

**A STUDY ON THE TECHNICAL AND VOCATIONAL EDUCATION IN  
MYANMAR (1986-87 TO 1995-96): THE CASE OF GTIs GRADUATES**

**BY  
Thandar Oo**

**THESIS**

Submitted to  
School of Public Policy and Management, KDI  
In partial fulfillment of the requirements  
for the degree of

**MASTER OF ECONOMICS AND PUBLIC POLICY**

2000

**A STUDY ON THE TECHNICAL AND VOCATIONAL EDUCATION IN  
MYANMAR (1986-87 TO 1995-96): THE CASE OF GTIs GRADUATES**

**BY  
Thandar Oo**

**THESIS**

Submitted to  
School of Public Policy and Management, KDI  
In partial fulfillment of the requirements  
for the degree of

**MASTER OF ECONOMICS AND PUBLIC POLICY**

2000

Professor JU - HO LEE

## **ABSTRACT**

### **A STUDY ON THE TECHNICAL AND VOCATIONAL EDUCATION IN MYANMAR (1986-87 TO 1995-96): THE CASE OF GTIs GRADUATES**

**BY**

**Thandar Oo**

As most economies change their policies from import substitution to export orientation, export sectors become more and more important, especially in developing world. The process of adopting advanced technologies and new techniques for production also becomes essential for economic growth.

The absorption and utilization of these advanced technologies cannot be achieved without human capital development. Not only the higher education (universities and colleges) but also the vocational and technical education is needed to train skilled workers and technicians for small and medium enterprises, which play an important role in the early development stage of developing countries. On the other hand, technical and vocational education can solve the unemployment problem, too.

In the technical and vocational education sector, Government Technical Institutes (GTIs) play a crucial role for human resource development, industrialization and the training of semi-skilled workers. In terms of time period and total cost, Government Technical Institutes can produce, both efficiently and effectively, the median technicians required in a country's industrialization plan.

GTIs can also solve the mismatch problem between supply of universities and high rate of high schools graduates by changing both the confidence and the level of skills, as GTIs emphasize practice - oriented training rather than theory - oriented training for students. To achieve its target, all GTIs students have to join a factory or a workplace that is related with manufacturing after their academic study, as a requirement of their graduation.

In almost all the developing countries, the role of vocational and technical education is becoming well-recognized as it is closely related to unemployment, shortage of skilled workers and human resource development. This is why many developing countries, such as Myanmar, are interested in the study on technical and vocational education, especially on GTIs now.

## **ACKNOWLEDGEMENTS**

Firstly, I would like to thank Professor Ju-Ho LEE, School of Public Policy and Management, KDI, who advised this thesis from the beginning to the end and gave his precious time, good idea and great support to it. Also I am grateful to my Rector, all my teachers and friends from the Yangon Institute of Economics, Myanmar, who supported me with various data and good advice.

## TABLE OF CONTENTS

<b>LIST OF TABLES .....</b>	<b>viii</b>
<b>LIST OF FIGURES .....</b>	<b>xi</b>
<b>ABBREVIATIONS .....</b>	<b>xii</b>
<b>1. INTRODUCTION.....</b>	<b>1</b>
<b>1-1. Objective of Study.....</b>	<b>2</b>
<b>1-2. Scope and Method .....</b>	<b>3</b>
<b>2. DEPARTMENT OF TECHNICAL AND VOCATIONAL EDUCATION IN MYANMAR (DTVE) .....</b>	<b>4</b>
<b>2-1. Education System in Myanmar .....</b>	<b>4</b>
<b>2-2. Historical Background of DTVE .....</b>	<b>5</b>
<b>2-3. Aims and Functions of DTVE .....</b>	<b>6</b>
<b>2-4. Institutes and Schools under DTVE .....</b>	<b>7</b>
<b>2-5. Investment in DTVE .....</b>	<b>13</b>
<b>2-6. Changes and Improvements of Schools and Training in DTVE .....</b>	<b>15</b>
<b>2-6-1. Quantitative Changes .....</b>	<b>15</b>
<b>2-6-2. Qualitative Changes of Schools and Training .....</b>	<b>27</b>
<b>3. CASE STUDY FOR GRADUATES FROM GTIs .....</b>	<b>31</b>
<b>3-1. General Features of AGTIs .....</b>	<b>31</b>

<b>3-2. Jobs and Incomes .....</b>	<b>34</b>
<b>3-3. Workplace Conditions and Opinions of AGTIs .....</b>	<b>43</b>
<b>4. EDUCATION AND VOCATIONAL TRAINING IN KOREA .....</b>	<b>47</b>
<b>4-1. Education System .....</b>	<b>47</b>
<b>4-2. Vocational Training in Korea .....</b>	<b>49</b>
<b>4-3. Quality of Vocational and Technical Education .....</b>	<b>52</b>
<b>4-4. Current Situation in Korea’s Vocational Education .....</b>	<b>58</b>
<b>4-5. Lessons from Korean Vocational Training .....</b>	<b>60</b>
<b>4-6. Current Situation and Problems of Vocational Education in Myanmar... ..</b>	<b>65</b>
<b>5. CONCLUSION AND RECOMMENDATION .....</b>	<b>67</b>
<b>APPENDICES .....</b>	<b>72</b>
<b>APPENDIX I .....</b>	<b>73</b>
<b>APPENDIX II .....</b>	<b>78</b>
<b>BIBLIOGRAPHY .....</b>	<b>81</b>

## LIST OF TABLES

<b>1. Number of Students, Teachers and Student - Teacher Ratio</b>	<b>5</b>
<b>2. Education Expenditures, Growth Rate and Percentage in GDP for Department of Basic Education, Department of Higher Education and Department of Technical and Vocational Education</b>	<b>15</b>
<b>3. Number of Teachers and Students from DTVE</b>	<b>18</b>
<b>4. Student – Teacher Ratios</b>	<b>19</b>
<b>5. Total Number of Students in GTIs</b>	<b>19</b>
<b>6. Total Number of Students in THSs</b>	<b>20</b>
<b>7. Total Number of Students in HSs</b>	<b>20</b>
<b>8. Total Number of Students in MRMSs</b>	<b>21</b>
<b>9. Total Number of Students in ETECs</b>	<b>21</b>
<b>10. Total Number of Students in ETCs</b>	<b>21</b>
<b>11. Growth Rate of Students in DTVE</b>	<b>22</b>
<b>12. Selective Rate of Each School</b>	<b>22</b>
<b>13. Percentage of Attendance from the Students Selected</b>	<b>23</b>
<b>14. Rate of Graduates from GTIs</b>	<b>23</b>
<b>15. Rate of Graduates from THSs</b>	<b>24</b>
<b>16. Rate of Graduates from HSs</b>	<b>24</b>
<b>17. Rate of Graduates from MRMSs</b>	<b>25</b>
<b>18. Rate of Graduates from ETECs</b>	<b>25</b>
<b>19. Rate of Graduates from ETCs</b>	<b>25</b>



<b>20. Total Number of Students Who Can Join The Institute of Technology</b>	<b>30</b>
<b>21. Number of AGTIs by Gender</b>	<b>31</b>
<b>22. Number of AGTIs by Major</b>	<b>32</b>
<b>23. Number of AGTIs by Age Group</b>	<b>32</b>
<b>24. Further Study by Major</b>	<b>33</b>
<b>25. Number of AGTIs by Attending Other Training</b>	<b>33</b>
<b>26. Number of AGTIs by Current Jobs</b>	<b>34</b>
<b>27. Number of AGTIs by Marital Status</b>	<b>35</b>
<b>28. Time Period to Get Job after Graduate</b>	<b>35</b>
<b>29. Permanent Income by Gender</b>	<b>36</b>
<b>30. Relationship between Income and Jobs</b>	<b>37</b>
<b>31. Relationship between Income and Majors</b>	<b>37</b>
<b>32. Income Level by Majors</b>	<b>38</b>
<b>33. Relationship between Service Period and Income</b>	<b>38</b>
<b>34. Relationship between Age Group and Income</b>	<b>39</b>
<b>35. Income Distribution of Part-time Job by Gender</b>	<b>39</b>
<b>36. Job Situation</b>	<b>40</b>
<b>37. Relationship between Major and Income of Additional Job</b>	<b>40</b>
<b>38. Relationship between Service Period and Total Income</b>	<b>40</b>
<b>39. Relationship between Service Period and Types of Jobs</b>	<b>42</b>
<b>40. Relationship between Total Service Period and Total Income</b>	<b>42</b>
<b>41. Opinions about Current Income</b>	<b>43</b>
<b>42. Opinions about Difficulties of Jobs</b>	<b>43</b>

<b>43. Opinions about Continuing Their Jobs</b>	<b>44</b>
<b>44. Opinions about Their Income</b>	<b>44</b>
<b>45. Opinions about Physical Situations of Workplaces</b>	<b>45</b>
<b>46. Future Prospects of Job</b>	<b>45</b>
<b>47. Satisfaction Levels of Workplace Situation</b>	<b>46</b>
<b>48. Indicators of Human Resource Development in Korean Student Enrollment (1970 to 1994)</b>	<b>49</b>
<b>49. The Vocational and Technical Education In Korea</b>	<b>54</b>
<b>50. Differences between “2 + 1 System” and the Previous System</b>	<b>55</b>
<b>51. Number of Technical High Schools and Graduating Students</b>	<b>57</b>
<b>52. Vocational Training Capacity by Type</b>	<b>57</b>
<b>53. Number of Recipients of Vocational Training by Type of Training Institutes</b>	<b>57</b>
<b>54. Share of Selected Commodities Total Exports, Selected Years</b>	<b>60</b>
<b>55. Manpower Demand by Occupation, 1986 – 1996</b>	<b>61</b>
<b>56. Current Situation of Vocational Training</b>	<b>61</b>

## **LIST OF FIGURES**

<b>1. Education Expenditures</b>	<b>14</b>
<b>2. Types of Vocational Training</b>	<b>56</b>
<b>3. New Technical Education System</b>	<b>71</b>

## **ABBREVIATIONS**

1. AGTIs – Associations of Government Technical Institute
2. DTVE – Department of Technical and Vocational Education
3. ERP - Education Reform Proposal
4. ETCs – Evening Trade Courses
5. ETECs – Engineering Technology Evening Classes
6. GNP – Gross National Product
7. GTIs – Government Technical Institutes
8. HDI – Human Development Index
9. HRD – Human Resource Development
10. KVTMA-The Korean Vocational Training and Management Agency
10. HSs – Handicraft Schools
11. MRMSs – Machinery Repair and Maintenance Schools
12. OECD – Organization for Economic Cooperation Development
13. OPEC – Organization of Petroleum Exporting Countries
14. SPDC – State Peace and Development Council
15. THSs – Technical High Schools
16. TTI – Teachers Training Institute
17. UNDP – United Nations Development Program

## **Chapter 1**

### **INTRODUCTION**

Before 1988, when we looked at the education sector in Myanmar from the basic to university level, enrollment in elementary school was good during the earlier stage. But even during the first academic year, about 20 % of students dropped out of school. Losses in the education system started in this stage. Then, before the middle school level, nearly 75 % of students dropped out, so about merely 25 % could attend middle school. Thus, the number of students, who could attend the higher and university level, was very small<sup>1</sup>.

Parents' inadequate economic situation is one reason of losses in education. The Government should provide the education system that can accelerate and support professional situations to cure these difficulties. According to the social objectives of SPDC (State Peace and Development Council) - improvement of health, fitness and education standard of all, the government emphasizes education plans due to the important role of education investment.

Among the developments in the education sector, vocational education sector is also changing and developing. At present, Myanmar is still in a transitional period, and the graduates from technical and vocational schools are working at the country's main sectors, such as communication, construction, border – area development, technical and agricultural sectors. The students, who drop out at any level, can get some vocational education. One of the fundamental objectives of the department of basic education is that

“ to advance the nation’s benefits, the government has to set basic education that ensure vocational education”.

One of the objectives of the Department of Technical and Vocational Education under the Ministry of Science and Technology is “ to produce necessary experts and technicians and to improve vocational education that is suitable for the political, economic and social systems of the economy”. The main purpose of education is to exploit experts and well-skilled workers. According to this education system, the Department of Technical and Vocational Education also has such targets as:

- to raise the labor force participation rate;
- to solve unemployment problem;
- to provide vocational education and training for people who cannot continue study for any reason;
- to advance the agriculture and industrial sectors

Thus, the Department of Technical and Vocational Education plays an important role in Myanmar’s economic growth and development.

### **1-1. Objective of Study**

Myanmar’s economy is based on agriculture, but the country is striving for a balanced development of its economy and it is trying to transform itself into an industrialized country. Therefore, the role of industrial workers is becoming important. Education is important in social and economic situations as well as in the improvement of socioeconomic conditions for all citizens. Its one social function is to uplift next

---

<sup>1</sup> Education Research Bureau (1993) “ *Educational Statistics*”

generation's, way of thinking and experiences. Its another function is to train those workers who are going to join production processes.

That is why it is necessary to study job opportunities and the socioeconomic situation for technicians and engineers from the Government Technical Institutes (GTI) of the DTVE. Through such a study, we will know better about the role of associateships of the GTI, what kinds of jobs and in which sectors they contribute, how to get these jobs, and how the conditions of the work places are alike.

### **1-2. Scope and Method**

There are totally 7 kinds of schools and training programs in the Department of Technical and Vocational Training (DTVE), but this paper will only cover DTVE in general and a case study of graduates of the GITs. Statistically, GITs produce over 45 % of the total graduates of DTVE.

When studying job opportunities for associateships of the GTI, who received certificate from the GTI, an exploratory design and descriptive design will be used. It is not a test of causal relations for a hypothesis. There is neither a pre - assumption to test why they get job or don't get job, work or don't work. There is no study about job opportunities and social and economic situation of associateships of the GTI. Survey and questionnaires were used to ask people who have associateships from GTI.

## **Chapter 2**

### **DEPARTMENT OF TECHNICAL AND VOCATIONAL EDUCATION IN MYANMAR (DTVE)**

#### **2-1. Education System in Myanmar**

The education system in Myanmar is a centralized system under the authority of the Prime Minister, the Education Board and the Ministry of Education. It has a linear education system of 5-4-2-4. Students undergo 5 years in primary school (including kindergarten), 4 years in middle school, 2 years in high school and 4 years in universities and colleges. Pre-school education is mostly served by the private sector, whose admission and tuition fees are relatively higher than the public schools.

The admission fee for all levels of schools is partly free. Before 1988, there were no schools in underdeveloped regions far from the capital city and border areas. After 1988, as a part of government's development plan for these areas, many primary and middle schools have been established to provide education service to the local community.

However, the government emphasizes more on increasing the number of school graduates than ensuring the quality of education. Public schools suffer from shortage of adequate facilities and teaching aids.



**Table (1) Number of Students, Teachers and Student -Teacher Ratio**

Year	Teachers (Person)			Students (Person)			S -T Ratio		
	High	Middle	Primary	High	Middle	Primary	H	M	P
1993-94	16,025	53,416	156,629	360,638	1,158,577	58,96,026	23	22	38
1994-95	15,102	52,130	158,011	377,778	1,357,946	5,530,502	25	26	35
1995-96	14,661	51,898	159,078	385,225	1,475,081	5,337,432	26	28	34
1996-97	14,631	51,257	154,062	404,787	1,570,643	5,153,333	28	31	33

Source: The Ministry of National Planning and Economic Development, *Review of The Financial, Economic and Social conditions, 1997-98.*

Note: S – Students, T - Teacher

H – High Schools, M – Middle Schools, P – Primary Schools

## 2-2. Historical Background of DTVE

Before 1954, under the Ministry of Industry, DTVE was established by the name of “Directorate of Technology”. After 1954, the name of this department was changed to “Directorate of Technical Education” and its supervision was transferred from the Ministry of Industry to the Ministry of Education. In 1973, its name was changed again to “ the Department of Technical, Agricultural and Vocational Education”.

In 1996, it was re-named as “the Department of Technical and Vocational Education”, now under the Ministry of Science and Technology. Prior to 1996, this department was responsible for the supervision of 14 kinds of schools and training courses that were transferred to more relevant ministries to promote efficiency of these training courses. At present, there are only 7 kinds of schools and training courses in this department, namely, the Government Technical Institute (GTI), Technical High Schools (THS), Handicraft Schools (HS), Machinery Repair and Maintenance Schools (MRMSs), Teachers Training

Institute (TTI), Engineering Technology Evening Classes (ETEC), and Evening Trade Courses (ETC).

### **2-3. Aims and Functions of DTVE**

The DTVE aims to promote and develop advanced technology for use in the industry sectors, to improve vocational education that is suitable for the political, economic and social system of the economy, to train small and medium technicians for changing industrialized economy, to prioritize use of techniques for practical work and jobs in the methods of teaching and to provide training opportunity for students who cannot pursue higher education and get jobs.

DTVE undertakes the educational and administrative activities of technical high schools and other vocational training and courses. In almost every region across the country, there are government technical institutes, technical high schools, machinery repair and maintenance schools and handicraft schools. According to the development plan for border areas and national races, technical study tour groups visit and undertake vocational education in border areas and underdeveloped areas. Instruments of teaching aids are also distributed in these areas.

In addition, DTVE undertakes projects upgrading technical institutes and schools and strengthening technical teachers' training with the assistance of the United Nations Development Program (UNDP). The Myanmar government uses the loans from the OPEC to import teaching aids instruments, tools and machinery to promote technical and vocational education, to enlarge and upgrade the institutes and schools, and to implement

of teachers' training programs. Students and trainees from technical institutes and schools go to construction sites and participate in development programs by regions (for example, constructions of highways and new bridges).

DTVE is one of the departments under the Ministry of Science and Technology. There are totally 6 departments in this ministry, namely, the Minister's office, Myanma Science and Technical Research Department, Department of Advanced Science and Technology, Department of Technical and Vocational Education, Department of Atomic Energy, and Department of Technical Promotion and Cooperation.

#### **2-4. Institutes and Schools under DTVE**

Under DTVE, various vocational courses are arranged for students of different education levels, from elementary, high school to graduate level. The students can choose the most suitable one for them. Even those who can just read and write can join one kind of courses. Not only regular courses, but also special and intensive courses were provided in handicraft schools. Detail information about each school will be explained in the next section.

##### *(a) Government Technical Institutes (GTIs)*

Engineers, most demanded by mechanical and technical enterprises and sectors, are trained in these institutes. They contribute mainly in construction, transportation, communication and information sectors. The students, who want to join the GTI, have to pass high school exam with (A) level. In the past, students had to take the entrance exam, which include the courses of Mathematics, English and General Knowledge. But now,

instead of entrance exam, the applicants have to get at least a total score of 120 in English and Mathematics during the Basic Education High School Examination.

In addition, the students need to be younger than 22. The period for the whole training is 3 academic years and each year there is one mid-term and one final exam. Now, there are totally 25 GTIs in DTVE. The following courses are provided in these institutes:

- 1) Civil Engineering
- 2) Electrical (Power) Engineering
- 3) Electrical (Electronic & Communication) Engineering
- 4) Mechanical (Power) Engineering
- 5) Machine Tools and Design Engineering
- 6) Mining Engineering
- 7) Plastic and Rubber Engineering Technology\*
- 8) Food and Chemical Engineering Technology\*

(b) *Technical High Schools (THSs)*

These schools were opened in July 1956. The objective of THS is to train and provide systematically high level technical workers who are main factors for industries and factories. The other objective is to provide vocational courses, which can assure for survival in future career, for people who have only middle school educational background but they cannot continue higher education by any reason.

---

\* Plastic and Rubber, and Food and Chemical courses are initiated in 1991-92 academic year.

The qualifications for THSs are: students who graduate from middle school and who are younger than 20. Due to the nature of training, it should be male with perfect health situation. It has totally 17 THSs and then the training period is two and half year. After this period, the students will get the certificate. Nowadays, THSs were opened to provide technical and vocational courses for young people.

The courses offered in THSs are as follows;

- 1) Radio Mechanics
- 2) Electric Wiring
- 3) Welding
- 4) Automobile
- 5) Building Construction
- 6) Plumbing
- 7) Fitter
- 8) Machine Shop
- 9) Electrical Communication

(c) *Handicraft Schools (HSs)*

Handicraft Schools also target young people who cannot attend higher education, to give them a kind of vocational training, and to maintain and improve traditional handicraft under modern economic system. The students, who can join HS, include those who have only primary school education or who can just read and write. Another requirement is that the students must be at the age between 16 and 30. The training period is only three months. Certificate will be issued to the students who can finish the course successfully.

There are currently 11 handicraft schools and 17 courses are offered in these HSs.

- 1) Cane and Bamboo Work
- 2) Leather Binding
- 3) Hair Dressing
- 4) Bicycle Repairing
- 5) Home Electric Repairing
- 6) Book Binding
- 7) Toy Making
- 8) Tiny Wood and Sheet Metal Works
- 9) Metal Spinning
- 10) Tailoring Training
- 11) Type-writer Repairing
- 12) Metal Sheet and Black Smith
- 13) General Machine Repairing
- 14) Women and Children's Wear
- 15) Hand-knitting and Women's Wear
- 16) Wood Working / Carpentry
- 17) Men's Shirt and Jacket

(d) *Machinery Repair and Maintenance Schools (MRMSs)*

The name of these schools was changed from General Machinery Repair Schools in 1988.

The qualifications to attend these schools are similar to the handicraft schools. But the training period is six months and they can get the certificate for this course. There are 2

machinery repair and maintenance schools in DTVE. These schools have 6 kinds of courses, namely,

- 1) Sewing Machine/ Key Repairing
- 2) Bicycle Repairing
- 3) Clock Repairing
- 4) Office Machinery Repairing
- 5) Machinery Repairing
- 6) Electronic Repairing

*(e) Engineering Technology Evening Classes (ETEC)*

ETEC were established to support industrial enterprises and to raise the quality of these firms. The person who wants to join ETEC must take entrance exam and have middle school background. There is no limitation in age. The person must be a government employee from related industrial sector. He also needs to get recommendation from the head of his department. This qualification is required to improve the quality of technical workers in industrial sites. Most of industrial workers try to attend this course.

The training period and exam system are the same to those of GTIs, but the students can get the certificate. There are 2 engineering technology evening classes and they have only 3 courses; 1) Civil Engineering

2) Electrical Power

3) Mechanical Power

f) *Evening Trade Courses (ETC)*

The qualifications for this course are the same as HS's except that ETC courses are only for male workers. The length of the course is three months and students can get certificates. Actually, these courses are provided for those people who cannot join other training courses from DTVE during the daytime. Totally, there are 9 ETCs and the courses from ETCs are as follows:

- 1) Electric Wiring
- 2) Diesel Vehicle Repair
- 3) Automobile Repair
- 4) Lathe
- 5) Fitter
- 6) Plumbing
- 7) Carpenter
- 8) Mason
- 9) Painting (for building)
- 10) Blacksmith

(g) *Teachers Training Institute (TTI)*

This institute was established in 1985 to improve the quality of teachers from DTVE. From the beginning to 1991, totally 438 teachers attended this institute. In 1991, (4) special programs which lecturers from Israel were held. These programs save both time and government expenditure compared with studying abroad. The period for regular training courses is four months.



## **2-5. Investment in DTVE**

Education is the most valuable national investment and it is one of the forces of economic growth. Aims of DTVE are: not only to train and provide technical and vocational education to labor force but also to improve the quality of labor force, to increase skilled labor, to achieve high income and high standard of living by utilizing the expertise learned from vocational education and to apply these techniques in practical work sites.

In national income accounting, there are two parts to calculate national income. One is income from production or working and the other is income from property or wealthy. So, DTVE may help achieve high standard of living and high income by providing vocational techniques to labor force.

Like in other developing countries, investment in education has achieved high productivity growth and high skill level in Myanmar. It is also an important factor of Myanmar's economy. SPDC spent about 37,960.99 million (Kyat) of government expenditure for education between 1988 to 1996-97<sup>2</sup>.

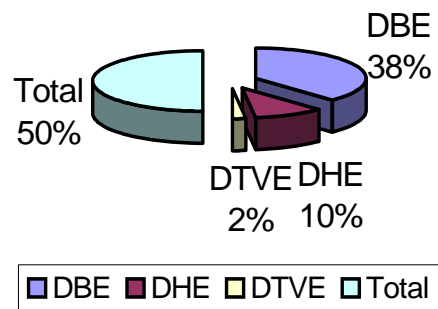
According to Table (2), the percentage of expenditure for basic education is the highest in total education expenditures. Between 1986-87 to 1994-95 period, the ratio of basic education expenditure ranged from minimum 73 % to maximum 89 %, percentage of higher education expenditure ranged from minimum 9 % to maximum 23 % and percentage of DTVE expenditure was from minimum 2 % to maximum nearly 6 %.

---

<sup>2</sup> The Ministry of National Planning and Economic Development, *Review of The Financial, Economic and Social Conditions (1997-98)*

Comparing with the percentage in GDP, among the education expenditure, the basic education expenditure got the highest portion of education expenditure. In figure.1, the distribution of education expenditure by education departments (DBE, DHE and DTVE) is expressed. It can be seen that the government's relative emphasis is the basic education. DTVE expenditure is the lowest among education expenditure. It is evident that government should improve financial assistance for DTVE.

**Figure-1. Education Expenditures**



**Table (2) Education Expenditures, Growth Rate and Percentage in GDP for Department of Basic Education, Department of Higher Education and Department of Technical and Vocational Education**

Year	Education Expenditure(million Kyat)				Growth Rate (%)				% in GDP		
	DBE	DHE	DTVE	Total	DBE	DHE	DTVE	Total	DBE	DHE	DTVE
1986-87	891.36	169.12	63.58	1124.06	8.31	5.80	4.08	7.69	-	-	-
1987-88	1011.22	192.18	63.29	1266.69	12.62	12.78	-0.46	11.95	1.47	0.28	0.09
1988-89	1055.75	169.45	50.31	1275.51	4.31	-12.59	-22.95	0.69	1.38	0.22	0.07
1989-90	2596.59	264.19	73.38	2934.16	89.99	44.41	37.74	83.31	2.08	0.21	0.06
1990-91	3149.76	595.97	101.22	3846.95	19.31	81.35	32.16	27.08	2.07	0.39	0.07
1991-92	3587.86	967.11	183.60	4738.57	13.02	48.41	59.55	20.85	1.92	0.52	0.1
1992-93	3415.73	1062.16	179.41	4657.30	-4.92	9.37	-2.30	-1.73	1.37	0.43	0.07
1993-94	4148.49	1084.70	152.48	5385.67	19.43	2.09	-16.26	14.53	1.15	0.30	0.04
1994-95	4306.23	1182.83	146.84	5635.90	3.73	8.66	-3.76	4.54	0.91	0.25	0.03

Source: Myanmar Education Research Bureau (MERB), *Educational Statistics*.

- DBE : The Department of Basic Education
- DHE : The Department of Higher Education
- DTVE: The Department of Technical And Vocational Education

## **2-6. Changes and Improvements of Schools and Training in DTVE**

There are two kinds of changes in schools and training programs in DTVE. Quantitative changes and qualitative changes of these schools will be discussed separately in this chapter.

### **2-6-1. Quantitative Changes**

For quantitative changes, there have been not only changes in number of schools, teachers, students and institutes but also student-teacher ratio, selective rate, attendance rate and percentage of graduation.

During the period between 1986-87 to 1995-96, number of GTIs increased from 10 (1986-87) to 12 (1995-96), THSs rose from 12 (1988-89) to 17 (1996-96), and HSs increased from 6 (1989-90) to 11 (1992-93). ETCs also rose from 5 (1991-92) to 9

(1992-93) and MRMSs and ETCs had no changes in this period. In table (3), there are total number of students and teachers in each school, except for 1988-89. It shows that total students and teachers increased annually. Table (4) shows student-teacher ratio. Except for ETCs, all schools and training programs had less than 25 student - teacher ratio, which are acceptable for both students and teachers.

During this period (1986-87 to 1995-96), the number of teachers did not increase as much as that of students but the student - teacher ratio was quite good - it was still less than 25. Table (5) shows the annual number of students for GTIs. It is exhibited that the number of students in civil engineering was the greatest among all the classes and mechanical (power) and electrical (power) had second largest number of students.

After 1988, as the nation's economic system changed to market oriented economy from central planned economy, the government started many re-construction projects for roads, bridges and new buildings. In addition, private companies' demand for technical workers also increased. These are the reasons for the changing pattern of students attending in civil, mechanical and electrical power classes. In mining classes, numbers of students decreased from 308 to 234. But in general, total students of GTIs in 1995-96 were 2.2 times of 1986-87's total students.

Table (6) shows annual students' list for THSs. From 1986-87 to 1991-92, auto mechanics classes had highest number of students and building construction had second highest. From 1992-93 to 1995-96, students in building construction classes were higher than the number of auto mechanics' students. The total numbers of students (in 1995-96)

were 1.5 times of that in 1986-87'. Table (7) shows annual students' list for HSs. Except for 1993-94, tailoring training course had highest number of students from 1986-87 to 1995-96 but in 1993-94, this trend changed to women's and children's wear classes. Total students for HSs in 1995-96 rose 7 times of 1986-87's students in HSs.

Table (8) explains MRMSs students' list. Electric repairing classes had greatest number of students among all the classes. But compared with the number of students in 1986-87 and 1995-96, it was lower than before. As showed in table (9), total students in ETEC in 1995-96 was 1.4 times of that in 1986-87. In table (10), the number of ETC's students in electrical wiring was the largest. The number of students in 1995-96 was 2.4 times of that in 1986-87. Table (11) expresses growth rate of students in each school or training program. There were minus growth rates in some schools and years, especially in 1988-89 because after 1988, due to the country's situation, some schools could not accept new students. Even some schools were opened again, students did not return to schools because they already joined in labor force or other business sectors.

**Table (3) Number of Teachers and Students from DTVE**

**(Person)**

Schools	86 – 87		87 - 88		88 – 89		89 – 90		90 – 91		91 – 92		92 – 93		93 - 94		94 – 95		95 - 96	
	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S
GTI	424	5,721	426	6,493	453	6,493	563	6,493	520	5,944	595	6,599	587	4,311	639	6,163	671	7,925	671	12,414
THS	369	4,335	373	4,515	369	2,879	407	4,287	411	4,927	417	5,015	404	3,575	472	4,272	496	4,923	485	6,580
HS	55	278	54	305	55	240	63	181	78	460	97	906	115	1,638	114	2,250	127	1,655	125	1,929
MRMS	19	213	19	195	17	94	17	32	17	177	20	265	19	252	21	225	21	166	20	182
ETEC	56	992	56	1,098	56	598	56	598	56	598	56	887	56	1,033	56	1,264	56	1,257	56	1,374
ETC	37	2,028	37	2,031	37	1,129	37	1,129	37	1,129	37	529	70	3,673	70	2,992	70	4,283	70	4,874
<b>Total</b>	<b>960</b>	<b>13,567</b>	<b>965</b>	<b>14,637</b>	<b>987</b>	<b>11,433</b>	<b>1,143</b>	<b>12,720</b>	<b>1,119</b>	<b>13,235</b>	<b>1,222</b>	<b>14,201</b>	<b>1,251</b>	<b>14,482</b>	<b>1,372</b>	<b>17,166</b>	<b>1,441</b>	<b>20,209</b>	<b>1,427</b>	<b>27,353</b>

Source: Head Office of DTVE

Note: **T** – Teacher, **S** - Students

**Table(4) Student-Teacher Ratios**

School	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96
GTIs	13	15	14	12	11	11	7	10	12	19
THSs	12	12	8	11	12	12	9	9	10	14
HSs <sup>1</sup>	5	6	4	3	6	5	7	10	7	8
MRMSs <sup>1</sup>	6	5	6	2	10	7	7	5	4	5
ETECs	18	20	11	11	11	16	18	23	22	24
ETCs <sup>2</sup>	27	27	31	31	31	14	17	14	20	23

Source: Myanmar Educational Research Bureau, *Educational Statistics*.

1. S - T ratio for HSs and MRMSs is total students divided by 2, because these schools offer 2 times within 1 year.
2. S – T ratio for ETCs is total students divided by 3, because these schools offer 3 times within 1 year.

**Table (5) Total Number of Students in GTIs**

Courses	(Person)									
	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96
Civil	1,796	1,765	1,767	1,767	1,663	1,673	1,067	1,561	1,967	3,178
Electrical (Power)	1,252	1,391	1,389	1,389	1,281	1,367	893	1,183	1,490	2,393
Electrical ( E & C*)	316	460	460	460	426	597	431	644	884	1,458
Mechanical (Power)	1,292	1,590	1,590	1,590	1,452	1,629	1,037	1,352	1,716	2,622
Machine Tools and Design	757	980	980	980	857	1,088	743	1,056	1,313	2,000
Mining	308	307	307	307	265	245	140	185	186	234
Plastic and Rubber**	-	-	-	-	-	-	-	91	191	269
Food and Chemical**	-	-	-	-	-	-	-	91	178	226
<b>Total</b>	<b>5,721</b>	<b>6,493</b>	<b>6,493</b>	<b>6,493</b>	<b>5,944</b>	<b>6,599</b>	<b>4,311</b>	<b>6,163</b>	<b>7,625</b>	<b>12,380</b>

Source: Head Office of DTVE

Note: \* (Electrical and Communication)

\*\* These two courses were introduced in 1993-94.

**Table (6) Total Number of Students in THSs****(Person)**

<b>Courses</b>	<b>86/87</b>	<b>87/88</b>	<b>88/89</b>	<b>89/90</b>	<b>90/91</b>	<b>91/92</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>	<b>95/96</b>
Building	863	899	590	910	1,107	1,129	838	1,034	1,208	1,534
Electrical Communic.	483	515	334	506	630	665	505	553	609	852
Radio Mechanics	256	265	167	238	250	243	156	199	245	335
Automobile	1,168	1,172	694	1,028	1,153	1,151	774	947	1,163	1,544
Machine Shop	806	855	573	802	853	839	588	726	817	1,106
Welding	412	476	314	485	550	545	380	384	358	450
Plumbing	98	118	90	118	126	130	92	104	120	167
Fitter	249	215	117	200	258	313	242	325	403	592
<b>Total</b>	<b>4,335</b>	<b>4,515</b>	<b>2,879</b>	<b>4,287</b>	<b>4,927</b>	<b>5,015</b>	<b>3,575</b>	<b>4,272</b>	<b>4,923</b>	<b>6,580</b>

Source: Head Office of DTVE

**Table (7) Total Number of Students in HSs****(Person)**

<b>Courses</b>	<b>86/87</b>	<b>87/88</b>	<b>88/89</b>	<b>89/90</b>	<b>90/91</b>	<b>91/92</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>	<b>95/96</b>
Cane and Bamboo Work	2	5	3	3	8	6	8	8	3	3
Leather Binding	12	4	9	7	4	10	7	2	-	-
Book Binding	5	8	17	7	6	-	-	-	-	-
Toy Making	25	23	31	5	33	122	100	174	76	139
Tiny Wood and Sheet Metal	-	-	4	-	1	20	30	81	31	49
Metal Spinning	9	8	-	-	1	-	-	-	-	-
Hair Dressing	25	45	56	38	78	105	136	146	85	87
Tailoring Training	162	184	100	112	208	340	436	743	424	516
Bicycle Repairing	15	12	5	4	14	8	3	22	5	-
Home Electric Repairing	23	14	4	2	42	81	133	177	197	342
Type-writer Repairing	-	1	11	2	3	35	-	-	-	-
Metal Sheet and Blacksmith	-	1	-	1	-	-	-	-	-	-
Office Machinery Repair	-	-	-	-	-	-	32	84	49	35
General Machine Repair	-	-	-	-	21	59	165	198	143	284
Women and Children's Wear	-	-	-	-	20	68	361	768	221	247
Hand-knitting and Women's Wear	-	-	-	-	21	52	227	247	197	132
Men's Shirt and Jacket	-	-	-	-	-	-	-	-	-	95
<b>Total</b>	<b>278</b>	<b>305</b>	<b>240</b>	<b>181</b>	<b>460</b>	<b>906</b>	<b>1,638</b>	<b>2,650</b>	<b>1,431</b>	<b>1,929</b>

Source: Head Office of DTVE



**Table (8) Total Number of Students in MRMSs****(Person)**

<b>Courses</b>	<b>86/87</b>	<b>87/88</b>	<b>88/89</b>	<b>89/90</b>	<b>90/91</b>	<b>91/92</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>	<b>95/96</b>
Electric Repairing	87	82	38	15	80	134	155	140	94	117
Sewing Machine/Key Repairing	11	14	6	1	18	30	18	13	13	9
Clock Repairing	39	22	14	2	24	27	26	15	9	14
Office Machinery Repairing	28	17	12	4	14	23	7	9	11	5
Machinery Repairing	37	53	21	9	36	44	39	48	38	33
Bicycle Repairing	11	7	3	1	5	7	7	-	1	4
<b>Total</b>	<b>213</b>	<b>195</b>	<b>94</b>	<b>32</b>	<b>177</b>	<b>265</b>	<b>252</b>	<b>225</b>	<b>166</b>	<b>182</b>

Source: Head Office of DTVE

**Table (9) Total Number of Students in ETECs****(Person)**

<b>Courses</b>	<b>86/87</b>	<b>87/88</b>	<b>88/89*</b>	<b>89/90</b>	<b>90/91</b>	<b>91/92</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>	<b>95/96</b>
Civil	142	189	-	73	153	199	172	208	244	315
Electrical	559	606	-	408	120	412	688	803	734	788
Mechanical Power	291	303	-	117	325	276	173	3,253	279	271
<b>Total</b>	<b>992</b>	<b>1,098</b>	<b>-</b>	<b>598</b>	<b>598</b>	<b>887</b>	<b>1,033</b>	<b>1,264</b>	<b>1,257</b>	<b>1,374</b>

Source: Head Office of DTVE

Note: \* ETECs did not offer new students for this academic year.

**Table (10) Total Number of Students in ETCs****(Person)**

<b>Courses</b>	<b>86/87</b>	<b>87/88</b>	<b>88/89</b>	<b>89/90</b>	<b>90/91</b>	<b>91/92</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>	<b>95/96</b>
Mason	34	34	4	4	4	5	227	130	65	86
Blacksmith	26	13	12	12	12	-	6	-	-	-
Carpenter	96	94	60	60	60	12	330	217	249	190
Plumbing	130	145	87	87	87	16	187	170	307	176
Painting(for building)	30	30	14	14	14	3	46	20	34	-
Fitter	187	205	129	129	129	55	351	258	465	313
Electric Wiring	462	448	247	247	247	137	855	786	1,166	1,710
Machine Shop	267	263	148	148	148	81	540	442	596	700
Automobile Repairing	443	449	230	230	230	118	745	634	802	968
Diesel Vehicle Repairing	353	350	198	198	198	102	386	335	599	731
<b>Total</b>	<b>2,028</b>	<b>2,031</b>	<b>1,129</b>	<b>1,129</b>	<b>1,129</b>	<b>529</b>	<b>3,673</b>	<b>2,992</b>	<b>4,283</b>	<b>4,874</b>

Source: Head Office of DTVE

**Table (11) Growth Rate of Students in DTVE**

	(%)									
<b>Courses</b>	<b>86/87</b>	<b>87/88</b>	<b>88/89</b>	<b>89/90</b>	<b>90/91</b>	<b>91/92</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>	<b>95/96</b>
GTIs	17.2	12.6	0.0	0.0	-8.8	10.5	-42.6	35.7	25.1	56.2
THSs	1.1	4.1	-44.5	39.8	13.9	1.8	-33.8	17.8	14.2	33.6
HSs	-	9.7	-21.3	-24.6	154.1	97.0	80.8	61.8	-46.0	34.8
MRMSs	21.4	-8.8	-72.9	-107.7	171.1	40.4	-5.0	-11.3	-30.4	9.6
ETECs	-5.9	10.2	-60.8	0.0	0.0	39.4	15.2	20.2	-0.5	9.3
ETCs	10.1	0.1	-58.7	0.0	0.0	-75.8	193.7	-20.5	35.9	13.8
<b>Total</b>	<b>8.9</b>	<b>7.5</b>	<b>-24.7</b>	<b>11.4</b>	<b>1.9</b>	<b>3.9</b>	<b>-3.5</b>	<b>14.9</b>	<b>21.0</b>	<b>35.3</b>

Source: Head Office of DTVE

**Table (12) Selective Rate of Each School\***

	(%)					
<b>Year</b>	<b>GTIs</b>	<b>THSs</b>	<b>HSs</b>	<b>MRMSs</b>	<b>ETECs</b>	<b>ETCs</b>
1986-87	9	65	73	64	26	46
1987-88	19	65	92	62	27	47
1988-89	-	-	81	48	-	44
1989-90	-	65	72	48	-	-
1990-91	-	75	80	40	-	-
1991-92	19	81	100	45	22	45
1992-93	-	-	92	83	23	66
1993-94	15	86	97	68	30	70
1994-95	15	94	91	64	33	54
1995-96	12	100	95	94	32	91

Source: Head Office of DTVE

\* Selected rate means that all schools couldn't accept all applicants, only accept the students who pass the entrance exam.

**Table (13) Percentage of Attendance from the Students Selected \***  
(%)

Year	GTIs	THSs	HSs	MRMSs	ETECs	ETCs
1986-87	99	74	80	54	107	73
1987-88	98	68	89	58	100	73
1988-89	-	-	83	64	-	81
1989-90	-	65	72	22	-	-
1990-91	-	66	78	55	-	-
1991-92	100	73	93	60	71	36
1992-93	-	-	86	44	104	67
1993-94	92	63	86	37	111	77
1994-95	94	69	82	49	95	77
1995-96	97	76	82	45	111	87

Source: Head Office of DTVE

\* Percentage of attendance means that some students selected do not attend after selection due to several reasons.

**Table (14) Rate of Graduates from GTIs**

Courses	86/87	87/88	88/89#	89/90#	90/91	91/92	92/93	93/94	94/95#	95/96
Civil	90	99	-	-	99	96	92	99	-	98
Electrical (Power)	95	98	-	-	99	98	94	99	-	99
Electrical (E & C)*	90	98	-	-	100	100	97	100	-	99
Mechanical (Power)	90	99	-	-	99	98	96	99	-	99
Machine Tools and Design	94	95	-	-	99	96	95	99	-	99
Mining	94	99	-	-	97	95	99	99	-	100
Plastic and Rubber	-	-	-	-	-	-	-	-	-	100
Food and Chemical	-	-	-	-	-	-	-	-	-	100
<b>Total</b>	<b>92</b>	<b>99</b>	<b>-</b>	<b>-</b>	<b>99</b>	<b>97</b>	<b>95</b>	<b>99</b>		<b>99</b>

Source: Head Office of DTVE

Note: \* (Electrical and Communication)

# There are no final year students for these years.

**Table (15) Rate of Graduates from THSs**

(%)

<b>Courses</b>	<b>86/87</b>	<b>87/88</b>	<b>88/89*</b>	<b>89/90</b>	<b>90/91</b>	<b>91/92*</b>	<b>92/93</b>	<b>93/94*</b>	<b>94/95</b>	<b>95/96</b>
Building	76	83	-	96	90	-	93	-	84	73
Radio Mechanics	83	89	-	98	96	-	95	-	97	92
Automobile	74	82	-	98	95	-	92	-	89	84
Machine Shop	87	85	-	97	95	-	94	-	84	81
Welding	63	72	-	96	92	-	92	-	86	59
Plumbing	58	89	-	93	96	-	94	-	81	48
Fitter	85	84	-	99	94	-	87	-	82	79
Electrical Communication	83	87	-	99	92	-	94	-	91	88
<b>Total</b>	<b>79</b>	<b>83</b>	<b>-</b>	<b>97</b>	<b>93</b>	<b>-</b>	<b>93</b>	<b>-</b>	<b>86</b>	<b>79</b>

Source: Head Office of DTVE

Note: \* There are no final year students in these years.

**Table (16) Rate of Graduates from HSs**

(%)

<b>Courses</b>	<b>86/87</b>	<b>87/88</b>	<b>88/89*</b>	<b>89/90</b>	<b>90/91</b>	<b>91/92</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>	<b>95/96</b>
Cane and Bamboo Work	50	0	-	0	88	67	50	75	75	100
Leather Binding	42	50	-	58	75	80	71	50	-	-
Book Binding	20	62	-	43	17	-	-	-	-	-
Toy Making	24	57	-	40	85	76	77	65	73	76
Tiny Wood and Sheet Metal	-	-	-	-	-	80	90	41	69	65
Metal Spinning	33	75	-	-	100	-	-	-	-	-
Hair Dressing	72	73	-	68	76	70	78	62	93	75
Tailoring Training	92	88	-	81	89	63	72	74	94	71
Bicycle Repairing	67	100	-	75	100	37	-	86	100	-
Home Electric Repairing	65	71	-	50	52	84	79	77	84	81
Type-writer Repairing	-	100	-	0	67	74	-	-	-	-
Metal Sheet and Blacksmith	-	100	-	0	-	-	-	-	-	-
Office Machinery Repair	-	-	-	-	-	-	75	43	72	48
General Machine Repair	-	-	-	-	81	98	82	70	89	86
Women and Children's Wear	-	-	-	-	75	91	82	33	85	89
Hand-knitting and Women's Wear	-	-	-	-	71	90	82	70	83	77
Men's Shirt and Jacket	-	-	-	-	-	-	-	-	-	95
<b>Total</b>	<b>75</b>	<b>80</b>	<b>-</b>	<b>67</b>	<b>80</b>	<b>74</b>	<b>78</b>	<b>69</b>	<b>86</b>	<b>79</b>

Source: Head Office of DTVE

Note: \* There are no final year students in this year.

**Table (17) Rate of Graduates from MRMSs**

Courses	(%)									
	86/87	87/88	88/89*	89/90	90/91	91/92	92/93	93/94	94/95	95/96
Electric Repairing	100	94	-	100	100	80	65	82	82	76
Sewing Machine/Key Repairing	91	100	-	100	100	77	78	77	69	55
Clock Repairing	100	77	-	100	100	70	73	80	67	57
Office Machinery Repairing	93	65	-	100	100	48	86	67	36	40
Machinery Repairing	97	96	-	100	100	82	38	87	63	82
Bicycle Repairing	100	86	-	100	100	100	100	-	100	100
<b>Total</b>	<b>98</b>	<b>89</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>77</b>	<b>64</b>	<b>82</b>	<b>73</b>	<b>73</b>

Source: Head Office of DTVE

Note: \* There are no final year students in this year.

**Table (18) Rate of Graduates from ETECs**

Courses	(%)									
	86/87	87/88	88/89*	89/90*	90/91*	91/92	92/93	93/94	94/95*	95/96
Civil	72	85	-	-	-	89	84	71	-	88
Electrical	92	95	-	-	-	88	96	100	-	76
Mechanical Power	60	78	-	-	-	94	98	94	-	92
<b>Total</b>	<b>59</b>	<b>84</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>91</b>	<b>92</b>	<b>87</b>	<b>-</b>	<b>86</b>

Source: Head Office of DTVE

Note: \* There are no final year students in these years.

**Table (19) Rate of Graduates from ETCs**

Courses	(%)									
	86/87	87/88	88/89*	89/90*	90/91*	91/92	92/93	93/94	94/95	95/96
Mason	79	82	-	-	-	100	62	67	100	89
Blacksmith	65	77	-	-	-	-	83	-	-	-
Carpenter	73	72	-	-	-	92	69	80	95	86
Plumbing	76	88	-	-	-	81	86	99	96	81
Painting (for building)	70	93	-	-	-	100	50	100	100	-
Fitter	76	88	-	-	-	89	87	93	96	81
Electric Wiring	87	92	-	-	-	94	89	92	96	90
Machine Shop	81	81	-	-	-	85	83	90	93	78
Automobile Repairing	89	86	-	-	-	90	87	88	94	79
Diesel Vehicle Repairing	89	92	-	-	-	96	95	97	96	88
<b>Total</b>	<b>84</b>	<b>87</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>91</b>	<b>84</b>	<b>90</b>	<b>95</b>	<b>85</b>

Source: Head Office of DTVE

Note: \* There are no final year students in these years.

Now, selective rate of applicants from each school, the percentage of attendance and the percentage of graduates in the final year will be examined. The selective rate of GTIs, THSs, HSs, MRMSs, ETECs and ETCs were described in table (12). It shows that except for GTIs, all schools and training programs' selective rates increased year by year. The selective rate of GTIs was relatively low and it declined. It means that demand exceeded supply of GTIs and they emphasized quality rather than quantity. So the government should provide more facilities and financial assistance to GTIs. The prospect of technicians and skilled workers was good due to the high selective rate of technical training. In 1995-96, the selective rates for THSs, MRMSs and ETCs were 100 % and nearly 100 %.

Table (13) exhibits the percentage of attendance from the students selected. Rates of attendance of GTIs and ETECs were relatively higher than others. Almost all the students who were selected actually attended these schools. The high demand for GTIs and ETECs could be explained by the changes in economic sectors and business situation. This table also shows that the percentage of attendance in MRMSs declined. This is because people who are poor and do not have enough education prefer low skill jobs and construction sites than attending MRMSs.

Table (14) to (19) show the percentages of graduates from all schools and training programs. Among them, the GTIs had the highest rate of graduates - it was between 90% and 100 %. While the percentages of graduates in THSs were high, welding and plumbing had low rates. Since there were only a small number of students attending these schools, even one student dropped out, the percentage of graduates declined

significantly. Table (16) describes the percentages of graduates from HSs and table (17) shows the percentages of graduates from MRMSs. The rates reached 100 % in 1989-90 and 1990-91, but the rate of graduates for office machinery repairing was only 36 % in 1994-95.

The percentages of graduates from ETECs were shown in table (18) and it ranged between 71 % to 100 %. Electrical (power) got the highest rate from 1986-87 to 1987-88 and from 1991-92 to 1992-93 mechanical (power) had the highest rate of graduates. For ETCs, the highest rate of graduates was achieved in 1994-95. Finally, when total percentages of graduates in all tables were reviewed, the lowest rates of graduates for each are as follows: GTIs (92), for THSs (79), HSs (67), MRMSs (64), ETECs (59) and ETCs (84). It shows that the average rate of graduates for GTIs and ETCs is higher than others.

### **2-6-2. Qualitative Changes of Schools and Training**

The government strove to stimulate qualitative changes in DTVE by upgrading and expanding of GTIs and THSs, sending teachers to both domestic and foreign training programs, opening vocational training programs and schools in the border areas, and implementing plans for promotion of students' ability. In addition, there were many scholarship and training programs for teachers. These programs aimed to allow the teachers to get more experiences and expertise in their academic fields, to study and to catch-up advanced technical knowledge and dramatic changes in science and technology, to attend seminars and workshops, and to pursue further study for master and Ph.D. degrees.

These programs were more related to training and study rather than seminars. They were very helpful to improve teachers' qualities. Refreshing courses for teachers were open every 3 months in the teacher-training institutes. Outstanding and qualified students who graduated from THS could join GTIs and students who graduated from GTIs with high grades were allowed to join 3<sup>rd</sup> year in the Yangon Institute of Technology. It was known as combination program.

Under this combination program, 10 % or 15 % of students who passed with the highest total marks (from 1<sup>st</sup> year to 3<sup>rd</sup> year) were selected to take the exam for the entrance of the Yangon Institute of Technology up to the period of 1994-95. But start from 1995 academic year, entrance exam was hold only for those students who had an average mark of 70 in all subjects.

This combination system that students could join from GTIs to the Institute of Technology started from 1967-68, but it was closed between 1984 and 1994. Then it was reopened in 1994 academic year. The system provided high incentives to promote students' efforts and capability. Table (20) shows the list of students who continued to attend the Yangon Institute of Technology. According to this table, the majority of students were graduated from mechanical engineering courses. But only a few numbers of electrical power students could join the Yangon Institute of Technology. Because their final exam marks were lower than the 70 - average, which was not qualified for the entrance exam.



Although demand for the GTIs is sufficiently high and returns for graduates are also subsistence level, there are still problems need to solve. All GTIs and THSs have the monopoly power – there is not market competition, they are short of field experience of trainers for practical work and lack of advanced laboratory facilities. They don't have enough financial assistance from the government, either. In addition, the government heavily intervenes in these schools and has centralized decision- making power.

Eventually, among all schools and training programs in DTVE, about 50 % of total students attend GTIs. Graduates from GTIs are guaranteed to job opportunities due to the country's economic situation and changes in industrial sector. To support this fact, outcomes and job acceptance for GTIs graduates would be analyzed as a case study by survey method in the next chapter.

**Table (20) Total Number of Students Who Can Join The Institute of Technology  
(Person)**

<b>Academic Year</b>	<b>Civil</b>	<b>Mechanical</b>	<b>Electrical (Power)</b>	<b>Electrical (Communication)</b>	<b>Mining</b>	<b>Total</b>
1967-68	13	17	5	5	3	43
1968-69	2	12	7	2	2	25
1969-70	2	9	1	-	-	12
1970-71	5	5	-	-	-	10
1971-72	6	4	3	1	4	18
1972-73	9	11	2	1	5	28
1973-74	11	12	4	-	4	31
1974-75	15	13	6	1	5	40
1975-76	14	20	6	-	5	45
1976-77	15	12	7	-	5	39
1977-78	15	20	6	-	1	42
1978-79	19	30	10	-	4	63
1979-80	20	30	10	2	5	67
1980-81	20	30	10	4	5	69
1981-82	20	31	10	5	5	71
1982-83	21	27	10	3	4	65
1983-84	20	29	8	2	3	62
1994*	17	15	4	7	-	43
1995*	24	21	7	13	1	66
<b>Total</b>	<b>268</b>	<b>348</b>	<b>116</b>	<b>46</b>	<b>61</b>	<b>839</b>

Source: Institute of Technology (Yangon)

Note: \* In 1994,1995, academic year was shorter than before because all schools need to replace long holiday period caused by country situations.

## Chapter 3

### CASE STUDY FOR GRADUATES FROM GTIs

This case was studied about the job opportunities and income situations for 250 of graduates from GTIs (AGTI – Associationships of Government Technical Institute) and the survey period was during November 1997 to February 1998. By using the survey method, questionnaires were distributed to 250 AGTIs who graduated from 1987 to 1998. Totally 136 questionnaires were collected back from these people.

From these questionnaires, the general situation for AGTIs, such as gender, majors, age groups, schools, and educational level after graduation from the GTIs, were collected. In addition, situation of workplace, opinions about their incomes and long-term expectation are also studied in this chapter.

#### 3-1. General Features of AGTIs

Among 136 AGTIs who answered the survey questions, 78 were males and 58 were females. Over 57 % were males as it is showed in Table (21).

**Table(21) Number of AGTIs by Gender**

<b>Gender</b>	<b>Total Number By survey (Person)</b>	<b>%</b>
Male	78	57.4
Female	58	42.6
<b>Total</b>	<b>136</b>	<b>100</b>

Source: Survey data

Classified by majors they studied in GTIs, people graduated from electrical (power) and electrical (electronic & communication) majors are majority group and graduates from

civil major are second largest group in this survey. Mining major is minority group, as it is shown in Table (22). According to this table, the two largest groups - electrical (power) and electrical (electronic & communication) each had 25 %, mining group only had less than 1 %.

**Table (22) Number of AGTIs by Majors**

<b>Courses</b>	<b>Total Number(Person)</b>	<b>%</b>
Civil	22	16.2
Electrical (Power)	35	25.7
Electrical ( Electric & Communication)	35	25.7
Mechanical (Power)	13	9.6
Machine Tools and Design	11	8.1
Plastic and Rubber	17	12.5
Food and Chemical	2	1.5
Mining	1	0.7
<b>Total</b>	<b>136</b>	<b>100</b>

Source: Survey data

Looking at the data by age groups, the largest group was between 20 and 25 years old (over 55 %) and the second largest group was between 26 and 30 years old (over 21 %). The group of above 40 years old had the smallest number (nearly 1%) as it is shown in table (23).

**Table (23) Number of AGTIs by Age Group**

<b>Age Group</b>	<b>(Person, %)</b>					
	<b>Male</b>	<b>%</b>	<b>Female</b>	<b>%</b>	<b>Total Number</b>	<b>%</b>
20-25	30	38.5	45	77.6	75	55.1
26-30	20	25.6	9	15.6	29	21.3
31-35	19	24.4	2	3.4	21	15.5
36-40	8	10.2	2	3.4	10	7.4
above 40	1	1.3	-	-	1	0.7
<b>Total</b>	<b>78</b>	<b>100</b>	<b>58</b>	<b>100</b>	<b>36</b>	<b>100</b>

Source: Survey data

After graduation from GTIs, some people continued their further education, such as university, actually 54 out of 136 (about 40 %). Among them 65 % continued science majors and about 26 % attend art majors and only a few (nearly 2%) continued for master degree. This fact is shown in table (24).

According to table (25), over 70 % joined the computer training course, over 10 % each joined stenography (shorthand) / type writing and office works courses, the others were 7 %. Further study found that they continued not only university education but also other training. Around 60 % of total graduates from this survey tried to attend other study after their graduation. It means that they have the opportunity for both jobs and further study. They can accept advanced and new technology for their quality improvement.

**Table (24) Further Study by Major**

(Person, %)

Major	Male	Female	Total	%
Science	17	18	35	64.8
Art	12	2	14	25.9
Institute of Technology	2	2	4	7.4
Master Degree	-	1	1	1.9
<b>Total</b>	<b>31</b>	<b>23</b>	<b>54</b>	<b>100</b>

Source: Survey data

**Table (25) Number of AGTIs Attending Other Training**

(Person, %)

Training Course	Male	Female	Total	%
Computer	29	28	57	70.4
Stenography/Type Writing	7	2	9	11.1
Office Works	6	3	9	11.1
Others	1	5	6	7.4
<b>Total</b>	<b>43</b>	<b>38</b>	<b>81</b>	<b>100</b>

Source: Survey data

We can see from these data about the general and educational situation of the majority of AGTI, especially those from electrical (power) and (electronic & communication) courses, continued to study. By age groups, most interviewees are between 20 & 25 years and graduated 1 or 2 years ago.

### 3-2. Jobs and Incomes

The study about work situations were divided by sectors, such as government, companies, self - owned business, joint ventures and other businesses. Other businesses refer to sailors and oversea workers. Table (26) shows that over 41% were government employees and nearly 30 % worked in companies. The table also shows that almost all-female workers worked in government sectors and majority of male workers worked in private companies and self – owned businesses.

**Table (26) Number of AGTIs by Current Jobs**  
(Person, %)

<b>Current Job</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>%</b>
Government	26	31	57	41.9
Company	34	19	53	39
Self – owned Business	14	7	21	15.4
Joint Venture	2	1	3	2.2
Others	2	-	2	1.5
<b>Total</b>	<b>78</b>	<b>58</b>	<b>136</b>	<b>100</b>

Source: Survey data

**Table (27) Number of AGTIs by Marital Status****(Person, %)**

<b>Jobs</b>	<b>Married</b>	<b>%</b>	<b>Single</b>	<b>%</b>	<b>Total</b>
Government	9	60	48	39.7	57
Company	4	26.6	49	40.5	53
Self – owned Business	1	6.7	20	16.5	21
Joint Venture	-	-	3	2.5	3
Others	1	6.7	1	0.8	2
<b>Total</b>	<b>15</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>136</b>

Source: Survey data

Table (27) shows the marital status among the interviewed workers. Time period between graduation and finding a job is explained in table (28). Time period to get a job is the period from graduation year to finding a job with total work services. It could be seen that 53 % got their jobs in 1 and 2 years after their graduation from GTI.

The second largest group (over 30 %) is those joined workplace within 1 year (below 1 year) after graduation. Nobody waited to get a job until 4 - 5 years or over 5 years after graduation. It means that AGTIs can join workplaces within a few years after their graduation. They are in a quite favorable situation in term of job opportunities.

**Table (28) Time Period to Get Job after Graduate****(Person, %)**

<b>Time Period for Job</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>%</b>
Below 1 year	24	17	41	30.1
1-2 year	35	37	72	53
2-3 year	8	4	12	8.8
3-4 year	11	-	11	8.1
4-5 year	-	-	-	-
Above 5 year	-	-	-	-
<b>Total</b>	<b>78</b>	<b>58</b>	<b>136</b>	<b>100</b>

Source: Survey data

When the income levels of these AGTIs were studied, the largest group (near 40%) was the income levels that between 1,000 and 5,000 Kyats. The second largest group (near 30%) was those with their income between 5,000 and 10,000 Kyats. The data also showed that AGTIs got income not only in domestic currency (Kyat) but also in US \$, such as foreign companies' employees and sailors.

**Table (29) Permanent Income by Gender**  
(Person, %)

<b>Income(Monthly)</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>%</b>
Below 1,000 Kyat	1	6	7	5.1
1,000-5,000	26	27	53	39
5,001-10,000	23	16	39	28.7
10,001-15,000	13	6	19	14.1
15,001-20,000	6	1	7	5.1
Above 20,000	1	-	1	0.7
US\$ 400-1,000	9	-	9	6.6
US\$ 1,000-2,000	1	-	1	0.7
<b>Total</b>	<b>78</b>	<b>58</b>	<b>136</b>	<b>100</b>

Source: Survey data

Table (29) showed income levels by gender. There are only less than 1 % people received income above 20,000 Kyats. For female workers, very few got salaries up to 15,000 Kyats and no one had income above 20,000 Kyats. This is because that almost all-female worker worked as government employees while male workers worked in construction companies and private companies. This also showed that more male workers participate in private sectors than female workers. Thus male workers' income levels are higher than female workers' are.

Now the relationship between the type of job and income level will be studied. Table (30) expressed average income level of each job. It showed that average income of other



businesses (sailors and oversea workers) was in the highest range, average income for companies' workers was the second highest and government employees' average income was the lowest among all jobs.

**Table (30) Relationship between Income and Jobs**

<b>Jobs</b>	<b>Person</b>	<b>Income(Kyat)</b>
Government	57	Average- 1,265
Company	53	Average- 35,500
Self – owned Business	21	Average-10,800
Joint Venture	3	Average-10,666
Others	2	Average-63,000

Source: Survey data

Note: Average income: Income of all employees by sector divided by number of employees

Table (31) exposed the relationship between majors and income levels. Among AGTIs, average income of workers graduated with mechanical (power) major was the highest and the second highest average income level group was electrical (power) major.

**Table (31) Relationship between Income and Majors**

<b>Courses</b>	<b>Person</b>	<b>Income(Kyat)</b>
Civil	22	Average-10,800
Electrical (Power)	35	Average-30,822
Electrical ( Electric & Communication)	35	Average-8,035
Mechanical (Power)	13	Average-55,590
Machine Tools and Design	11	Average-8,115
Mining	17	Average-5,538
Plastic and Rubber	2	Average-12,500
Food and Chemical	1	Average-3,000

Source: Survey data

Note: Average income: Income of all employees by major divided by number of employees

As table (31) shows, workers graduated with mining major, have the lowest income level. Detailed information about the income of each major is shown in table (32). The relationship between service period and income level is studied in table (33). Workers

who have work experience (service) between 3 and 4 years got the highest average income, and workers with service period between 5 and 6 years received the second highest average income. Workers with the lowest income were those with service period of 9 and 10 years.

**Table (32) Income Level by Major**

Major Income Level (Kyat)	(Person)								
	Civil	Electrical (Power)	Electrical (E&C)	Mechanical (Power)	Machine Tools & Design	Food and Chemical	Plastic and Rubber	Mining	Total
Below 1,000	-	1	3	1	-	2	-	-	7
1,000-5,000	2	19	20	1	4	6	-	1	53
5,001-10,000	12	4	7	3	5	7	1	-	39
10,001-15,000	6	4	3	2	1	2	1	-	19
15,001-20,000	2	2	1	1	1	-	-	-	7
Above 20,000	-	1	-	-	-	-	-	-	1
US\$ 400-1,000	-	3	1	5	-	-	-	-	9
US\$ 1,000- 2,000	-	1	-	-	-	-	-	-	1
<b>Total</b>	<b>22</b>	<b>35</b>	<b>35</b>	<b>13</b>	<b>11</b>	<b>17</b>	<b>2</b>	<b>1</b>	<b>136</b>

Source: Survey data

**Table (33) Relationship between Service Period and Income**

Service Period	Person	Income(Kyat)	%
Below 1 year	2	Average-5,625	1.5
1-2 year	101	Average – 14,339	74.3
3-4 year	14	Average – 49,028	10.3
5-6 year	7	Average – 46,392	5.2
7-8 year	5	Average – 7,740	3.7
9-10 year	3	Average – 1,350	2.2
Above 10 year	4	Average – 8,262	2.8

Source: Survey data

Note: Average income: Income of all employees by age group divided by number of employees.

**Table (34) Relationship between Age Group and Income**

<b>Age Group</b>	<b>Person</b>	<b>Income (Kyat)</b>
20- 25 year	75	Average-6,796
26-30 year	29	Average – 18,896
31-35 year	21	Average – 58,500
36-40 year	10	Average – 23,065
Above 40 year	1	Average – 2,000
<b>Total</b>	<b>136</b>	

Source: Survey data

Note: Average income: Income of all employees by age group divided by number of employees.

Table (34) shows relationship between age group and income level. It could be seen that the average income of the age group between 31 and 35 has the highest average income and 36 and 40 year age group has the second highest average income.

**Table (35) Income Distribution of Part-time Job by Gender**

(Person, %)

<b>Part-time Jobs Income</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>%</b>
1,000-5,000(Kyat)	8	4	12	60
5,001-10,000	3	-	3	15
10,001-20,000	2	1	3	15
Above 20,000	2	-	2	10
<b>Total</b>	<b>15</b>	<b>5</b>	<b>20</b>	<b>100</b>

Source: Survey data

According to this survey, it could be known that some AGTIs (who answered the questionnaire) had not only permanent jobs but also side-jobs or part-time jobs. Table (35) shows the income situation of their additional jobs. Majority group (60 %) has 1000-5000 Kyats income for their part-time jobs and only a minority (10 %) got above 20,000 Kyats. Numbers of male workers with part-time jobs are more than female workers' are.

The part-time jobs for male workers are repairing for electronic machine and products, refrigerator, air-condition, part-time job in private company, and drawing designs for buildings. Female workers work for private tutoring, repairing for electronic parts and part-time jobs in private company. But only a few numbers of AGTIs had side jobs among all workers (nearly 15 %) as it is expressed in table (36).

**Table (36) Job Situation**

<b>Job Situation</b>	<b>Male(Person)</b>	<b>Female(Person)</b>	<b>Total</b>	<b>%</b>
Worker with Part-time Job	15	5	20	14.7
Worker without Part-time Job	63	53	116	85.3
<b>Total</b>	<b>78</b>	<b>58</b>	<b>136</b>	<b>100</b>

Source: Survey data

**Table (37) Relationship between Major and Income of Additional Job**

<b>Major</b>	<b>Person</b>	<b>Income of Additional Job(Kyat)</b>
Civil	1	Average –10,000
Electrical (Power)	10	Average – 11,900
Electrical ( Electric & Communication)	8	Average – 6,156
Mechanical (Power)	-	-
Machine Tools and Design	-	-
Food and Chemical	1	Average – 3,000
Plastic and Rubber	-	-
Mining	-	-

Source: Survey data

Note: Average Income: Income of all employees by majors divided by number of employees

**Table (38) Relationship between Service Period and Total Income**

<b>Service Period</b>	<b>Person</b>	<b>Total Income*</b>
Below 1 year	2	Average - 5,626
1-2 year	101	Average -15,250
3-4 year	14	Average - 51,689
5-6 year	7	Average - 51,678
7-8 year	5	Average - 11,740
9-10 year	3	Average - 3,016
Above 10 year	4	Average - 8,262

Source: Survey data

Note: Average Income: Income of all employees by service divided by number of employees

\* Total income means permanent income plus part-time job income.

Looking at the relationship between GTIs' majors and the average income of part-time jobs, electrical (power) major's average income was the highest and only minority group of electrical (power) has part-time jobs, as it is presented in table (37). Table (38) shows the relationship between service period and the total income (permanent income plus part-time job income). Workers with a service period between 3 and 4 years had the highest average income and workers with a service period between 5 and 6 years got the second highest average income. Workers with a service period of 9 and 10 years had the lowest average income.

According to data from table (38), workers with less work experience (below 1 year and between 1 and 2 years) had low average income. Average income level is getting higher with to their service period (between 3 and 4 years and between 5 and 6 years). Nevertheless, income of the workers with a service period between 7 and above 10 years got lower gradually. The reasons for this income level trend of workers with a service period of 3 and nearly 7 years is that they had more chances to join companies, own businesses after their graduation from GTIs and they could get more opportunities from the market - oriented economic system.

On the other hand, workers with a service period of 7 and above 10 years had a low level of average income because they didn't have chances to join private sectors at the time of their graduation. They were also reluctant to change their jobs from government sectors to private companies after the change of the economic system. Table (39) shows the relationship between types of jobs and average service period. Workers of other

businesses had the longest average service period and government employees had the second longest one among AGTIs.

**Table (39) Relationship between Service Period and Types of Jobs**

Jobs	Person	Services(Year)
Government	57	Average -3.6
Company	53	Average – 1.8
Self – owned Business	21	Average – 2.4
Joint Venture	3	Average – 1.3
Others	2	Average - 4

Source: Survey data

Note: Average service period: Service period of all employee by sector divided by number of employees.

Table (40) exhibits relationship between total service period and total income for workers. Total service period is used because some AGTIs had other jobs before their current jobs. All these work experiences were added to get the total service period. Workers with a total service period of above 10 years had the highest average income level and workers with a total service period of between 5 and 6 years got the second highest.

**Table (40) Relationship between Total Service Period and Total Income**

Total Service Period	Person	Total Income* (Kyat)
Below 1 year	-	-
1-2 year	90	Average-8,622
3-4 year	5	Average – 34,550
5-6 year	11	Average – 57,140
7-8 year	8	Average – 20,363
9-10 year	6	Average – 13,050
Above 10 year	16	Average – 57,841

Source: Survey data

Note: Average income: Income of all employees by service divided by number of employees

\* Total income means permanent income plus part-time job income.

### 3-3. Workplace Conditions and Opinions of AGTIs

This part of survey is about the AGTIs workplace situations and their opinions about their workplaces, such as income situations, difficulties in their workplaces, their satisfaction level and future prospects for their works. In term of income situations, over 67 % of AGTIs thought their income were fair to them and over 12 % thought their income were good. It is explained in table (41).

**Table (41) Opinions about Current Income**

Situation	Person	%
Best	-	-
Good	17	12.5
Fair	92	67.6
Bad	27	19.9
<b>Total</b>	<b>136</b>	<b>100</b>

Source Survey data

**Table (42) Opinions about Difficulties of Jobs**

Level of Difficulties	High	Median	Low	No	Total	%
<b>Difficulties of Jobs</b>						
Technical Difficulties	7	50	45	6	108	21.6
Experience	2	34	60	10	106	21.2
Unfairness of duty and Responsibility	15	15	25	24	79	15.8
Relations with other organization	-	15	29	21	65	13
Relations with owner of business	4	9	24	21	58	11.6
Not enough responsibility	8	12	24	16	60	12
Others	2	2	3	17	24	4.8
<b>Total</b>	<b>38</b>	<b>137</b>	<b>210</b>	<b>115</b>	<b>500</b>	<b>100</b>
<b>%</b>	<b>7.6</b>	<b>27.4</b>	<b>42</b>	<b>23</b>	<b>100</b>	

Source: Survey data

Table (42) has 7 categories of difficulties and 4 kinds of difficulty levels. Classified by difficulty levels, the largest group (42 %) had low level of difficulties and the second largest (27 %) had median level of difficulties. Only 8 % had the high level of difficulties. It could be seen that the majority only had low level of difficulties in their workplaces.

**Table (43) Opinions about Continuing Their Jobs**

<b>Opinion about Their Job</b>	<b>Person</b>	<b>%</b>
Willing to continue their jobs	96	70.6
Unwilling to continue	40	29.4
<b>Total</b>	<b>136</b>	<b>100</b>

Source: Survey data

Table (43) shows the workers' opinions on continuing their jobs. According to survey data, over 70 % were willing to continue their jobs. This is because that they got high income, good experiences and convenience in their work places, and opportunities to apply their knowledge that they learned in GTIs. There were also low level of workplace difficulties, improvement of technical know how, self-confidence and security for their lives. Nearly 30 % of the workers had no incentive to continue their jobs. They had no chance to apply their knowledge. Their returns and responsibilities were also imbalance.

**Table (44) Opinions about Their Income**

<b>Level of contribution</b>	<b>High</b>	<b>Median</b>	<b>Low</b>	<b>No</b>	<b>Total</b>	<b>%</b>
<b>Situations</b>						
Living Standards	10	65	28	7	110	23.6
Security	23	46	24	12	105	22.5
Co-operation with colleagues	32	38	23	7	100	21.4
Reputation	12	29	29	5	75	16
Self-improvement	27	27	18	5	77	16.5
<b>Total</b>	<b>104</b>	<b>205</b>	<b>122</b>	<b>36</b>	<b>467</b>	<b>100</b>
<b>%</b>	<b>22.3</b>	<b>43.9</b>	<b>26.1</b>	<b>7.7</b>	<b>100</b>	

Source: Survey data

Table (44) indicates how income levels contribute to their living standards, security, co-operation with colleagues, reputation and self-improvement. Nearly 45% of interviewees replied that their income contribute fairly for their living standards. 26 % of AGTIs thought their income level contribute little and over 7 % had an idea that their income



cannot contribute at all to their standard of living. It could be concluded that the majority group's income contribute fairly to living standard.

**Table (45) Opinions about Physical Situations of Workplaces**

<b>Level</b>	<b>Best</b>	<b>Better</b>	<b>Good</b>	<b>Bad</b>	<b>Total</b>	<b>%</b>
<b>Workplace Situation</b>						
Wide space condition	28	69	8	2	107	22.7
Sufficient Lighting	36	56	9	3	104	22.1
Cleanness	25	56	14	4	99	21
Fairness of Temperature	18	45	11	7	81	17.2
Job Security	27	39	11	3	80	17
<b>Total</b>	<b>134</b>	<b>265</b>	<b>53</b>	<b>19</b>	<b>471</b>	<b>100</b>
<b>%</b>	<b>28.5</b>	<b>56.3</b>	<b>11.2</b>	<b>4</b>	<b>100</b>	

Source: Survey data

Physical situations about workplaces are explained in table (45). It includes wide space conditions for the workplace, sufficient level of lighting, cleanness, fairness of temperature, and job security. According to the data, over 56 % had fairly good condition about their workplace and over 28 % had best physical workplace situation and only 4 % of AGTIs had bad situation. It is exhibited that almost AGTIs have rather good workplace situation.

**Table (46) Future Prospects of Jobs**

<b>Future Prospects</b>	<b>Person</b>	<b>%</b>
To be expert engineer	94	69.1
To establish own business	31	22.8
Other Objectives	5	3.7
No objective	6	4.4
<b>Total</b>	<b>136</b>	<b>100</b>

Source: Survey data

Table (46) shows future prospects about their jobs, such as to become a expert engineer, to establish own business, other objectives that they work temporarily in their current jobs, to solve their financial problems and to learn advanced technologies. Majority of

AGTIs (nearly 70 %) had objectives to be expert engineers and only nearly 4 % had other objectives.

**Table (47) Satisfaction Levels of Workplace Situation**

<b>Levels of Satisfaction</b>	<b>Person</b>	<b>%</b>
Fully Satisfied	33	24.2
Almost Satisfied	28	20.6
Fairly Satisfied	67	49.3
Little Satisfied	6	4.4
Not Satisfied	2	1.5
<b>Total</b>	<b>136</b>	<b>100</b>

Source: Survey data

The satisfaction level of overall work situation is also studied in this survey. Table (47) indicates that about 50 % were fairly satisfied with their workplaces, the second largest group (about 25 %) was fully satisfied and only 1 % was not satisfied at all with their work situation.

In brief, when the situation of workplace, the income level, the level of satisfaction on work atmosphere physically and mentally were examined, majority of AGTIs had little difficulty with their work places and payments. They were willing to continue their jobs and could catch up high standard of living with their income. Most work atmosphere and satisfaction levels were also physically and mentally sufficient for workers.

## **Chapter 4**

### **COMPARISON WITH KOREAN CASE**

Korea's economic development during the past two decades has rested on the ability to make use of abundant human resources. As economic growth accelerated, emerging heavy and chemical industries began to require skilled workers. In order to meet such requirements, the government launched very ambitious skill training programs at technical high schools and public vocational training institutes. The government played a significant role in human resource development in the form of education and vocational training.

#### **4-1. Education System**

The rapid economic growth in Korea owes a great deal to the increase in general level of education. The average level of schooling of the working age population rose significantly (Korea has 6-3-3-4 system; 6 years in elementary level, 3 years in middle, 3 years in high school and 4 years in university level). Proportion of working age population with the middle school education has increased from 9.9 % in 1960 to 23.9 % in 1980 and that of high schools from 7.4 % to 26.7 % over the same period. Education not only contributes to increasing labor productivity and their wage income, but also to the attainment of certificate to higher level occupation with better pays.

In spite of strong social demand for the higher education, the Ministry of Education has long applied to strict enrollment quota system to higher education. But the competition to enter college, particularly first ranking universities, is so keen. 34 % of high school

graduates go to colleges and universities currently, the remainders enter the labor market or stay out of labor force. This majority of non-college goers are ill prepared for employment. They would have benefited more if middle and high school curriculum were equipped with the some occupational preparation. About a decade or so ago, nearly 60 % of college graduates found jobs. The percentage has steadily declined over the years, at only 30 %.

Considering that college does not guarantee entrance into a good job. Technical programs and programs for other disciplines outside of four-year colleges have to be developed and made attractive enough to entice students to enroll in them. The value of the vocational skill must be placed on par with academic achievement.

Academic's responsiveness to the changing needs of the society is very essential if the society is to progress continuously. This change has not only created confusion about the role of the junior colleges versus the full-fledged colleges, but also the role of the vocational high schools versus vocational training center. Ideally technical high schools should train students with broad theoretical knowledge so that they can adapt themselves to situational variations of skill requirements.

**Table (48) Indicators of Human Resource Development in Korean Student Enrollment (1970 to 1994)**

	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1994</b>
Enrollment as a percentage of the corresponding age group				
-Elementary School	102.8	101.0	100.7	100.5
-Middle School	53.3	94.6	98.7	99.0
-High School	29.3	68.5	86.9	88.7
-College and Universities	8.7	16.0	37.7	48.8
Graduate of Vocational and Technical Colleges(1,000)	31.6	104.5	67.7	184.4
Number of Graduates from tertiary Schools (per 1,000 population)	36.9	103.7	258.0	311.8

Source: Ministry of Education, Republic of Korea.

#### **4-2. Vocational Training in Korea**

There had been very little skill formation in Korea before liberation from Japanese colonialism in 1945. When the Japanese left Korea after World War II, most of the factories and social overhead capital facilities requiring sophisticated skill. In 1967, Korea government set the Vocational Training Act. This law was enacted in response to the demand for skilled workers that was generated by the rapid industrial development.

This law classified vocational training institutions classified into two groups: public vocational training conducted by the central and local government and non-profit corporations, and in-plant vocational training conducted by the private enterprises. But formal educational system was inadequate to meet increasing needs for skilled workers from industries. So, the government decided to establish Central Training Institute in 1968 with the assistance of UNDP and ILO. This institute was designed in 12 selected skill areas such as metal casting, electricity and plumbing.

The government launched an extensive public vocational training program by various assistance from international organizations such as IBRD, ILO, and foreign countries such as West Germany and Japan. In 1991, the MOE (Ministry of Education) initiated the “ Vocational High School Reform Policy”. The basic goals of this policy are to strengthen vocational and technical education in secondary education and to solve the problem of the shortage of skilled labors.

The MOE has undertaken the following measures: to establish technical high school, to increase the number of classes offered by the existing schools, to transform general and commercial high schools into technical ones, to attract high-quality students to technical high schools by providing more scholarships, to improve the quality of education by providing facilities and equipment necessary for laboratory work and on site training.

Vocational training are classified into three: 1) public vocational training institutes 2) in-plant vocational training institutes and 3) the authorized vocational training institutes. The public vocational training is conducted by four different categories of government organizations. The largest and the most important is the Korean Vocational Training and Management Agency (KVTMA) under the direct supervision of the Ministry of Labor. There are 39 vocational training institutes under the control of central government and 12 institutes under the control of local government.

There are three modes of vocational training 1) Vocational High Schools of three-year duration, 2) Public Vocational Training Institutes of one-year course, and 3) In-Service

Training with varying time duration. The direct cost of training per trainee was lowest for in-plant training and highest for Vocational High Schools.

The in-plant vocational training is divided into the one by single private enterprises (independent), the one in cooperation with other enterprises (cooperative), and the training commissioned by several enterprises (commissioned). Authorized vocational training institutes (7 social welfare corporations and 15 non-profit corporations) train most of the trades not frequently covered by both public vocational training institutes and in-plant vocational training institutes such as typing, telex and plastering.

Training objectives of the public vocational institutes within the KVTMA is to develop manpower of the Class I and Class II craftsman level. Training is selected through nation wide recruitment and open examination. Qualifications for entrance are limited to age under 30 with at least a secondary education. But the agency's vocational training institutes are lack of flexibility in training program and upgrading training to meet the needs arising out of structure change of the industries.

However, to meet the changing needs of the industries, public vocational training program needs the following changes:

- Due to the extensive structural changes of the industries, training program should focus more on retraining and upgrading training.
- Each training institute should be given much more autonomous power to change its program to meet local needs rather than national.

- KVTMA should be reorganized so that local needs can be reflected quickly at the level of vocational training institute without central government's interference.
- KVTMA and vocational training institutes receive little help from central labor market information. This can be corrected only through an extensive reorganization of the employment security system so as to be responsive to local need of employers and job seekers.
- Primary interest should be given to skill acquisition that can lead to a higher productivity.

#### **4-3. Quality of Vocational and Technical Education**

Korean families bear very heavy financial burden for their children's education. All Korean schools and tertiary institutions charge tuition fees. Parents use private tutoring to ensure that their children have best preparation before taking universities' entrance examination. The heavy financial burden on parents and possible ways of relieving it are central issues in the education reforms now in progress.

In 1994, the Education Reform proposals (ERP) advocated a new education and training system in which all the negative features of the present system would be transformed into positive features. ERP, a major change of current Korean policy, which is to increase the proportion of students enrolled in vocational high schools. The present objective is to have 50 % of high schools students enrolled in vocational high schools in 1998 (35.5 % in 1990 and 41.3 % in 1994). Because vocational high schools graduates are in strong demand in the Korean labor market. Employers hire them for their practical skills and their willingness to follow directions.



Recent increase in pay rates for high school graduates makes it more attractive for students to join the work force, thus removing the burden on their families. Employment rates based on information about graduating students also show that vocational high school graduates are in demand. In 1994, 91.7 % of male graduates from industrial high schools who were seeking jobs had found employment.

But there are some problems in vocational and technical education. The curricula fail to reflect the actual needs of industries due to theory-oriented curriculum, and the lack of field experiences among the teachers. Another problem is the gap between curricula and the national skill certificate system.

And the lack of program designed for affective learning such as developing work ethics and positive attitudes is one problem of vocational and technical schools' curricula. The mismatch between labor supply and demand is the cause of young people's avoidance of 3-D jobs (dirty, dangerous, difficult), so it is important to teach students to have a proper perspective of work and to raise their professional consciousness.

In order to reinforce on-the-job training, the MOE introduces some technical high schools to the "2 + 1 system", which is the school- industry co-operation programs, by combining 2 years of study at school with 1 year of on-site training in industries. This system is recognized as a landmark development in the history of vocational and technical education in Korea.

The government has revised the regulations of vocational junior colleges and polytechnics to allow to decide upon their own curricula and eventually to train their students to be more adaptable to the rapid changes of industrial techniques.

Furthermore, efforts to upgrade the quality of vocational and technical education require increased financial support. The investment in this area has been severely limited up to now. In technical high schools, outdated facilities and equipment are identified as the main obstacle to be removed to improve the quality of vocational and technical education. According to the ERP, additional funds created, as a result of the 5 % growth in GNP will be invested. Financial support and tax exemption for public and private vocational education institutions will be expanded considerably.

**Table (49) The Vocational and Technical Education in Korea**

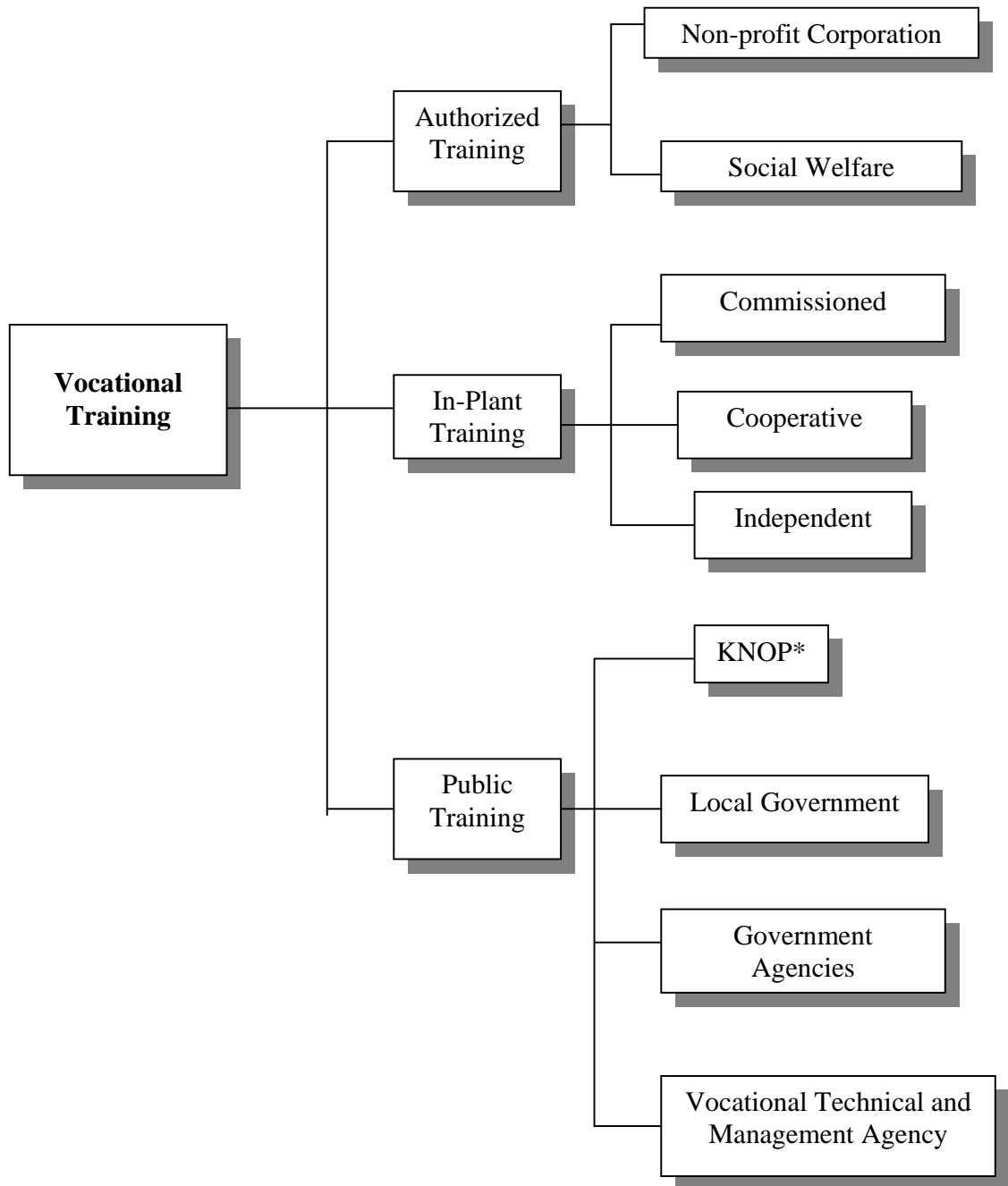
<b>Ministry of Education</b>	<b>Ministry of Labor</b>	<b>Industrial Firms</b>	<b>Private Institutions</b>
Graduate Schools		In-plant graduate schools	
Polytechnic	Korea Institute of technology and Education	In-plant universities	
Vocational Junior Colleges	Technical Colleges	In-plant junior vocational colleges	Special programs
General and Vocational high schools	Vocational training institutes - Public - Authorized		General programs

Source: Ministry of Education/ KEDI (1996), the Korean Education System, Draft Background Report

**Table (50) Differences between “2+1 System” and the Previous System**

<b>Classification</b>	<b>Previous System</b>	<b>2 + 1 System</b>
Operating method	- Three year study at school and 1-6 months practice at industrial sites - Practice as early employment	-Two year study at school and one-year practice at industrial sites
Educational contents	Theory and concept-oriented	- Skills and job-performance oriented

Source: Ministry of Education/ KEDI (1996), the Korean Education System, Draft Background Report



**Figure 2. Types of Vocational Training**

\* Korean National Outplacement Program

**Table (51) Number of Technical High Schools and Graduating Students**

	1970	1976	1981	1982	1983	1984	1985
Number of Schools	59	73	100	100	101	101	102
Number of Graduates(Person)	14,035	33,152	59,147	62,645	63,957	63,880	63,613

Source: Ministry of Education in Korea

**Table (52) Vocational Training Capacity by Type**

Types	Number of Institutes	Trades	Training Capacity(Person)
<b>Public</b>	82	61	30,728
KVTMA	26	29	16,555
Central Government	39	32	8,330
Local Government	12	10	5,493
KNOP	5	5	350
<b>In Plant</b>	*172	84	22,696
Independent	140	-	10,946
Cooperative	32	-	10,820
Commissioned	4	-	930
<b>Authorized</b>	22	46	9,250
Social Welfare Organization	7	-	1,570
Non Profit Corporations	15	-	7,680
<b>Total</b>	<b>276</b>	<b>156</b>	<b>62,674</b>

Source: Ministry of Labor in Korea

Note: \* Number varies over years

**Table (53) Number of Recipients of Vocational Training by Type of Training Institutes**

Type of Training Institute	Person Cumulative Total	Year			
		1967-1971	1972-1976	1977-1981	1982-1984
Total Skilled Worker	1,074,246	98,863	312,736	495,739	166,908
Public Vocational Training Institute	313,327	36,317	81,294	120,117	75,599
In-Plant Training Institute	634,818	48,225	177,350	337,388	71,855
Authorized Vocational Training Institute	126,101	14,321	54,092	38,234	19,454

Source: Ministry of Labor in Korea

#### **4-4. Current Situation in Korea's Vocational Education**

Demand for graduates from vocational training and high schools is quite enough from industrial sectors due to the industrial structural changes. Almost all the graduates from vocational high schools could find jobs during recent period. And then MOE, the Education Reform Proposal (ERP) and other reform tried to promote and improve not only quality of graduates but also schools and curricula of vocational institutions and high schools. MOE introduced the schools-industry co-operation program in some technical high schools.

One reason for reforms is government wants to solve high rate of college graduates unemployment and huge financial burden for parents due to the entrance examination for universities and high private tutoring fees.

But there are still obstacles and some problems in education and vocational training sector. Most university graduates try to avoid 3-D jobs so it may occur mismatch between labor supply and demand. It is the lack of program designed for affective learning such as developing work ethics and positive attitudes. The other problem is that the curricula fail to reflect the actual needs of industries. The major causes are theory-oriented curriculum, inadequate laboratory facilities, impractical on-site training, and the lack of field experiences among the teachers.

Due to their relatively low standing, these departments are not in a good position to compete against other departments in attracting good students. Vocational junior colleges and non-formal vocational training institutes have not endeavored to recruit a

qualified faculty with adequate on-the-job experience. Adapting the “Vocational High Schools Reform Policy” in 1991, the MOE attempted to address the shortage of vocational teachers to some degree.

For example, the authority to supply vocational teachers in region was given to the provincial superintendent. At the higher education level, the government has encouraged vocational junior colleges and polytechnics to invite those experienced in industry to become professors. It also strengthened domestic and foreign in-service training for teachers that provide diverse training programs on industrial sites.

Efforts to upgrade the quality of vocational and technical education require increased financial support. Even though the importance of vocational and technical education is constantly increasing with the rapid development in the economy and industry, the investments have been severely limited up to now. In technical high schools, outdated facilities and equipment are identified as the main obstacle to be removed to improve the quality of vocational and technical education.

According to the ERP, investment will be made at a growth rate of 5 %, with the priority on the modernization of vocational education facilities, including vocational high schools. Financial support for local vocational education from the central government will be differentiated in order to induce matching funds from local governments.

#### 4-5. Lessons from Korean Vocational Training

Unlike western countries, Korea government firstly initiated public vocational training institutes, and these institutes provided only basic skill training, especially in 1970s. During this period, government changed from import substitution policy to export promotion. The changes in the composition of export commodities have been substantial. The composition of light industries such as textile changed from 35.7 % in 1970 to 25 % in 1983. In contrast, the composition of heavy industries rose: machinery from 7.4 % in 1970 to 32.2 % in 1983.

In mid 1970s, when the Korean government was implementing the heavy and chemical industries drive, it made large-scale investments in technical high schools and vocational training centers. In the 1980s, government shifted its focus to strengthening the roles of private sector in vocational training through a training levy system and expanding the number of private two-year technical colleges.

**Table (54) Share of Selected Commodities in Total Exports, Selected Years** (%)

	1970	1975	1980	1983
Machinery	7.4	13.8	19.7	32.2
-Electrical Machinery	5.3	8.7	10.9	12.1
-Ship & Transport Equipment	1.1	3.6	6.6	17.1
Other Machinery	1.0	1.5	2.2	3.0
Iron and Steel	1.6	4.6	9.4	7.5
Textile & Clothing	35.7	36.1	29.4	25.0
Footwear	2.1	3.8	5.0	5.1
Fishery Product	4.9	7.1	3.9	3.0
Others	48.3	34.7	32.6	27.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Bank of Korea, *Economic Statistics Yearbook*.



**Table (55) Manpower Demand by Occupation, 1986-1996**

(%)

	1985	1991	1996	Annual growth rate
Professional, Technical & Managerial	6.9	7.8	8.8	4.1
Office & Secretarial	13.8	15.0	15.7	3.0
Sales & Service	24.5	28.5	30.1	3.7
Production	30.1	30.8	31.9	2.3
Agriculture & Fishery	24.7	17.9	13.5	-3.6
<b>Total (thousand)</b>	<b>100.0</b> <b>(14,875)</b>	<b>100.0</b> <b>(16,742)</b>	<b>100.0</b> <b>(18,098)</b>	<b>1.8</b>

Source: Korea Development Institute

According to forecast, employment in heavy and chemical industry (HCI) is expected to grow at a higher rate than average growth rate. As industrial restructuring progresses, so is expected demand for higher level manpower. It will be necessary to retrain manpower to meet the requirements of newly adopted technology in many segments of industries. In table (55), professional, technical and managerial classes are expected to grow at the fastest rate of 4.1 % per annum. Particularly, Engineers and technicians are expected to grow faster than other occupation categories. Sales occupation is also expected to grow at 3.7 % per year, well above average rate of growth. Agriculture and fishery are expected to shrink by 3.6 %.

**Table (56) Current Situation of Vocational Training**

(Person)

Classification	Total	1967- 1995	1996
Craftsman	<b>2,558,963</b>	<b>2,344,704</b>	<b>214,259</b>
- Public	623,734	587,090	36,644
- In-plant	1,549,320	1,398,017	151,615
- Authorized	385,909	359,909	26,000
Master Craftsman	5,833	5,353	480
Craft Technicians	8,698	3,965	4,733
Instructor	23,672	21,050	2,622
<b>Total</b>	<b>2,597,166</b>	<b>2,375,704</b>	<b>222,094</b>

Source: Ministry of Labor, "1997 Yearbook of Labor Statistics"

From this table, the in-plant vocational training shows a high proportion of 60 % and this also means that the real demander of manpower paid keen attention to the training of manpower. With its export promotion policy and implementation of HCI drive, the government has been undertaken the improvement of vocational and technical training centers especially in-plant training. They also increased demand for high skilled manpower and solved the problem of strict universities' enrollment quota system.

In fact, public vocational training has some advantages such as mass training with low cost and efficient use of trainers. But there are also some weaknesses in vocational training, for example, the curricula are theory – oriented and they fail to reflect the actual needs of industries.

To solve the problem of discrepancy between school curricula and actual training at industrial site, the MOE adopted “ the Technical High School 2 + 1 System”(explained above). But only a few vocational high schools accepted this system. This system should be compulsory for all schools. Recently, the number of outstanding students entering vocational junior colleges has slightly increased as the public attitude toward vocational and technical education has changed. But the number is still relatively small.

Thus, the government has to provide scholarships and other financial assistance to recruit excellent students to vocational and technical institutes. The government should also provide incentives for in-service workforces to enter vocational education institutes, such as offering rewards to masters and outstanding workers, providing special funds for skill

apprenticeship and granting loans with favorable conditions when they set up a private business, and providing special funds for skill apprenticeship.

Another problem for vocational and technical education is skilled labor moved to service sector from manufacturing sector due to the tendency to avoid 3-D job and disadvantages in wages and promotion structures in the manufacturing sector compared to those in the service sector. When they work in the service sector, their skills become useless and the government's investment in training them is wasted.

The wage gap between vocational high school graduates and 4 year college or university graduates is also an obstacle. Although government has made various efforts to reduce the wage difference, it was still 100 to 155.7 as of 1994<sup>3</sup>. It has encouraged industrial firms to develop a new wage system based upon individual work performance.

On the other hand, technical high schools and public vocational training institutes offer training on general skills, whereas in-service training programs concentrate on companies' specific skill training. Advantages of in-service training are;

- 1) in-service training facilitates transfer of learned skill and knowledge
- 2) less costly and more practical than off-the-firm training in general
- 3) enables employer to place right person to the right job
- 4) easy to accommodate for retraining and to facilitate structural changes and transfer of employees

---

<sup>3</sup> Bureau of Statistics 1995, *Social Indicators in Korea*.

According to the Basic Law for the Vocational Training enacted in 1976, the industries needed to fulfil such legal requirements as compulsory number to be trained, levy system and supervision of the in-service training. But the motivation to invest in-service training was different based on the size of industries. For instance, large firms those requiring highly skilled workers do provide more than adequate in-service training as a means to meet their own needs. Even without the legal requirement, they would still have done such in-service training for their own necessity.

A few large firms requiring no skilled manpower had no motivation to provide in-service training. In stead of providing in-service training, these firms pay levy. The levy system itself was not so efficient in promoting in-service training among private firms.

Nevertheless, small and medium firms are reluctant to invest in in-service training because Korea's labor market has high turnover rates. It is one kind of social cost in terms of the change for technological innovation and transfer of technology. Therefore the compulsory nature of the in-service training law and training levy should be abolished. In-service training should be made on a truly voluntary basis and such firms should be subsidized with certain portion of in-service training costs.

Generally, in Korea, according to the policy and industrial structural changes, education system and technical and vocational education were also changed. Not only public vocational education but also in-service training and non-profit organizations were well established as the supporting points of rapid economic growth. But there are still some requirements to fulfill continuous growth of economy. At present, the industries' needs to

provide in-service training are based on law in stead of voluntary base. Although demand for vocational education's graduate of industries is sufficient, there are many problems need to be solved, such as few incentives for high schools graduates, inefficient technical high school curricula, teachers and instructors, outdated laboratories and facilities, and insufficient financial assistance.

#### **4-6. Current Situation and Problems of Vocational Education in Myanmar**

Since 1998, the economic system in Myanmar has already changed to market - oriented economic system from centralized economy. With structural changes, in the pattern of economic, business and industrial sectors and the establishment of industrial zones, demand for skilled labors and engineers are relatively high. As the government is also striving to promote infrastructure and reconstruction in the whole nation, graduates from DTVE have favorable job opportunities due to these changes in economy.

The number of applicants for schools and institutes of DTVE is increasing year by year because other colleges and institutes, except for the master degree, post - graduate and final year (honors) courses and medical colleges, are still closed. So quite many graduates from high schools really want to join these vocational high schools and institutes. Schools - industry co-operation system also exists - 3 years in schools and 6 months in industrial site is required before graduation.

But compared with the Korean case, in Myanmar, private company has no incentive to invest in in-service training. There is no guarantee for employer if employees change to another job that offer higher pay after they finish their in - service training. Although

vocational education graduates are in a favorable condition to find jobs, the same as in Korea, vocational and technical education in Myanmar also has some problems, which need to be solved.

- Not enough staff and teachers for vocational training in areas far from capital and big cities. Lack of experienced teachers in DTVE.
- There are still difficulties to meet the demand and accept all applications. There are not enough school facilities, teaching aids, equipment and furniture.
- Shortage oil and energy made it difficult for students to use advanced electrical teaching aid equipment.
- For the moment only 20 % of all applicants for GTI can be accepted and 33 % for ETEC. The numbers of these schools need to be increased to meet all students' demand.
- Financial assistance for vocational and technical education was limited and at low level compared with the expenditure of other forms of education, such as basic education and higher education
- The majority of the students at government technical institutes and technical high schools are from working-class families or with relatively low academic achievement.
- The government needs to provide more scholarships as incentives for excellent students entering into vocational education institutes.

## Chapter 5

### CONCLUSION AND RECOMMENDATION

Nowadays, there is no doubt that the role of vocational and technical education is becoming more and more important for the economic growth and labor market. In this paper, the situation of vocational education in Myanmar and Korea has been studied. Schools and institutes from the DTVE have been investigated with respect to the number of students, teachers, student-teacher ratio, quantitatively and qualitatively, from 1986-87 to 1995-96.

According to these data, it can be seen that demand for vocational training schools and institutes are quite strong in Myanmar. That Myanmar is in a transition period, government and business sectors are changing, the duration for these schools and training are relatively shorter than other schools from the education sector are the fundamental supporting facts for the development of the vocational education sector.

But there are still changes required in the government and private sectors to promote this sector. Not only Myanmar but also Korea lack high quality teaching aids and equipment, enough financial assistance, highly experienced teachers and instructors, incentives for teachers to provide vocational training in the underdeveloped areas, and cooperation from private firms and industries.

In Myanmar, public vocational training and in-plant training are under the supervision of the Ministry of Science and Technology. The emphasis is more theory-oriented than

practice – oriented compared with the Korean vocational training. The curricula for vocational high schools and training should be upgraded and changed as the economic and industrial sectors already changed.

As mentioned in Chapter 2, the government heavily intervenes in the vocational and technical education sector and there is a lack of market competition in this sector. The reasons for this situation may be that initial investment for technical schools (machinery, tools, schools' facilities and other teaching equipment etc.) is relatively high. Therefore, the private sector that did not get any government assistance cannot compete with public technical schools. Although some entrepreneurs are willing to establish private technical schools, the government sector and private companies are reluctant to offer job opportunities for those graduates who studied in private technical schools. These private technical schools should be supported for their improvement.

Furthermore, employers do not have confidence in the skill levels of graduates from private schools. Government authorities and private companies should change attitude and policies toward private technical schools and provide not only financial assistance but also technical and academic assistance for the establishment of these schools. But for other courses, such as type writing, computer typing and training, and shorthand, most private training centers compete well with the public sector.

In Korea, in terms of the quality of vocational training, public training centers and in-service training concentrate on practical skills and are job-performance oriented rather than theory – oriented in the past. Recently, the government set reforms and laws for not



only the improvement of vocational and technical education, but also the education system, such as PCER - the Presidential Commission on Education Reform. To ensure that the actual needs of industries are met, vocational high schools initiated “the new 2 + 1 system”, two years of study at school and a one-year internship at industrial sites.

But small and medium size enterprises have no motivation to provide in-service training because these firms suffer from high separation rates. The Government has tried to deregulate various restrictions on in-plant training, and had provided proper incentives so that private enterprises could make voluntary investments in vocational training. Authorized training centers have increased the number of trainees with their marketable training courses such as information processing, office automation and services.

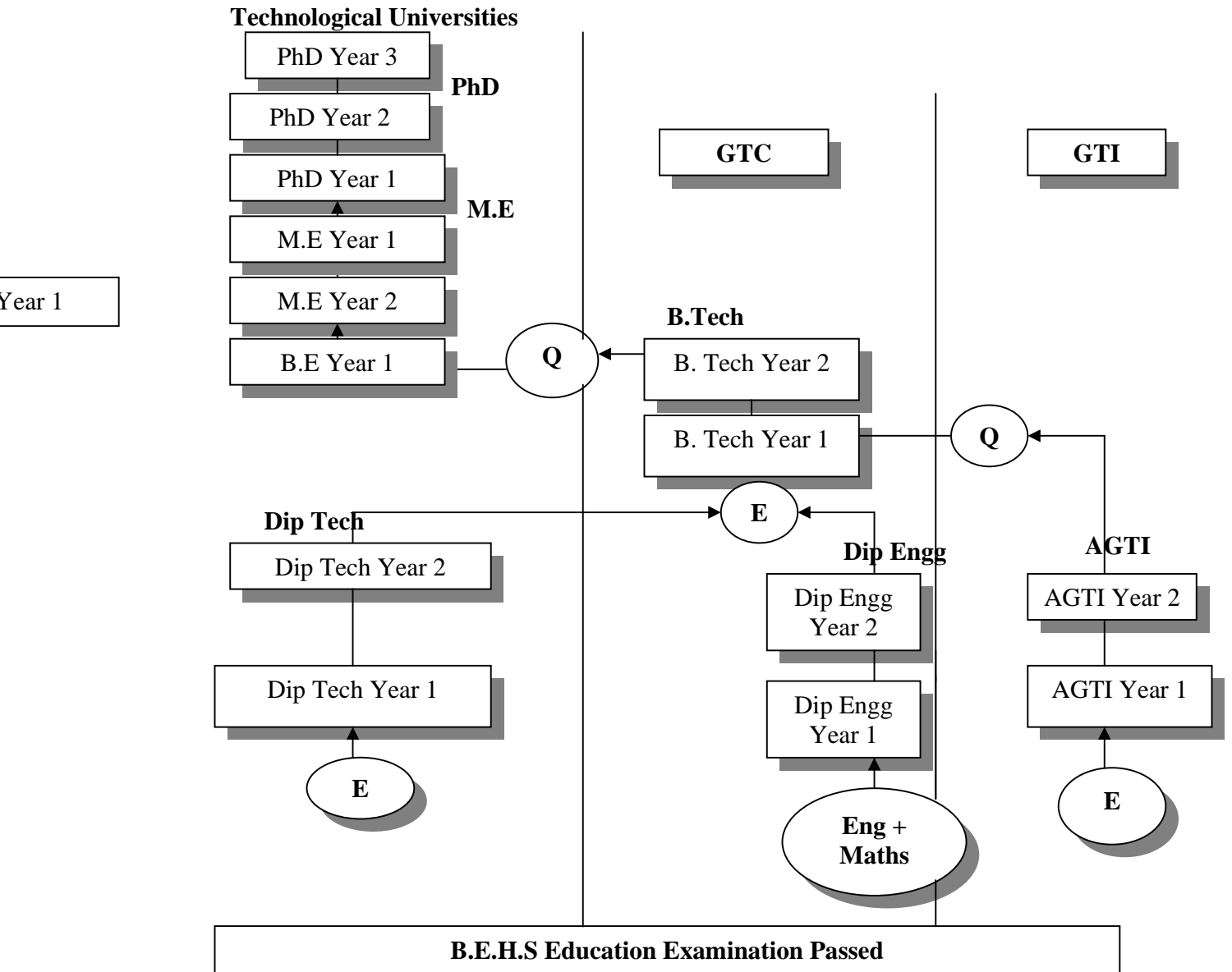
In addition, to study the job opportunities and income situation of AGTI from Myanmar, survey was used in this paper. Actually, it was a very wide area and difficult to study job opportunities for all schools and graduates from the DTVE, so graduates from the GTI were the focus. According to the survey data, a total of 136 graduates were interviewed by questionnaire (the sample form of questionnaire that was used in the survey is shown in ‘*Appendix I*’ at the end of this chapter). They worked in several kinds of workplaces, not only in the government, but also in private company and enterprises, in such sectors as transportation, communication, construction, petroleum refining and information, etc.

According to the labor force situation, most of the male workers participate in the private sectors, their self - owned business and overseas jobs rather than government sectors. In contrast, female workers join the public sectors although the salaries in the public sectors

are lower than the private sectors'. But in fact, most of the workers prefer to work in the public sectors due to job security, guarantees for lay-off, pension programs and other social safety net programs, which are only for government employees. For further discussion, in order to develop the labor market in private sectors, social security programs and the pension system should be efficient and nation-wide.

Recently, the Ministry of Science and Technology has a plan to initiate a new Technical Education System, which upgrades the GTIs and solves the problem of the huge number of high school graduates. Since this new system will also upgrade THSs to GTIs, many more high school graduates will be offered a chance to apply to these GTIs and after graduating from the GTIs, they will have more chances to join Technical Universities. The trend of the new system is explained in Fig 2. In this new system, the required period for graduation from the GTI is two years, instead of three years.

Even the vocational and technical education has been required to solve some problems to improve government policies and upgrade schools and training, it could be definitely seen that graduates from the vocational education sector contribute a lot to the important sectors of economic development and demand from industrial sites for these workers is also relatively high. Even though this paper has some weakness about the sample size for the survey, it does provide some information about the current situation of labor and jobs, and the structure of vocational and technical education in Myanmar.



**Figure 3. New Technical Education System**

Note: **E** = Entrance Exam

**Q** = Qualified Student Only

**GTC** = Government Technical Colleges

**Dip Tech** = Diploma in Technology that is provided in University of Technology

**Dip Engg** = Diploma in Engineering that is provided in Government Technical Institutes

## **APPENDICES**

**APPENDIX I**

**Sample Questionnaire Form**

**# Study of Job opportunity and income situation for a graduate from Government**

**Technical Institute (GTI)**

1. Name -----
2. Age -----
3. Educational Status -----  
(if any course for graduate degree attend recently, please express it.)
4. Year and Major that graduate from GTI -----
5. Name of School -----
6. Total costs for 3 year duration (approximately) -----
7. Objective of attending in GTI -----
8. Birth of Place - (Division/ State) -----  
- (City / Province) -----
9. School, Year and City that graduate from high school -----
10. Address (Current) -----
11. If single, parents' situation -----
12. If married, spouse's job situation -----
13. Have you ever been abroad? Yes or No

<b>Country and city's name that you arrived</b>	<b>Period</b>	<b>Times</b>	<b>For training</b>	<b>For job</b>	<b>For visit</b>

14. Hours for your favorite hobby (please express in average hours for a week)

	✓	Hours a week
Music and Movie		
Sports		
Literature		
Religious		
Others(if any)		

15. Study for other language and training

	✓		✓
English		Law	
Japanese		Marketing	
Chinese		Office administration	
Indian		Stenography	
Others		Computer	
		Machinery Repairing	
		Others (by name)	

16. Department and time ( month and date) that you participate in this job after graduate -

-----

17. Position and salary of first job -----

18. Current job- position , department and salary -----

19. Other job (if any) and income -----

20. Current job situation (✓)

	✓
Government	
Company	
Self – owned business	
Joint venture	
Co-operate	
Others( by name)	

21. Current salary (✓)

Below 3000 Kyat	3001- 6000 Kyat	6001- 10000 Kyat	10001- 15000 Kyat	15001- 20000 Kyat	20001- 30000 Kyat	Above 30000 Kyat	US \$

22. Opinion about current salary (✓)

Best	Good	Fair	Bad

23. Difficulties that you have in workplace (✓)

Difficulties of job Situation	High	Median	Low	No
Technical Difficulties				
Expertise				
Unfairness of duty and responsibility				
Relations between other organization				
Relations with business owner				
Not enough responsibility				
Others				

24. Do you want to continue current work or not? -----

Why? ----- Why not? -----

25. How much level can your income and workplace contribute following desire?

	High	Median	Low	No
Living standard				
Security				
Co-operation with colleagues				
Reputation				
Self-improvement				

26. How do you think about your workplace physical condition?

	Best	Better	Good	Bad
Wide space condition				
Sufficient lighting				
Cleanness				
Fairness of Temperature				
Job security				

27. Future prospect on job

	✓
To be expert engineer	
To establish own business	
Other Objectives	

28. Which situation is consistent with your job site?

Very boring	Boring	Little interesting	Interesting	Very interesting

19. Service ----- year ----- month

30. How many jobs did you change? (including current job) -----

31. Are you really satisfied as an engineer for your profession?

Fully satisfy	Almost satisfy	Fairly	Low	No

32. How many brothers and sisters do you have? ----- How many children? -----

33. Number of family members (in household) -----

34. Head of family or not?

Yes  No

- If yes, total family member and total income -----

- If no, how much did you contribute to your family? -----

35. Which transportation do you use to go to your work? (✓)

Own car	Bus	Bicycle	Walking

36. Which housing do you have?

	Hire	Own
Apartment		
Two stories house		
Wooden house		
Others		

37. Rent for hiring a house

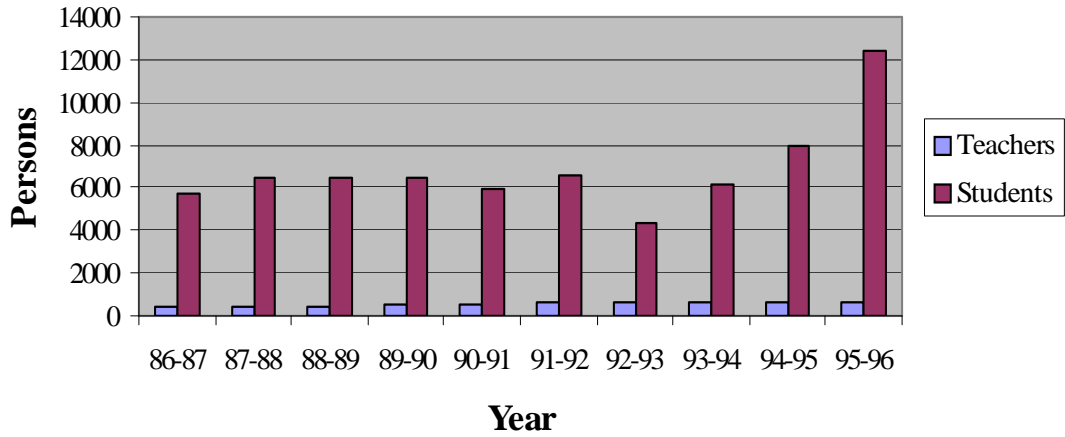
Below 1000 Kyat	1001-3000 Kyat	3001 – 5000 Kyat	5001– 10000 Kyat	10001 – 20000 Kyat	Above 20000 Kyat



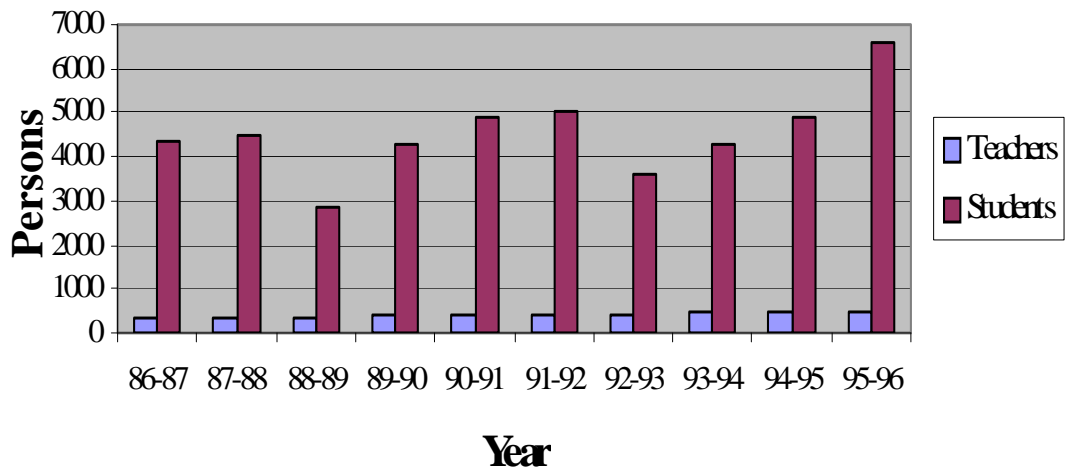
- 38. Consumption cost -----
- 39. Electric cost -----
- 40. Cost for clothing -----
- 41. Transportation cost (to workplace) -----
- 42. Medical, social and general expenditure -----

**APPENDIX II**

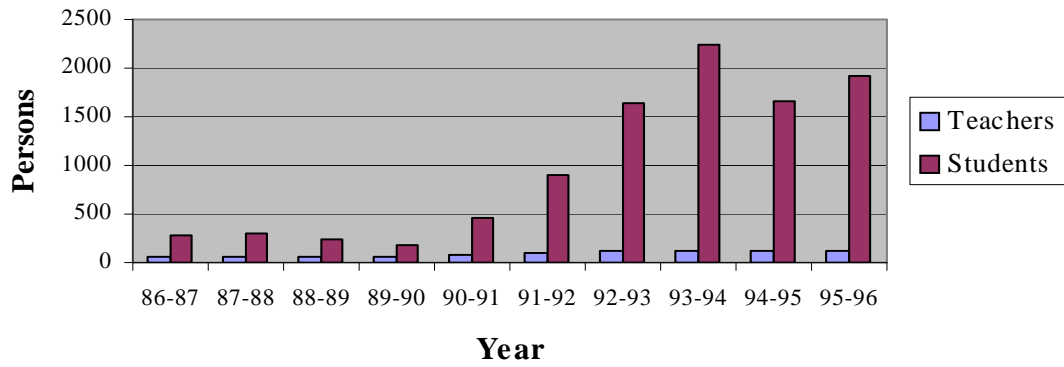
**(i) Number of Teachers and Students in GTIs**



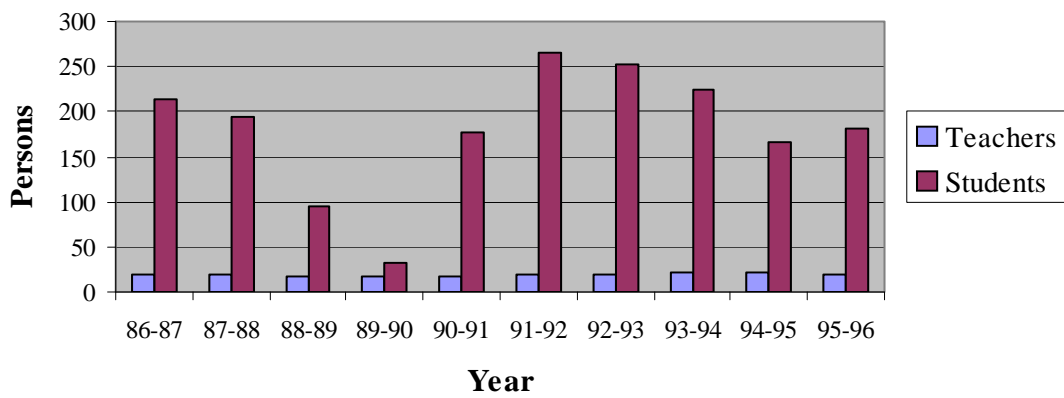
**(ii) Number of Teachers and Students in THSs**



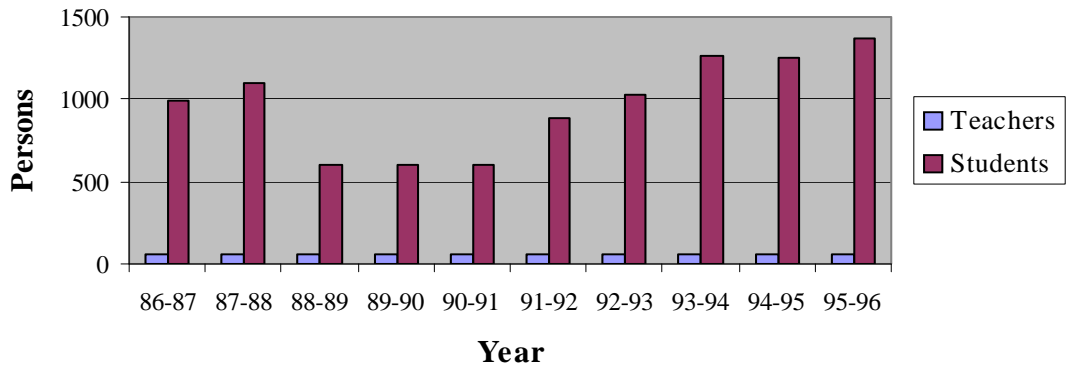
**(iii) Number of Teachers and Students in HSs**



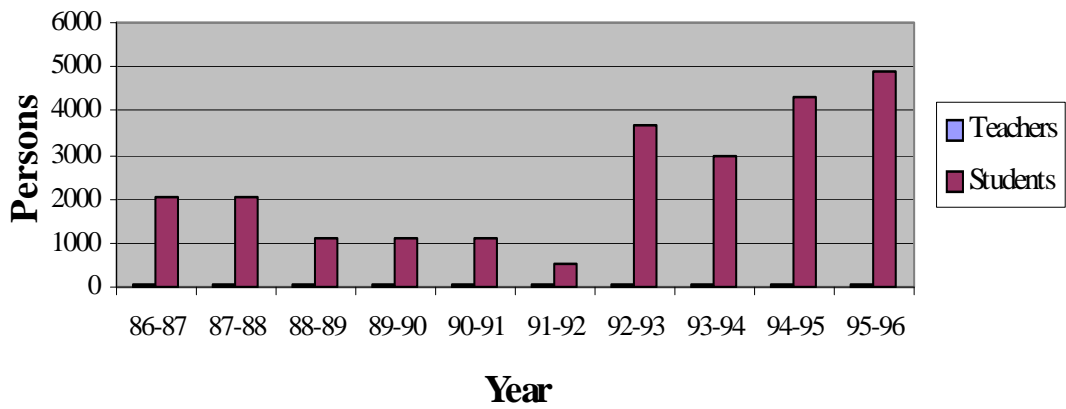
**(iv) Number of Teachers and Students in MRMSs**



**(v) Number of Teachers and Students in ETECs**



**(vi) Number of Teachers and Students in ETCs**



## **BIBLIOGRAPHY**

## BIBLIOGRAPHY

- Asian Development Bank, *Key Indicators of Developing Asian and Pacific Countries*, 1997.
- Blaug, Mark. *An Introduction to Economics of Education*, Penguin Books, 1972.
- Chong Kee Park. *Human Resource and Social Development in Korea*, Seoul, Korea Development Institute, 1980.
- Harbison, E. *Education, Manpower and Economic Growth*, by E. Harbison and C. A. Myers, New York: McGraw-Hill, 1964.
- Ju-Ho, LEE. *The Role of Government for Human Resource Development: The case of Korean Vocational Training*, Human Resource Development Outlook, 1995-96.
- Ministry of Education, Republic of Korea, *Education in Korea*, Seoul, 1997-98
- Ministry of Labor, Republic of Korea, *Labor Administration*.
- Ministry of National Planning and Economic Development, the Union Of Myanmar, *Review of The Financial, Economic and Social Conditions*, 1997-98.
- Myanmar Education Research Bureau, *Educational Statistics*, 1986-94.
- Seminar on Development Issues of Myanmar, *Human Resource Development in Myanmar with Special Reference to Vocational Training for Industrial Development*, Discussion Papers, 1998.
- OECD, *Reviews of National Policies for Education*, Paris, 1998.
- Sookon Kim, *In Service Training as an instrument for the Development of Human Resources in Korea*, by OECD Development Center jointly with Korean Chamber of Commerce, 1987.
- UNDP, *Human Development Report*, 1995.
- UNESCO, *Reading in the Economics of Education*, Paris, UNESCO, 1968-69
- Varizey, John, *Education for Tomorrow*, Penguin Books, 1996.