUSION

Human resource development plays a critical role in the socio-economic development of a country. It is an investment towards improving the quality of human life. Although development brings economic gains to society in general, specific measures become necessary to ensure that they reach the disadvantaged and the weaker sections of the population such as women, children, physically challenged, the elderly and the destitute. If we can include maximum percentage of people of 14+ age in the Technical and Vocational Training (TVET), we can bring about an industrial revolution in the country and also export skilled manpower. At this moment, TVET and skills development has become an important issue in the country because the greatest share of foreign currency income comes from the remittances of overseas Bangladeshi workers.

RECOMMENDATIONS

In order to accelerate implementation of NTVQF, a dedicated team of NTVQF cell of BTEB has prepared 2nd phase Action Plan of 5 years duration from 2016 – 2020. The 2nd Phase Action Plan within the frame of the overall responsibility of the BTEB entrusted by the National Skills Development Policy (NSDP) covers wider aspects of the different sector of the economy, BTEB's on-going selected courses for the translation and tune to NTVQF standards up to skill level 6.

The 2nd Phase Action Plan has in-built Project being prepared following LFA (Logical Framework Approach). The 2nd Phase Action Plan and the in-built project are the part of the Strategic Plan being prepared for the period from 2016 to 2030, the year of the least dependency ratio of the Bangladesh population when the working age population will be 128 million and dependent 57 million with total population of 185 million. The country must unlock/resolve this challenge of the "Window of Opportunity" through the transformation of the highest number of the working age population occurring by 2030 to higher manual and non-manual intellectual skill standards classified workforce.

This transformation of the highest number of the working age population to higher manual and non-manual intellectual skill standards shall work as the best tool for un-locking the up-coming challenge of the demographic trap the country will start facing after 2030.

The 2nd Phase Action Plan of 5 years duration for the period from 2016 – 2020 of the BTEB envisages to cover BTEB on-going selected courses and intervention areas from the selected sectors of the economy for carrying out translation tuned to NTVQF skill standards, testing and certification are:

- Prioritized BTEB courses from Basic trade to Diploma level such as: Information Technology, Electrical Technology, Ready Made Garments, Construction, Transport, Tourism & Hospitality, Agro Food Processing, Leather & Lather Goods, Light Engineering and Agriculture spread over different sectors of the economy.
- Formal and informal Apprenticeship training in operation plus the proposed TSC trade courses of the Directorate of Technical Education (DTE) planning for implementation as apprenticeship/industrial attachment pattern.
- All up-coming joint industry-institution partnership skill training initiatives of the employed or unemployed workforce probably perceived as in-line with the smell of the German Dual system.
- All skill development projects including G-20 projects and other donor supported such as Skill Enhancement and Investment Program (SEIP), SEP-B of DFID, upcoming SKILLS-21 and such other projects.
- Open market operationalization of the RPL (Recognition of Prior learning) for providing standard classification of the interested employed workforce, self-employed and others with informal or formal skills and may extend up to overseas employed and retuning workforce.
- BTEB's on-going process of NTVQF skill standard testing and on-line certification will be further improved and made operational as on-line testing and on-line certification.
- BTEB will organize regular monitoring of the implementation of the NTVQF standards and on-going process of assessment in the accredited institutions.

REFERENCES

1. National Skill Development Policy 2011
2. Annual Report of Bangladesh Technical Board 2018
3. Quality Assurance System Manual of National Technical and Vocational Qualification Framework.

