

# Tertiary and Vocational Education Commission

## *Research Cell*

Study to Analyze Measures to link  
Technical Education & Vocational Training  
with School Education in Sri Lanka

Research By:

VTA



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## **Preface**

Education comprises three major components of primary, secondary and tertiary level. Technical education and vocational training is another segment of the education. Many developed countries recognize both of these educational sectors as very important to set up career goals of the students. Hence this research focuses on studying linkages between these two sectors.

The research was conducted using survey research method. Primary data were collected from six Districts and ten vocational training courses. The sample was comprised of two groups of those who have undergone vocational training and those who have not undergone vocational training courses. The sample of those who have undergone vocational training was selected from ex-trainees who passed out in 2004 / 2005 and the other group was selected from the same age groups who were in same courses in same environment. The method of focused groups was used with senior officers in these both educational sectors for data collection.

The data gathered were analyzed using SPSS software package and it was used descriptive statistical methods in analyzing of data. All the findings have been prepared based on most of the primary data and some of secondary data. The research report comprised of six chapters, first chapter give an introduction and discusses research methodology. Second chapter describes about general educational system and technical education & vocational training system in Sri Lanka. Third chapter describes some theoretical foundation of the study. Fourth chapter analyzes primary data of both groups and also describes comments of focus group discussions. Conclusions and recommendations have been presented in fifth chapter which is the last chapter of the report. Bibliography and the attachments of questionnaires and schedules were attached at the end of the report.

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## **Abbreviations and acronyms**

TEVT – Technical Education and Vocational Training

VT - Vocational Training

VTA – Vocational Training Authority

TVEC – Tertiary and Vocational Education Commission

ROR - Rate of Return

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# **Chapter 1 – Introduction**

## **1.1 Background**

The government of Sri Lanka incurs considerable expenditure on school education, higher education and also on Technical and Vocational Education and Training (TVET) system in the country. TVET works toward producing skilled personnel in occupations of many industries. School education creates general human capital and TVET creates specific human capital. Human capital plays a major role in production process and hence the government is responsible for improving the human capital. The tangible form of capital is not only the type of capital and economists regard expenditure on education, training medical care and so on as an investment in human capital (Backer. S, 1980).

Both educational system of School Education and TVET sector are expected to improve human capital. At present, we have fairly developed system for TVET which is governed by a separate Ministry. Tertiary and Vocational Education Commission (TVEC) is the umbrella institute that maintains standards for the sector and also act as the apex body for policy decision making. Technical colleges function under the Department of Technical Education and Training. The Vocational Training Authority operates a network vocational training centers at national, district, and rural level. National Apprentice and Industrial Training Authority produces skilled personnel in the way of apprentices. National Youth Service Council also provides institutional training for youth at their training institution network. These are the major government TVET organizations that deliver specific training with compared to the school education. These training are defined as general training. Approximately, more than 90,000 youth are trained per year by both Government and private sector organizations.

## **1.1 Research Problem**

One of the key objects of investing of money in these sectors is increasing human capital for the development process. On one hand, around 350000 enter into school grade one every year but

around 22000 only enter to the universities. So what about those who cannot enter to the university? Around 7000 join with some other professional courses. In this context, still there are around 200000 number of school leavers. On the other hand, although TVET sector has been well organized in the country with introduction of the NVQ framework in order to give opportunities up to degree level qualifications. There is no proper system to enter to the TVET sector for those who complete the school education. The TVET sector also contemplates with three major problems i.e. low enrollment, high dropout rates and lower rate of job placement. Enrollment problem is one of the major problems in this sector and some TVET providers try to solve this problem by spending considerable amount on publicity programs by adopting marketing strategies. Is this successful? What will be the best solution? We have other issues like return on investments to TVET programs. Does the return sufficient or not? Lower enrollment and higher rate of return cannot happen at the same time. What extent does strengthening of linkages between school education and vocational training will bring the expected results or outcomes.

University system provides limited opportunities with compared to large cohort of the students who are not able to enter the higher education. However, there is no regular system to direct them for alternative career paths. Therefore, this research is focused to the problem of inadequate linkages between School education and TVET sector in a situation where the TVET sector said to maintain a high rate of return. Is there higher rate of return to TEVT sector and if significant Rate of Return (ROR) what may be the best linking strategies to link TEVT & school education.

### **1.3 Research Objectives**

1. To measure rate of return of technical education and vocational training
2. To identify existing linkages between school education and TVET
3. To study the importance of effective linkages between general education and TVET in relation to those with vocational training and those without vocational training
4. To identify strategies to strengthen the linkages

## 1.4 Research Methodology and Method

Applied research methodology was used as the methodology and different method had been used to gather required data to achieve the research objectives. An appropriate data collection and data analysis methods have been used in order to meet the research objectives mentioned above. Accordingly, survey research, group discussions and interviews along with documentary review were adopted in this study. Table 1.1 given below, gives the number of units that was expected to enumerate and the actual number of units from which data were gathered.

**Table 1.1: Sample**

|   | <b>Sample</b>   | <b>expected</b> | <b>Achieved</b> | <b>Sampling method</b> |
|---|---|-----------------|-----------------|------------------------|
| 1 | Without vocational training youths                                      | 400             | 140             | Bunch sample           |
| 2 | Ex-Trainees (VT Graduates)<br>Representing major govt. VT<br>institutes | 300             | 265             | Stratified             |
| 3 | Officers in Education/ TVET<br>Focused group                            | 50              | 12              | Judge sample           |

We have had a plan to collect data as above but enumerators were unable to collect data as planned because of time constraint and many of them not living in their residences. As an alternative, another method was use which is called the focus group discussions and twelve participants successfully gave expected results. Therefore, there was no requirement for further discussion at that level.

### 1.4.1 Sample Districts and Training Courses

Following districts were considered for the sample.

Colombo, Gampaha, Polonnaruwa, Galle, Kandy, Monaragala, Districts

**Table 1.2: Those with Vocational Training & those without Vocational Training  
Samples by Districts**

| <b>Districts</b> | <b>Without Vocational Training</b> |                | <b>With Vocational Training</b> |                |
|------------------|------------------------------------|----------------|---------------------------------|----------------|
|                  | <b>Units</b>                       | <b>Percent</b> | <b>Units</b>                    | <b>Percent</b> |
| Galle            | 40                                 | 0.264151       | 70                              | 0.264151       |
| Gampaha          | 23                                 | 0.132075       | 35                              | 0.132075       |
| Kandy            | 18                                 | 0.166038       | 44                              | 0.166038       |
| Monaragala       | 5                                  | 0.113208       | 30                              | 0.113208       |
| Polonnaruwa      | 32                                 | 0.215094       | 57                              | 0.215094       |
| Colombo          | 22                                 | 0.109434       | 29                              | 0.109434       |
|                  | <b>140</b>                         | 100            | <b>265</b>                      | 100            |

Nine training courses were selected to the sample and 265 ex-trainees who completed those training courses in 2004 and 2005 were selected as experimental group. And also, 140 none vocational training youth who were same age group were selected to the sample as control group.

Data were collected using a structured questionnaire and focus group discussions. Secondary data collected through internet and reports in TVET institutions and also institutes in educational sector.

## **1.5 Importance of the Research**

TVET sector can establish close relationship between school and world of work. It is a bridge among them. However, we need to identify present effectiveness of general education and that of TVET. This research will be of use to reallocate resources among general education and TVET. If the TVET sector has a good rate of return, we must establish strong linkages with the

school sector so that youth can straightaway join the TVET sector. Therefore, this research will be of use for the policy makers and higher management who plan and carryout technical education and vocational training programs in near future. And also, it would provide solutions to many other issues in the TVET sector.

## **1.6 Literature Review**

There is vast body of research studies done on the earning capacity of those who follow general education and those who follow some of technical and vocational training. According to a research conducted by John Appleby, Maxime Fougere, Manon Rouleau in Applied research branch of Strategic policy on Human Resources Development in Canada found an answer to the question of “Is post-secondary education in Canada a cost effective proposition? The study was done in 2002. The findings show that the rates of return to post – secondary education are positive which implies that, on average, investment in human capital is cost effective for individuals who earn post-secondary degree or diploma. The level of the cost effectiveness varies by gender and level of education. They have examined the measures of rates of return of university degrees and observed that there is a positive correlation between rate of return and field of study.

When reviewing of main recent empirical studies done in Canada with regard to rate of private return to education, Lemelin and Prudhomme (1994) estimated the private rate of return associated with obtaining a university degree compared to a high school diploma in Quebec over a period of six years (1981-1987), using the internal rate of return of education approach. In their findings, private rate of return varied inversely to the economic cycle. It apparently rose during the 1981-1982 to peak point at 16% in 1982, and declined during the period of expansion, hitting a low of 12% in 1987 for Ontario University graduates in 1990. He found that the rate return varied greatly by field of study and by gender. For men, the private rate of return was highest in medicine (20%)

The OECD (1998) evaluated the private and social rate of return of its member countries for 1995. There were certain difference with regard to the type of data used as well as the nature of the assumptions made. According to this study, the private rate of return was higher in France for

men. It was 20% for men and 28% for women. And lower rate was found in Denmark. (8% for men and 7% for women)

Our study focused to compare rate of return to general education and vocational training. According to Thilak J.B.G. (2002) available evidence on rate of return to education no countries indicate any advantage of vocational education compared to general education. He showed an example included in Chung (1995, p.177) reported that 12 studies showed higher return to vocational education than general secondary education. Another ten studies showed otherwise; and five studies that yielded no clear results. Few other evidence e.g. Bennell, 1995; Bennell and Segerstrom, 1998) no conclusive evidence exists on economic superiority of vocational education over general education. As an example, rate of return 32% in Indonesia was recorded in 1978 to general education and it was 18% to vocational training. This same thing was happened in some other countries of Cyprus, Taiwan, South Korea, Thailand, Philippines and also Jordan (Psacharopoulos (1994); Thilak (1994, 2001); Bennell (1995, 1998)

There are two researches that have conducted in this regard. The research of “Training and labour market outcomes in Sri Lanka” conducted by lead Economist Hag Tan and Prof. Sunil Chandrasiri (2004). This research concluded that the return to an additional year of training (9%) is higher than a year of any technical or vocational training (6.6%). This rate would tend to under estimated. The preceding analysis also highlighted the potential of Sri Lanka Labour force survey to provide policy relevant insights in to training trends, and the link between general education, post school training and labour market outcomes.

Dr. Athula Ranasinghe and Joop Hartog did a research in investment in post compulsory education in Sri Lanka. In this paper, they have used the standard *Human Capital* model to describe the *post*-compulsory schooling behavior of Sri Lankans. They assumed that there is no uncertainty in the education system or in the labour market. Therefore, in the steady-state, the earnings profile of one generation is a replica of the earnings of the next generation. Then, they modeled and estimated the school enrolment and the length of schooling decisions. The results show a very clear positive association between the family background and the education decision. Children of more affluent families seem to derive more benefits from the free education policy. In particular, mother's education has a very strong effect on the education of the child.

This casts doubt on the effectiveness of the free education policy as a poverty alleviation instrument and its role in social mobility.

They observe that the ability effect on the return of education is greater than the ability effect on the cost of education. Therefore, more able children stay longer in full-time education than the less able children. They observe that younger siblings are more able than older siblings of the same family.

By decomposing the total variance of the schooling length and rate of return variation is more important in explaining the schooling behavior than the variation in the cost of education.

Analysis of the residuals has given them an impression that there is a family fixed effect which is not explained by the model. Most probably, the poor specification of the ability and the excluded school quality variables would be the main reason for this unexplained fixed effect.

Above researches had been conducted with different assumptions and by adopting different method of data collecting. It requires a survey research and highly methodological approach to understand the real situation.

## **1.7 Limitation of the study**

The study was limited to the following limitation;

1. Though there are number of school leavers and drop out students in a year we selected only small number because of the time and cost factor.
2. Lack of data of the school leavers who without vocational training and we should have different strategies to collect such information and need more time.
3. Few previous research findings in this regard in Sri Lanka
4. Research was completed in limited time as there were other job related commitments



## **Chapter 2**

### **2.1 Education System in Sri Lanka and Other Selected Countries**

In Sri Lanka, school entry starts at the age of five. From then on, children undergo compulsory education for five years. At grade five (age 10) a child (or, parents) can decide whether to continue his/her education as to whether leave school. However, for many, this is not considered to be a terminal step. Main focus in these five years of compulsory education is on literacy and numeracy. If a child decides to continue his/her education further, he/she will face the first terminal test at grade eleven, (at age 16). At grade eleven, the child is required to get through the first selection criterion. He (she) sits for a government examination, General Certificate of Education, Ordinary Level (O.L), in which the child is tested on eight subjects including literacy, numeracy, science, religion and cultural affairs etc. However, so far no specialisation is available . Only the students with high records in this exam are entitled to continue further education. A child can sit a maximum of three times this exam and unless successful in one of these trials, he (she) has to leave the school. Among those who succeed,

Only the pupils with highest scores are eligible to continue education. They are required to study for another two years. At this level students have to choose one of the specializations depending on their O/L results. There are four such specializations: Arts, Commerce, Biological science and Physical science. After two years, they sit for another government examination, G.C.E. Advanced Level. This is the last exam in the school system and it is also the university qualifying examination.

Full time education beyond the secondary level is rather complicated. A child can attend an alternative education institute at different levels. For example, there are technical and poly-technical programmes for the children with different education qualifications. Depending on the programme offered the entry requirements vary from grade eight to G.C.E (A.L). The university education which is considered to be the best alternative is limited only for the Advance Level qualified students with the highest overall scores. There are three types of university degrees in Sri Lanka; special degrees with a four year duration (eg. special degree in Economics) , general

degrees with a three years duration (an example is the general degree with Economics, Sociology and Political Science) and medical degrees take five years. Those who are qualified at the A.L but have not sufficient marks to enter universities have several alternatives such as the law college, the Open University and the external degree programmes and many other professional exams conducted by the private sector are few of them. 11 Due to the regional disparity in facilities, university selection is done on three bases: the Merit Basis, the District Basis and the Under-privileged Basis. 40 percent is selected on Merit basis, 55 percent is on District basis and the remaining 5 percent is on Under-privileged basis. See: Statistical Hand Book the University Grants Commission. 10 Another important feature of the education system in Sri Lanka is the quality disparity in school facilities. The quality disparity between urban and rural schools is highlighted by many researchers. For example, the Presidential Committee on Youth Unrest (1993) highlights that one of the main causes for the youth unrest in Sri Lanka in the 1990's is the unfair distribution of schooling facilities between urban and rural sectors. The following example will indicate the degree of disparity. In 1990, nearly 19 percent of the total university admissions were from Colombo district (the administrative and commercial capital) whereas it was only one percent from the Moneragala district which is considered as one of the most under-privileged districts. Further, the percentages which were selected to medical, dental and architecture faculties on merit basis<sup>11</sup> in 1990 were 41 percent from Colombo and zero from Moneragala. The population shares for these two districts are 11.4 and 1.8 percents respectively.

Sri Lanka has education system divided as primary secondary and tertiary level; however it comprised pre primary, primary, junior secondary, senior secondary, vocational and tertiary level and explains by diagram 1.

With compare to European education system has two major component of fulltime compulsory education up to age level 16 and after that compulsory part time education. It has ISCED 0 to ISCED 5 levels mentioned in the diagram

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

Sri Lanka's TVET system is characterized by a multitude of agencies including training providers of public and private sectors, standards and curriculum development agencies and a regulatory body, which is the Tertiary and Vocational Education Commission operating under the purview of the Ministry of Youth Affairs. National Apprentice and Industrial Training Authority (NAITA) and the University for Vocational Technology (Univotec) previously had known as the National Institute of Technical Education of Sri Lanka (NITESL) function as competency standards and curriculum development agencies respectively. The Univotec was inaugurated in 2008 with the purpose of providing education at degree level for those who come through NVQ system as well as those who work in industry and wish to acquire degree level education; The NITESL was made a faculty of the UNIVOTEC as per the provision of the Univotec Act. The NAITA functions as the leading agency in providing apprenticeship training. It manages three (03) national training institutes viz. Apprenticeship Training Institute (ATI), Automobile Engineering Training Institute (AETI) and Institute of Engineering Technology (IET),

Department of Technical Education and Training (DTET) operates 38 Technical Colleges throughout the country as at end of 2009, of which nine (09) Colleges have been upgraded as Colleges of Technology (CoTs) to offer diploma level courses leading to National Vocational Qualifications. The Technical Education Development Project (TEDP) funded by the Asian Development Bank provides funding for this initiative. The Korean International Cooperation Agency (KOICA) also provides funds in this program.

In the year 2007, the Technical Education Development Project (TEDP), the successor to the Skills Development Project (SDP), came into effect that mainly concentrates on activities related to NVQ level 5 and above diploma level courses and setting up of the University for Vocational Technology (Univotec) for award of NVQ level 7 degree equivalent qualification.

The Vocational Training Authority of Sri Lanka (VTA) started in 1995 by acquiring all resources of Manpower division of the labour department operates a network of Rural Vocational Training Centres (RVTCs), Special Vocational Training Centres (SVTCs), District Vocational Training Centres (DVTCs) and National Vocational Training Centres (NVTCS), throughout the country.

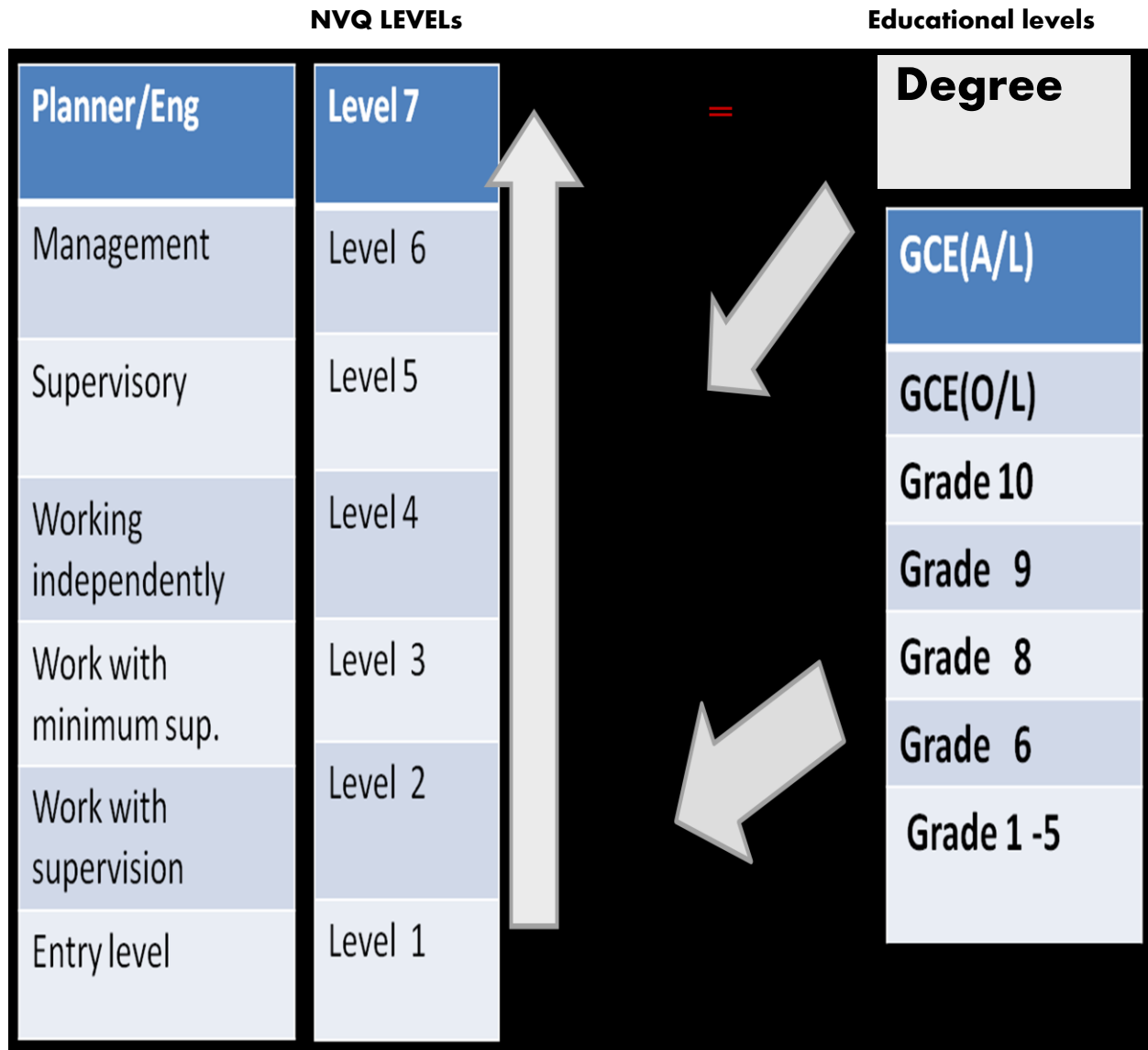
As at end of 2009, there were 270 training centres managed by VTA and around 29000 youth are training per year by the training centres those motioned above.

The National Youth Services Council (NYSC), under' the purview of the Ministry of Youth Affairs, organizes vocational training courses in urban as well as rural areas. In addition, a set of other public sector agencies provide training in different areas. Private sector establishments in the industry provide industry-specific TVET courses for their own workers as well as outsiders in different occupations. Registered private and NGO sector training institutions also play a key role in providing TVET in the country. As recorded at end of October 2009, there were 1,010 private NGO sector training providers in the Island.

### **2.3 National Vocational Qualification System (NVQ)**

National vocational qualification system established to formalise the sector and recognised the skills level of the trainees. Certificate issue by the TVEC.

Diagram 3



## Chapter 3

### 3.1 Theoretical Backgrounds

Human capital theory is applicable to this research when we measure the rate of return to education it has three approaches

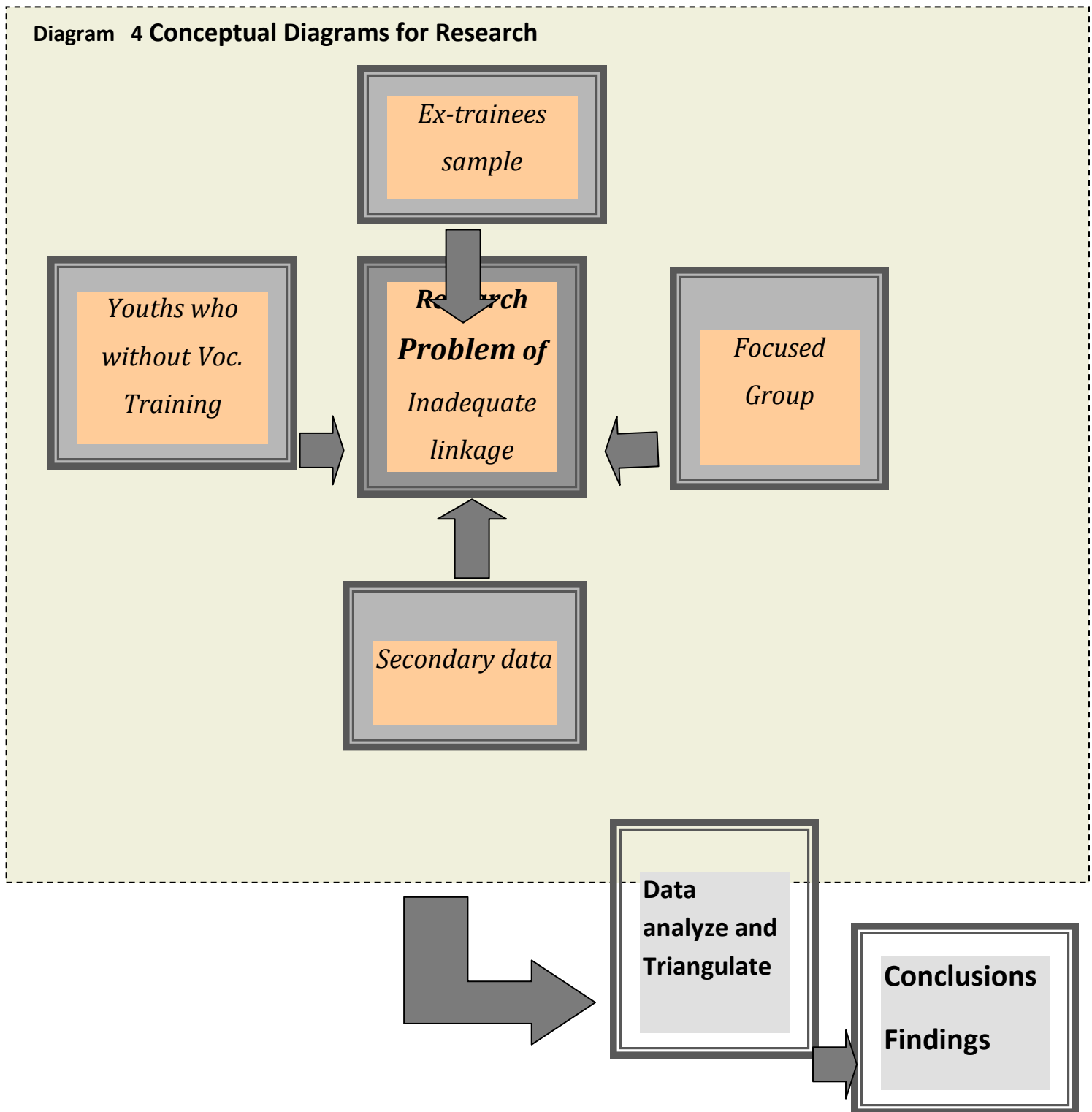
- Total factor productivity index approach
- Production function approach
- Correlation approach

We assume that at the end of the compulsory education (*age 10 in Sri Lanka*) a child faces a choice problem. He (she) has to decide on the optimal length of post-compulsory education ( $d$ ). In order to determine it, he (she) maximizes the present value of the life-time income to the length of post-compulsory education,  $d$ .

$$\text{Max}_d \left[ - \int_0^d X e^{-rt} dt + \int_d^{x+d} W_d e^{-rt} dt \right]$$

This is the standard human capital model as developed by Becker and Mincer. There are many applications of this approach in the literature. See, inter-alia, Hartog (1993), Card (1994) and Oosterbeek and Van Ophem (1995).<sup>5</sup> In fact, this is a simplified version of the implied equilibrium condition. According to the theoretical notion that we have developed so far, the equilibrium is essentially a quadratic equation. This makes the model more complicated. Card (1994) assumed that the direct cost is zero and that the left hand side of the equilibrium condition represents only the discount rate. Card (1994) has ignored the opportunity costs component. An alternative justification for this simplified version is to assume that the  $W_d$  component on the left hand side of the equilibrium condition represents only the intercept of the earnings function.

**Diagram 4 Conceptual Diagrams for Research**





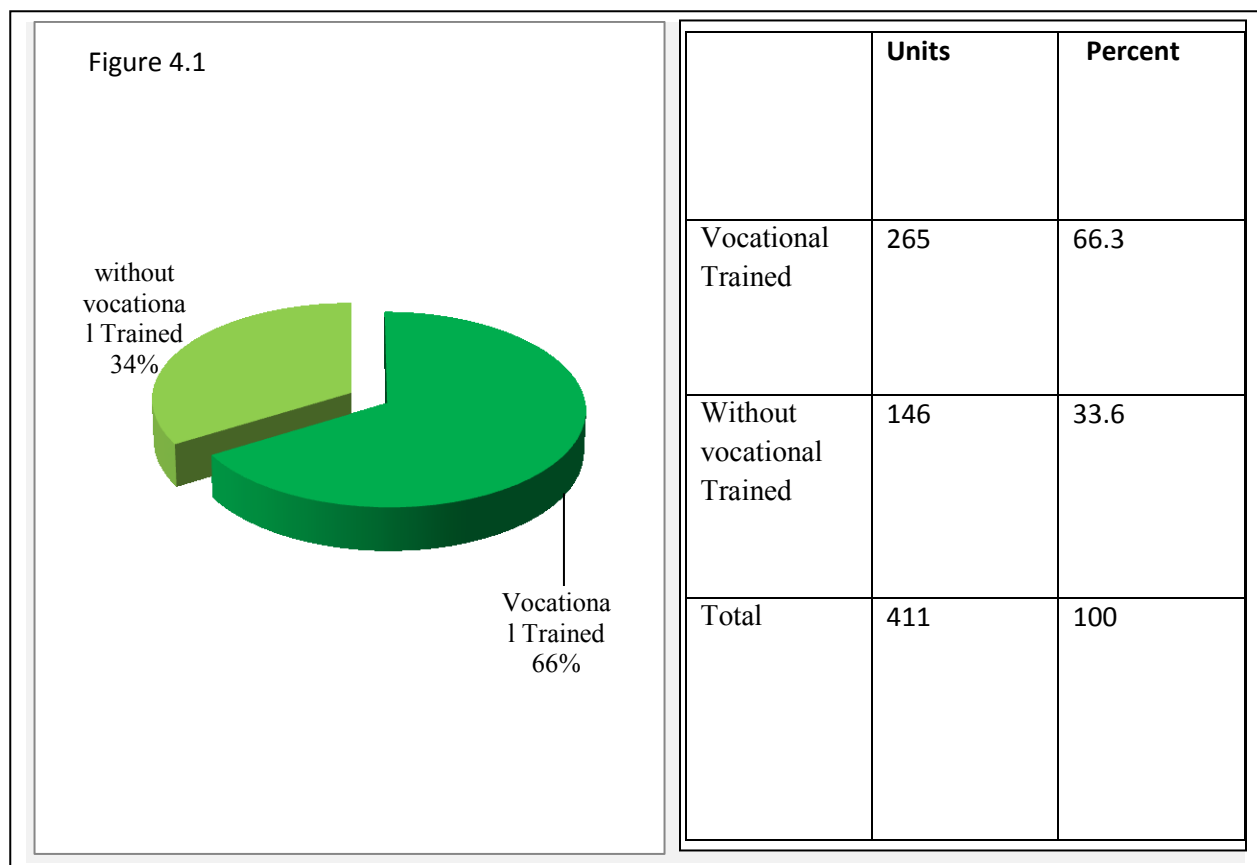
## Chapter 4 - Data Analysis and Presentation

This chapter carries data analysis of sample survey of control group and experimental group. Control group is comprised of those without training who left school 5 or 6 years ago and experimental group of those with vocational training youth who completed training courses in 2005/2006. They were interviewed pace to pace with a questionnaire and collected data. Quantitative data analyzed with SPSS computer package.

### 4.1 Those with and without Vocational Training

Data were collected from 405 individuals and it comprised 66.3% with vocational Training and 33.6% without vocational training youth.

**Table 4.1 Sample of With Vocational Training & Without Vocational Training youth**



Source: Sample survey 2011

## 4.2 Those with Vocational Training & those without Vocational Training

### Samples by Districts

Those youth without vocational training were interviewed by visiting in their houses and interviewed 146 youth. On the other hand, 265 youth were interviewed as those undergone vocational training. Enumerators trained as to how to collect data effectively. It was the most difficult task to find out required number of youth because of most of them engaged in jobs outside of their residencies. Data were collected from selected six districts and sample districts presented in table 4.2

**Table 4.2 Sample by Districts**

| Districts    | Without Vocational Training |            | With Vocational Training |            |
|--------------|-----------------------------|------------|--------------------------|------------|
|              | Units                       | Percent    | Units                    | Percent    |
| Galle        | 40                          | 27.3972603 | 70                       | 26.0223048 |
| Gampaha      | 23                          | 15.7534247 | 35                       | 13.0111524 |
| Kandy        | 18                          | 12.3287671 | 44                       | 16.3568773 |
| Monaragala   | 5                           | 3.42465753 | 30                       | 11.1524164 |
| Polonnaruwa  | 32                          | 21.9178082 | 55                       | 21.1895911 |
| Colombo      | 18                          | 12.3287671 | 31                       | 12.267658  |
| <b>Total</b> | <b>146</b>                  | <b>100</b> | <b>265</b>               | <b>100</b> |

Source: Sample survey 2011

### 4.2.1 Sample by Training Courses

Fourteen different training courses were selected to the sample covering trades in industries. Majority of them includes electrician, electronics, and welder Motor mechanic and information & communication technology courses. These information are given in the table 4.3

**Table 4.3 Training courses selected to the sample**

|   | Courses                | Frequency | Percent |
|---|------------------------|-----------|---------|
| 1 | Aluminum Fabricator    | 10        | 3.62    |
|   | Carpenter              | 14        | 5.07    |
|   | Computer               | 14        | 5.07    |
|   | computer hardware      | 3         | 1.09    |
|   | Construction/mason     | 15        | 5.43    |
|   | Electrician            | 59        | 22.46   |
|   | Electronic             | 30        | 10.87   |
|   | Hotel                  | 5         | 1.81    |
|   | Lathe Machine Operator | 8         | 2.90    |
|   | Motor Mechanic         | 22        | 9.78    |
|   | NCICT                  | 23        | 8.33    |
|   | Plumber                | 12        | 4.35    |
|   | REF & air              | 13        | 4.71    |
|   | Welder                 | 38        | 14.49   |
|   | Total                  | 265       | 100.00  |

Source: Sample survey 2011

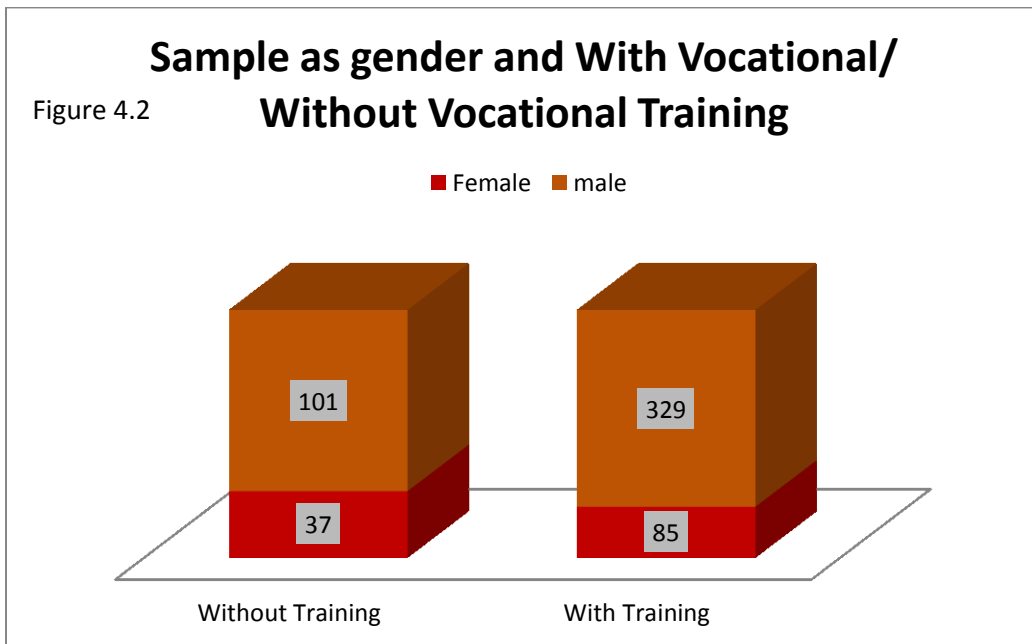
### 4.3 Gender Distribution of the Sample

Sample was selected with both gender of male and female. It has 76% male in without VT group and 82% in with vocational training group. The details given in table 4.4 below.

**Table 4.4 Gender Distribution of the Sample**

| Gender | Without Training |            | With Training |          | Total |
|--------|------------------|------------|---------------|----------|-------|
|        | Number           | %          | Number        | %        |       |
| Female | 37               | 0.26618705 | 48            | 0.173913 | 85    |
| male   | 101              | 0.72661871 | 227           | 0.822464 | 329   |
| Total  | 139              | 1          | 276           | 1        | 414   |

Source: Sample survey 2011



#### 4.4 Civil Status of the Sample

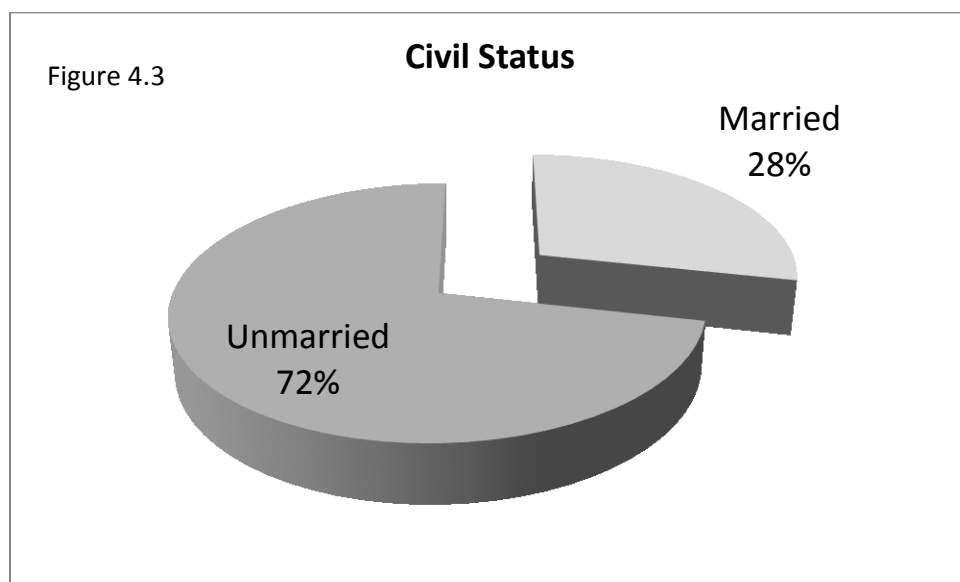
72% of the sample mentioned that they are not yet married and also 28% said they were already married. Percentages are same in both groups. Details are given in table 4.5 and the corresponding figure 4.3

**Table: 4.5 Civil Status of sample, with & without Vocational Training**

|                 |           | Without<br>VT | %     | With<br>VT | %     | Total |
|-----------------|-----------|---------------|-------|------------|-------|-------|
| Civil<br>Status | Married   | 36            | 0.261 | 73         | 0.275 | 109   |
|                 | Unmarried | 102           | 0.739 | 192        | 0.725 | 294   |
| Total           |           | 138           | 1.000 | 265        | 1.000 | 403   |

Source: Sample survey

**Civil status of all sample youth**



#### 4.5 Educational Levels of the Both Groups - With Vocational training and Without Vocational training

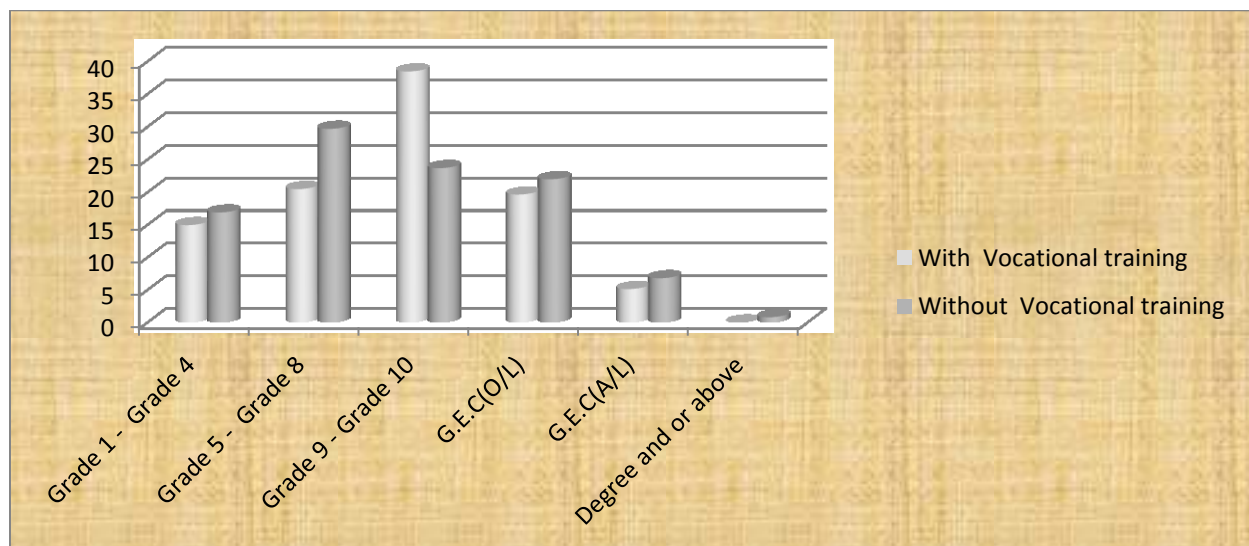
Educational levels represent a normal distribution in both groups. However, Grade 9 to 10 educational qualifications obtained in the with vocational training group than without vocational training group. However, number of grade 5 to 8 qualified youth are higher in the without vocational training group than with vocational training group. And also, GCE (A/L) and above qualified youth were very small percentages in both groups.

|                            | <i>With Vocational training</i> |                | <i>Without Vocational training</i> |                |
|----------------------------|---------------------------------|----------------|------------------------------------|----------------|
|                            | <i>Frequency</i>                | <i>Percent</i> | <i>Frequency</i>                   | <i>Percent</i> |
| <i>Grade 1 - Grade 4</i>   | 42                              | 14.96          | 24                                 | 16.9           |
| <i>Grade 5 - Grade 8</i>   | 57                              | 20.50          | 41                                 | 29.7           |
| <i>Grade 9 - Grade 10</i>  | 104                             | 38.46          | 32                                 | 23.7           |
| <i>G.E.C(O/L)</i>          | 54                              | 19.66          | 30                                 | 22             |
| <i>G.E.C(A/L)</i>          | 15                              | 5.13           | 9                                  | 6.8            |
| <i>Degree and or above</i> | 4                               | ,85            | 1                                  | 0.8            |
| <i>Total</i>               | 276                             | 100            | 137                                | 100            |

**Table 4.5 Educational level of the both groups**

Source Sample survey - 2011

Figure 4.5 Educational level of the both groups



#### 4.5 Father's Education of both Groups

Up to grade ten, cumulative percentage was 46% in with VT group and 60% was without VT group. On the other hand, GCE (O/L) and above qualified was 42% with VT group while 39% without VT group. Details are given in table 4.6 and the figure 4.6

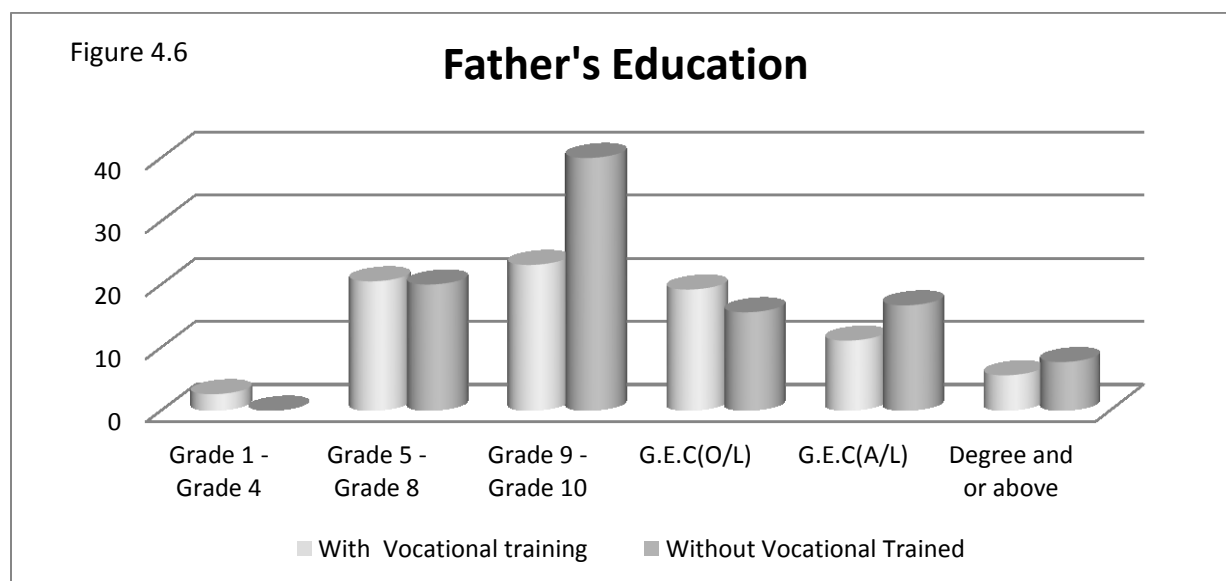
Skewness of father's education in the without vocational training group is 0.085. it is very closed to normal distribution. But skewness of the with vocational training group is 0.337 and positively distributed.



**Table: 4.6 Fathers education**

|                     | With Vocational training |         | Without Vocational training |         |
|---------------------|--------------------------|---------|-----------------------------|---------|
|                     | Frequency                | Percent | Frequency                   | Percent |
| Grade 1 - Grade 4   | 6                        | 2.6     | 0                           | 0       |
| Grade 5 - Grade 8   | 48                       | 20.5    | 18                          | 20      |
| Grade 9 - Grade 10  | 54                       | 23.1    | 36                          | 40      |
| G.E.C(O/L)          | 45                       | 19.2    | 14                          | 15.6    |
| G.E.C(A/L)          | 26                       | 11.1    | 15                          | 16.7    |
| Degree and or above | 13                       | 5.6     | 7                           | 7.7     |
| Total               | 192                      | 82.1    | 90                          | 100     |

Source: Sample survey 2011



#### 4.6 Mother's Education:-

Mother's education also important to study to compare with and without vocational training groups. It was 23.77% in grade 5 to grade 10 class GCE(O/L) and above education cumulative percentage was 19% of total.

**Table 4.7 Mother's Education by School Grades in Both Groups:-**

| School Grades       | Frequency | Percent |
|---------------------|-----------|---------|
| Never schooling     | 1         | 0.25    |
| Grade 1 - Grade 4   | 32        | 7.84    |
| Grade 5 - Grade 8   | 97        | 23.77   |
| Grade 9 – Grade 10  | 71        | 17.40   |
| G.E.C(O/L)          | 55        | 13.48   |
| G.E.C(A/L)          | 6         | 1.47    |
| Degree and or above | 19        | 4.66    |
| Not responses       | 127       | 31.13   |
| Total               | 408       | 100     |

Source: Sample survey 2011

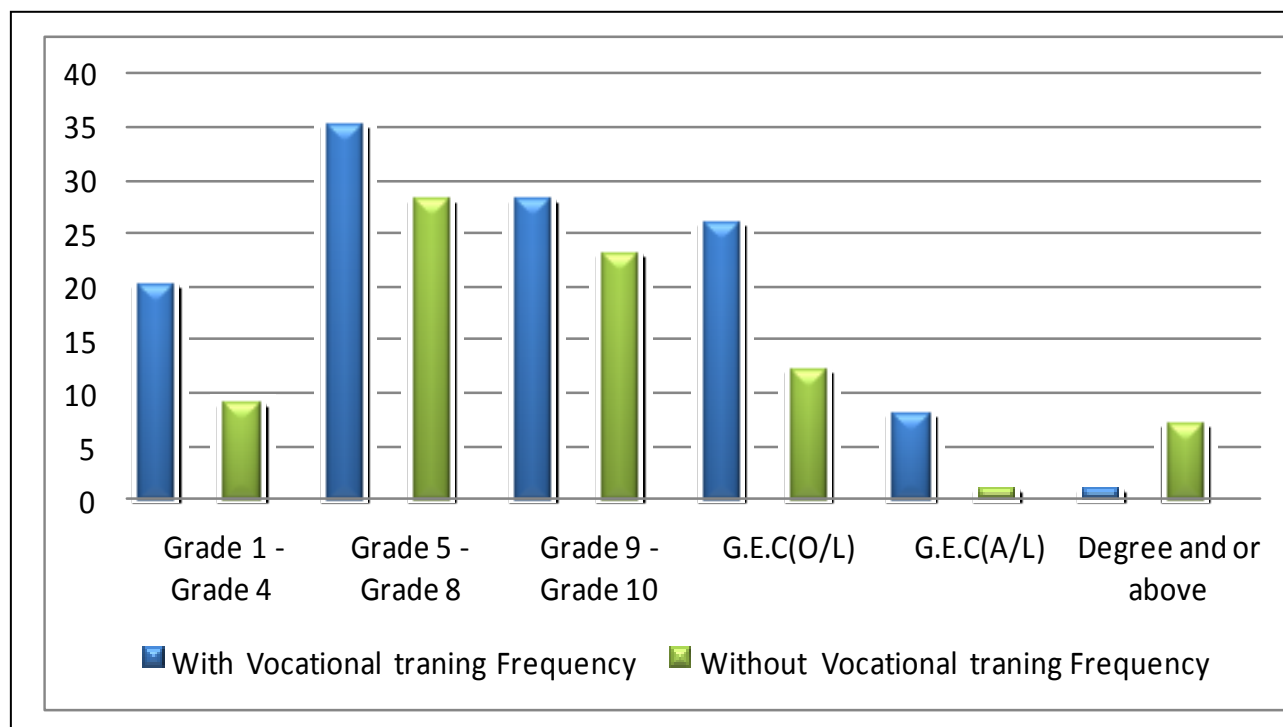
Skewness of the Mother's education in the without vocational training group is 0.71 and with vocational training group is 0.613 and positively distributed. It shows that mother's educational level of the, with vocational training family is lower than that of other group. Details are given in table 4, 7

**Table 4.7.1 Mother's Education by school grads, with and without VT:-**

| Educational group   | With Vocational training |         | Without Vocational training |         |
|---------------------|--------------------------|---------|-----------------------------|---------|
|                     | Frequency                | Percent | Frequency                   | Percent |
| Grade 1 - Grade 4   | 18                       | 7       | 11                          | 7.5     |
| Grade 5 - Grade 8   | 66                       | 25      | 35                          | 24.0    |
| Grade 9 - Grade 10  | 46                       | 17      | 28                          | 19.2    |
| G.E.C(O/L)          | 47                       | 18      | 15                          | 10.3    |
| G.E.C(A/L)          | 6                        | 2       | 1                           | .7      |
| Degree and or above | 11                       | 4       | 9                           | 6.2     |
| Not responses       | 70                       | 26      | 47                          | 32.2    |
| Total               | 265                      | 100     | 146                         | 100.0   |

Source: Sample survey 2011

**Figure 4.7 Mother's Education by school grades with and without VT:-**



**Table 4.7.2 Chi-Square Tests**

|                              | Value              | df | Asymp. Sig. (2-sided) |
|------------------------------|--------------------|----|-----------------------|
| Pearson Chi-Square           | 3.384 <sup>a</sup> | 6  | .759                  |
| Likelihood Ratio             | 3.732              | 6  | .713                  |
| Linear-by-Linear Association | .025               | 1  | .874                  |
| N of Valid Cases             | 243                |    |                       |

a. 4 cells (28.6%) have expected count less than 5. The minimum expected count is .33.

## 4.7 Father's Occupation

Father's occupation is another important variable to test for identifying whether any relation with vocational training. It is mentioned in table 4.8 and corresponding figure 4.8.

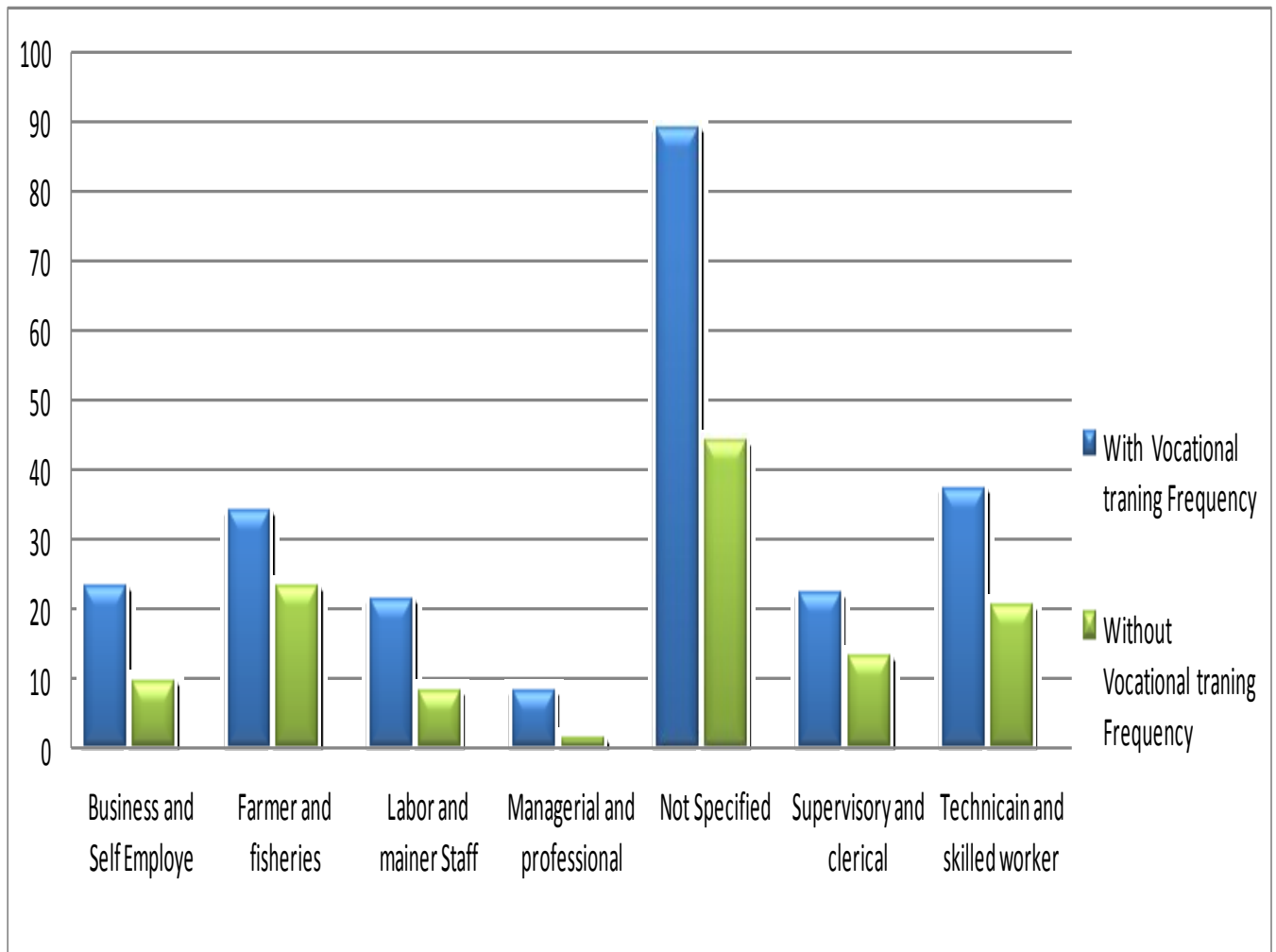
We can see large proportion of the sample did not mention the father's job. However, 19.5% and 14.5% of the sample has said that their father is a farmer in both groups. And also 15.5% and 16.9% mentioned that their fathers are doing jobs in technical field in both groups.

**Table 4.8      Father's Occupations**

| Category                      | With Vocational Training |         | Without Vocational Training |         |
|-------------------------------|--------------------------|---------|-----------------------------|---------|
|                               | Frequency                | Percent | Frequency                   | Percent |
| Business and Self Employee    | 27                       | 9.8     | 11                          | 7.6     |
| Farmer and fisheries          | 40                       | 14.5    | 27                          | 19.5    |
| Labor and miner Staff         | 25                       | 9       | 9                           | 6.8     |
| Managerial and professional   | 10                       | 3.4     | 1                           | 0.8     |
| Not Specified                 | 104                      | 38      | 51                          | 37.3    |
| Supervisory and clerical      | 26                       | 9.4     | 15                          | 11      |
| Technician and skilled worker | 44                       | 15.8    | 23                          | 16.9    |
| Total                         | 276                      | 99.9    | 137                         | 99.9    |

Source Sample survey 2011

Figure 4.8 **Father's Occupations**



#### 4.8 Family income:-

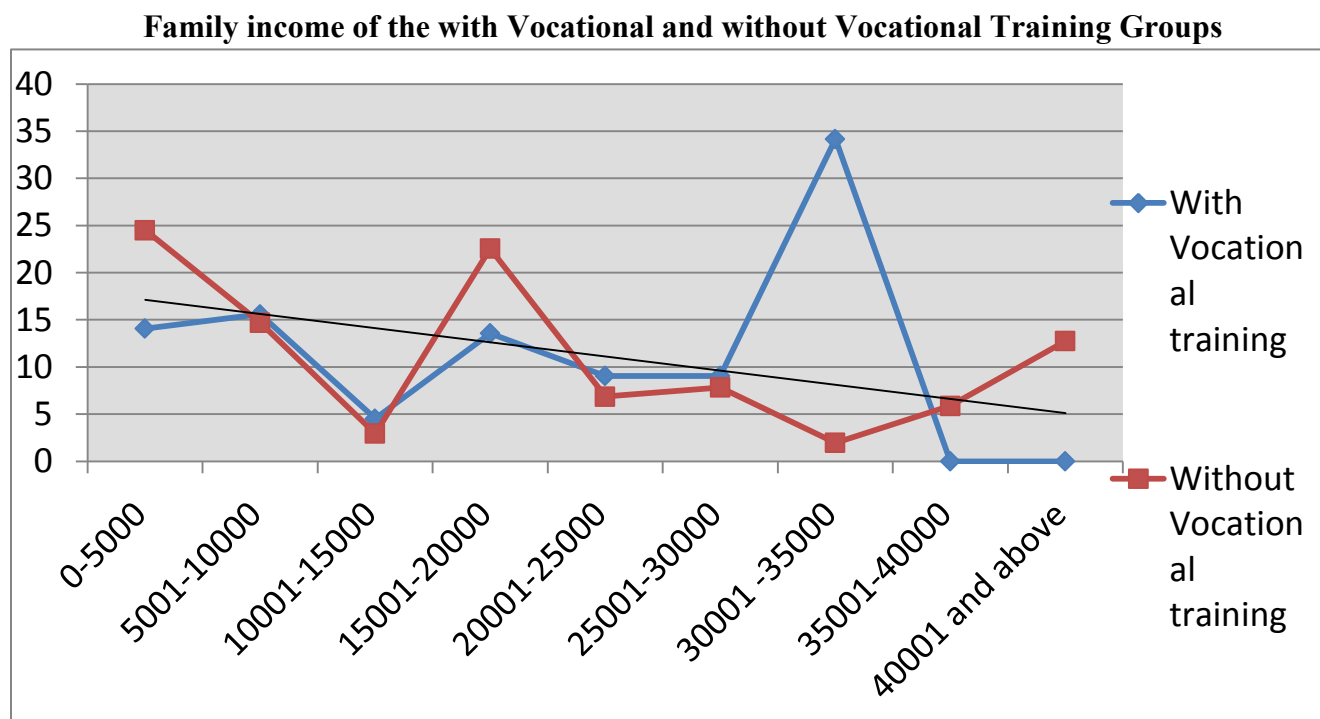
Family income is an important test for identifying whether it has an effect to the vocational training and to the education. According to the above table and the corresponding figure 4.9, up to income level of Rs. 20,000, both groups represent same income levels but beyond Rs. 20,000 income level with vocational training group was higher than that of without VT families. It is important to identify differences of the mean among two groups.

Table 4.9 Family income

|                 | With Vocational training |               | Without Vocational training |               |
|-----------------|--------------------------|---------------|-----------------------------|---------------|
|                 | Frequency                | valid Percent | Frequency                   | valid Percent |
| 0-5000          | 28                       | 14.07         | 25                          | 24.51         |
| 5001-10000      | 31                       | 15.58         | 15                          | 14.71         |
| 10001-15000     | 9                        | 4.52          | 3                           | 2.94          |
| 15001-20000     | 27                       | 13.57         | 23                          | 22.55         |
| 20001-25000     | 18                       | 9.05          | 7                           | 6.86          |
| 25001-30000     | 18                       | 9.05          | 8                           | 7.84          |
| 30001 -35000    | 68                       | 34.17         | 2                           | 1.96          |
| 35001-40000     | 0                        | 0.00          | 6                           | 5.88          |
| 40001 and above | 0                        | 0.00          | 2                           | 12.75         |

Source Sample survey 2011

Figure 4.9



#### 4.9 Mean test of the both groups

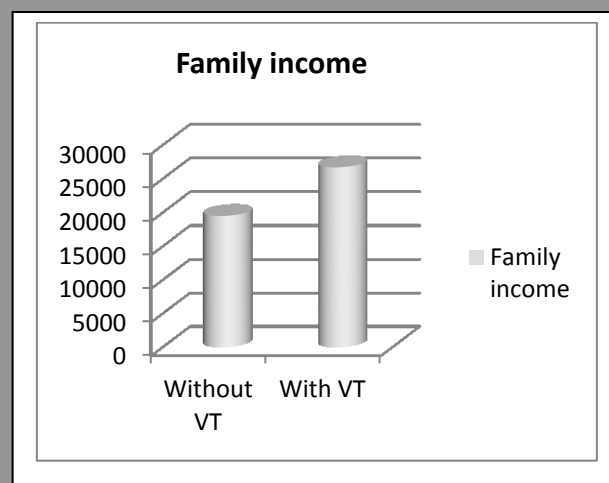
Mean test is an important indicator to identify differences among these two groups

**Table 4.10.1 Mean test of the family income**

|               | Mean test  |          |
|---------------|------------|----------|
|               | Without VT | With VT  |
|               | Mean (Rs)  | Mean(Rs) |
| Family income | 19,500     | 26,703   |

Source: Sample survey 2011

Figure 4.10





**Table 4.10.2 Paired Sample test of Mean Income**

|  | Paired Differences |                |                 |   |            | t       | df  | Sig. (2-tailed) |
|--|--------------------|----------------|-----------------|---|------------|---------|-----|-----------------|
|  | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |            |         |     |                 |
|  |                    |                |                 | Lower                                     | Upper      |         |     |                 |
| Pair 1 Trained / without Trained - Family income | -24261.664         | 19762.870      | 1139.113        | -26503.328                                | -22020.001 | -21.299 | 300 | .000            |

Source: Sample survey 2011

Under the 95% confidence level, there is a significant difference in family income of both groups. This difference indicates that vocational training graduates earn more than those youth without vocational training. We may further analyze this phenomenon as follows.

#### 4.10 Income levels of both groups

Income level of both groups are different it representing blue colored rows of the graph 4.12. Up to Rs. 15,000/= income levels, percentage of those without vocational training individuals are greater than that of with vocational training individuals. But, at Rs 15,000 – 20,000 income group, percentage of with VT was 20% and that of without VT was 17%.

**Table 4.12 Income levels of the Sample Youth with VT & without VT**

|             | With Vocational training |       | Without Vocational training |       |
|-------------|--------------------------|-------|-----------------------------|-------|
|             | Frequency                | %     | Frequency                   | %     |
| 0-5000      | 15                       | 7.54  | 8                           | 8.79  |
| 5001-10000  | 36                       | 18.09 | 25                          | 27.47 |
| 10001-15000 | 18                       | 9.09  | 11                          | 12.09 |
| 15001-20000 | 40                       | 20.09 | 16                          | 17.58 |
| 20001-25000 | 31                       | 15.58 | 10                          | 10.99 |

|                 | With Vocational training |        | Without Vocational training |      |
|-----------------|--------------------------|--------|-----------------------------|------|
| 25001-30000     | 25                       | 12.56  | 4                           | 4.44 |
| 30001 -35000    | 6                        | 3.02   | 2                           | 2.20 |
| 35001-40000     | 8                        | 4.02   | 0                           | 0.00 |
| 40001 and above | 10                       | 5.03   | 0                           | 0.00 |
| Not responses   | 45                       | 22.61  |                             | 0    |
| Total           | 199                      | 100.00 | 91                          | 100  |

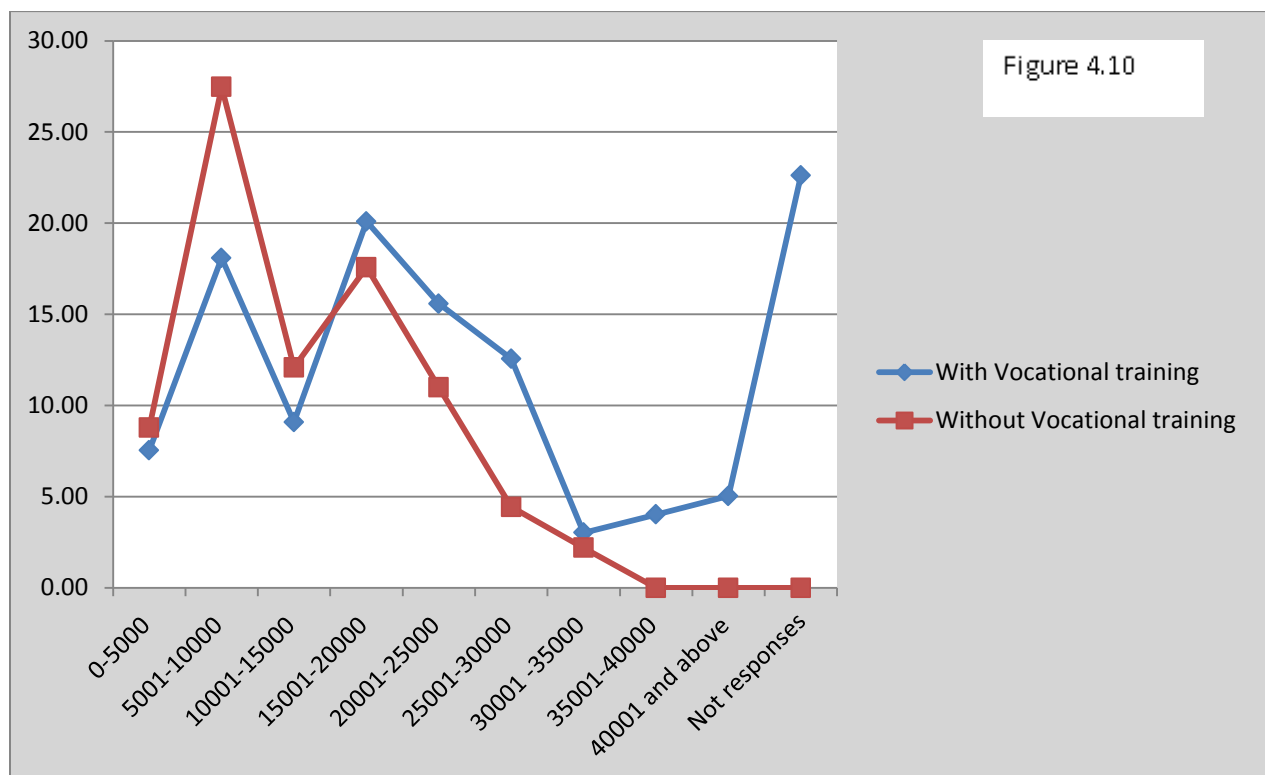
Source: Sample survey 2011

**Table 4.13 Mean Income of the Sample Youth with VT & without VT**

| With training/without training | Mean(Rs) | Std. Deviation |
|--------------------------------|----------|----------------|
| Without training               | 14452    | 9492           |
| With training                  | 20127    | 12472          |
| Average mean ( $\mu$ )         | 17249    | 13070          |

Source: Sample survey 2011

The average income of the without vocational training group was Rs. 14,452/= and with VT was Rs. 20,127/=. It has a significant difference of Rs. 5000/=. Standard deviation was quite high in both groups which was 13,070/=.



#### 4.11 Responses on Linkages of school Education and Vocational Training

The main research objective was identifying the linkage among TEVT sector and the school education in the country. Hence, we got opinion of the school leavers who have undergone vocational training and have not undergone vocational training. According to their views, 56.4% of with vocational training individuals mentioned that vocational training was very important during the school period and 18% of them mentioned it is important. 21% of those without VT youth also mentioned the same thing. Therefore 75% of with VT group mentioned that Vocational training was very important or important during the school period. It is a very important finding of the research.

## 4.12 Some opinion/views of those undergone vocational training

### I. Way of aware about their training course

According to the survey 17.6% of them got awareness by their friends and secondly parent and thirdly by school awareness programmes. Responses to the TV and radio awareness programme were low rate of 5% of the total. Details mentioned in the table 4.14

**Table 4.14 Way of aware about their training course**

| Method of aware training             | Frequency | Percent (%) | Valid Percent |
|--------------------------------------|-----------|-------------|---------------|
| 1 Awareness program in schools       | 32        | 13.4        | 15.0          |
| 2 T/V radio advertisement            | 14        | 5.9         | 6.5           |
| 3 News paper advertisement           | 17        | 7.1         | 7.9           |
| 4 Handout                            | 20        | 8.4         | 9.3           |
| 5 School Teachers and other officers | 27        | 11.3        | 12.6          |
| 6 Friends                            | 42        | 17.6        | 19.6          |
| 7 parents or addles                  | 35        | 14.7        | 16.4          |
| 8 posters and other notice           | 26        | 10.9        | 12.1          |
| Total                                | 214       | 89.9        | 100.0         |

Source: Sample survey 2011

### II. Reason to follow a training course

According to sample survey, 70% of total followed their training courses with the expectation for a job. 18.9% followed their training courses to acquire additional skills.

#### 4.15. Reason to follow a training course

| Views                 | Frequency | Percent |
|-----------------------|-----------|---------|
| Expecting a job       | 145       | 60.9    |
| For additional skills | 45        | 18.9    |
| Because of parent     | 8         | 3.4     |
| Others                | 7         | 2.9     |
| Total                 | 205       | 86.1    |
| Not responses         | 33        | 13.9    |
|                       | 238       | 100.0   |

Source: Sample survey 2011

## 4.16 Vocational training during the school period

56% of the total sample of with vocational training group mentioned that it is worthwhile doing vocational training during the school education and 21% mentioned that exactly important as depicted in table 4.16

### 4.16 Preferences Vocational training during the school period

|                              | With Vocational Training |         | Without Vocational Training |         |
|------------------------------|--------------------------|---------|-----------------------------|---------|
| Rank/ during school          | Frequency                | Percent | Frequency                   | Percent |
| Exactly important            | 106                      | 56.4    | 25                          | 21.2    |
| Important                    | 35                       | 18.6    | 19                          | 16.1    |
| Fairly Important             | 8                        | 4.3     | 6                           | 5.1     |
| It is important after school | 39                       | 20.7    | 6                           | 5.1     |
| Total                        | 188                      | 100.0   | 56                          | 47.5    |
| Not responded                | 46                       |         | 62                          |         |
| Total                        | 234                      |         | 118                         |         |

Source: Sample survey 2011

### 4.16.1 Time Gap between Leaving School and commencing the Vocational Training

According to their enrolled time 44.9% said that they enrolled to training course in less than three months period after leaving school. 17.3% have spent 6 months to enroll in VT. 14.7% of them spent 12 months to enroll in VT courses where details are given in following table 4.17.

**Table 4.17 Gap period after the school**

| Months                 | Frequency | Percent % | Cumulative Percent |
|------------------------|-----------|-----------|--------------------|
| Less than three Months | 70        | 44.9      | 44.9               |
| 3 Months to 6          | 34        | 21.8      | 66.7               |
| 6 Months to one year   | 28        | 17.9      | 84.6               |
| One year to two year   | 16        | 10.2      | 94.9               |
| Two year and above     | 8         | 5.0       | 100                |
| Total                  | 156       | 100.0     |                    |

Source: Sample survey 2011

**Those spend more than 6 month's period to enroll for a Training course:-**

Ex-trainees of 35.7% of the total respondents mentioned that they could not aware of the training course in 6 months period. 27.9% said that they were involved in other special activities. Detail is given in table 4.18.

**Table 4.18 Reason for delay enrollment to the training courses**

| Reasons                                  | Frequency | Percentage % |
|--|-----------|--------------|
| They could not enroll to favorite course | 18        | 14.0         |
| Did not aware about the training course  | 46        | 35.7         |
| Involve to other special activity        | 36        | 27.9         |
| Other reasons                            | 29        | 22.5         |
| Total                                    | 129       | 100.0        |

Source: Sample survey 2011

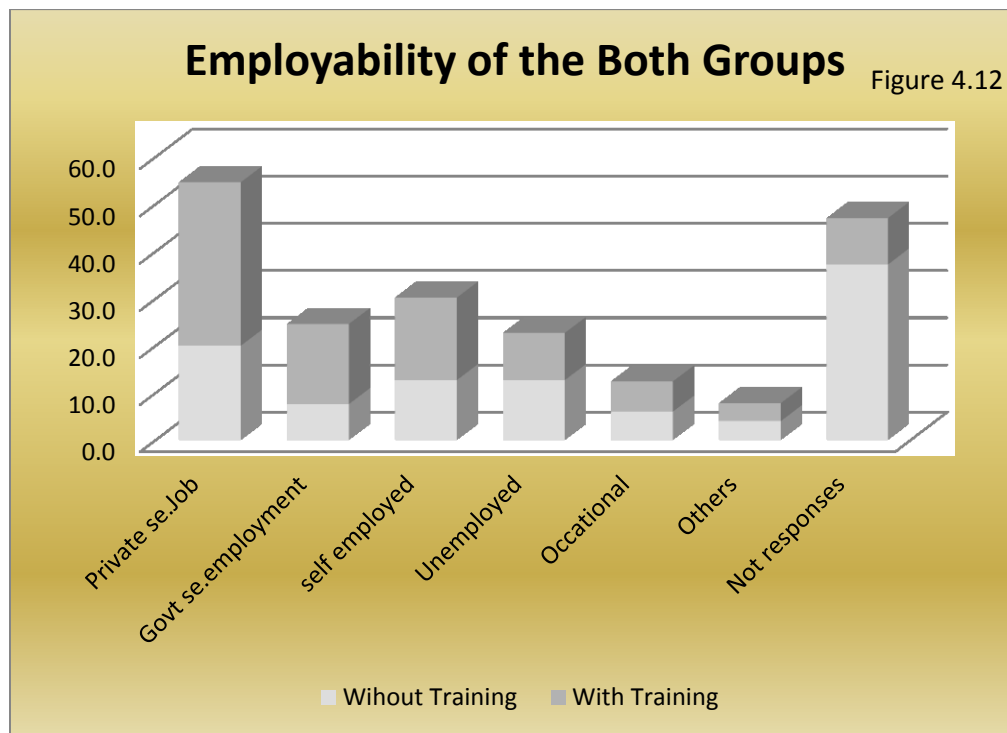
### 4.13 Occupational Characteristics of both Groups of Youth

Out of ex-trainees, 38% employed in private sector who graduated from the vocational training institutions. 19% were self employed and another 19% employed in government sector. Therefore, 76% of them can be rated as employed. However, 38.2% without vocational training were also employed in both groups as shown in table 4.19.

**Table 4.19 Employability of the With Vocational Training and Without Vocational Training Youth**

| Employability of the With Vocational Training and Without Vocational Training Youth |                 |                         |               |            |            |        |               |       |
|---|-----------------|-------------------------|---------------|------------|------------|--------|---------------|-------|
| Conditions  | Responses %     |                         |               |            |            |        |               | Total |
|   | Private se. Job | Govt sector. Employment | self employed | Unemployed | Occasional | Others | Not responses |       |
| Without Training  | 20.0            | 7.6                     | 12.7          | 12.7       | 6.0        | 4.0    | 37.2          | 100.2 |
| With Training   | 34.6            | 17.0                    | 17.5          | 10.0       | 6.4        | 3.8    | 9.8           | 100.0 |

Source: Sample survey 2011



**Table 4.20 Pearson Chi-Square Tests for employability**

|                       |            |        |
|-----------------------|------------|--------|
|                       |            | 16     |
| Trained / not Trained | Chi-square | 13.908 |
|                       | df         | 5      |
|                       | Sig.       | .016*  |

The Chi-square statistic is significant at the 0.05 level. This test representing that it has statistical differences among these two groups and employability of the with vocational training group is higher than without vocational training group

#### **4.14 Vocational Training Relevant to the job:-**

56.5% of the total respondents mentioned that there job is perfectly relevant to the training and only 18% mentioned that the training is not relevant to job as shown in table 4.21.



#### 4.21 Training Relevancy to the Job

| Relevancy          | Frequency | Percent (%) |
|--------------------|-----------|-------------|
| Perfectly relevant | 109       | 56.5        |
| Fairly relevant    | 48        | 24.9        |
| Not relevant       | 35        | 18.1        |
| Total              | 193       | 100.0       |

Source: Sample survey 2011

#### Sufficiency of training to doing their job:-

According to the responses of ex-trainees, 85% of total mentioned that their training was very sufficient or sufficient to do their job. 15% of total sample indicated their training was insufficient to do their job. Further details are given in table 4.22

#### 4, 22 Sufficiency of the training to doing their job

| Sufficiency                  | Frequency | Percent |
|------------------------------|-----------|---------|
| 1 very sufficient training   | 84        | 44.2    |
| 2 Sufficient training        | 78        | 41.1    |
| 3 Insufficient training      | 22        | 11.6    |
| 4 Very insufficient training | 6         | 3.2     |
| Total                        | 238       | 100     |

Source: Sample survey 2011

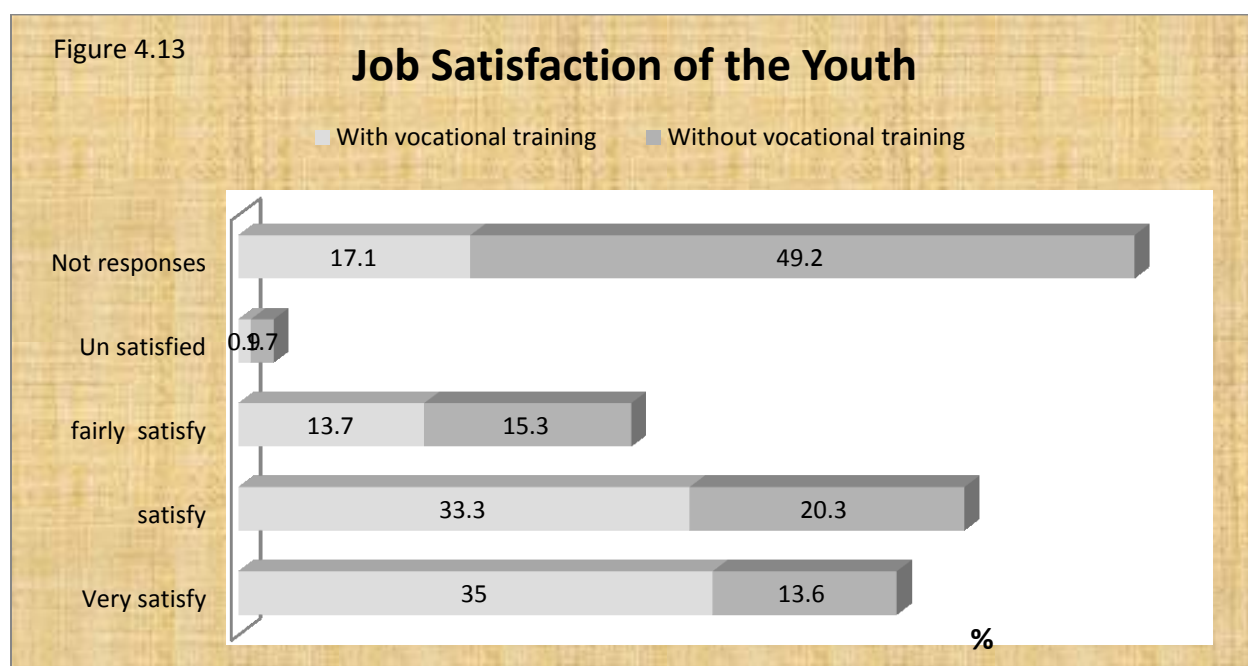
#### 4.15 Job satisfaction of the ex-trainees:-

Job satisfaction is a very important indicator to measure importance of the vocational training. 68% of total employed satisfied or very satisfied with their jobs. 33.9% were satisfied in the without vocational training group. Descriptions are given in table 4.23 below. Why this gap does exists among these two groups? It can be a cause of the impact of vocational training. Vocational training adds additional skills and create employability competency for them. Consequently, increasing their job satisfaction. Details are given in table 4.23.

#### 4.23 Job satisfaction in both groups:-

| Satisfaction level | With vocational Training |         | Without vocational Training |         |     |
|--------------------|--------------------------|---------|-----------------------------|---------|-----|
|                    | Frequency                | Percent | Frequency                   | Percent |     |
| 1 Very satisfy     | 82                       | 35.0    | 16                          | 13.6    | 22% |
| 2 satisfy          | 78                       | 33.3    | 24                          | 20.3    | 13% |
| 3 fairly satisfy   | 32                       | 13.7    | 18                          | 15.3    |     |
| 4 Un satisfied     | 2                        | .9      | 2                           | 1.7     |     |
| Total              | 194                      | 82.9    | 60                          | 50.8    |     |
| Not responses      | 40                       | 17.1    | 58                          | 49.2    |     |
| Total              | 234                      | 100.0   | 118                         | 100.0   |     |

Source: Sample survey 2011



## Chapter 5 - Correlation and Regression Analysis

Correlation among variables can exist in the sample and that relation and measurements are important to understand the situations. Therefore variables such as with vocational training, without vocational training, education, gender, monthly income can correlate. Pearson correlation test was used where a summary is given in the following table 5.1

**Table 5.1 Correlation With and without vocational training, income and educational level**

|                          |                                       | <b>With<br/>vocational/wit<br/>hout</b> | <b>Income</b> | <b>Education</b> | <b>Gender</b> |
|--------------------------|---------------------------------------|---|---------------|------------------|---------------|
| Trained / not<br>Trained | Pearson Correlation                   | 1                                       | .205**        | -.076            | .112*         |
|                          | Sig. (2-tailed)                       |   | .001          | .153             | .036          |
|                          | Sum of Squares and Cross-<br>products | 78.443                                  | 301732.814    | -14.585          | 7.528         |
|                          | Covariance                            | .223                                    | 1151.652      | -.042            | .021          |
|                          | N                                     | 352                                     | 263           | 352              | 352           |
| Income                   | Pearson Correlation                   | .205**                                  | 1             | .027             | .240**        |
|                          | Sig. (2-tailed)                       | .001                                    |               | .669             | .000          |
|                          | Sum of Squares and Cross-<br>products | 301732.814                              | 4.076E10      | 94334.373        | 301211.787    |
|                          | Covariance                            | 1151.652                                | 1.556E8       | 360.055          | 1149.663      |
|                          | N                                     | 263                                     | 263           | 263              | 263           |
| Education                | Pearson Correlation                   | -.076                                   | .027          | 1                | -.004         |
|                          | Sig. (2-tailed)                       | .153                                    | .669          |                  | .947          |
|                          | Sum of Squares and Cross-<br>products | -14.585                                 | 94334.373     | 464.747          | -.582         |
|                          | Covariance                            | -.042                                   | 360.055       | 1.324            | -.002         |
|                          | N                                     | 352                                     | 263           | 352              | 352           |
| Gender                   | Pearson Correlation                   | .112*                                   | .240**        | -.004            | 1             |
|                          | Sig. (2-tailed)                       | .036                                    | .000          | .947             |               |
|                          | Sum of Squares and Cross-<br>products | 7.528                                   | 301211.787    | -.582            | 57.861        |
|                          | Covariance                            | .021                                    | 1149.663      | -.002            | .165          |
|                          | N                                     | 352                                     | 263           | 352              | 352           |

|  |                                   | <b>With<br/>vocational/wit<br/>hout</b> | <b>Income</b> | <b>Education</b> | <b>Gender</b> |
|--|-----------------------------------|---|---------------|------------------|---------------|
|  | Sum of Squares and Cross-products | .000                                    | -22500.000    | -13.500          | .000          |
|  | Covariance                        | .000                                    | -22500.000    | -13.500          | .000          |
|  | N                                 | 2                                       | 2             | 2                | 2             |

\*\* Correlation is significant at 0.01 levels (two tails)

Source: sample survey 2011

\* Correlation is significant at 0.01 levels (two tails)

**Table 5.2 Non parametric Correlation**

| <b>Test</b>    | <b>Category</b>          | <b>Test para.</b>          | <b>Trained /<br/>not<br/>Trained</b> | <b>Income</b> | <b>Education</b> | <b>Gender</b> |
|----------------|--------------------------|----------------------------|--------------------------------------|---------------|------------------|---------------|
| Spearman's rho | Trained / not<br>Trained | Correlation<br>Coefficient | 1.000                                | .222**        | -.074            | .112*         |
|                |                          | Sig. (2-tailed)            | .                                    | .000          | .168             | .036          |
|                |                          | N                          | 352                                  | 263           | 352              | 352           |
|                | Income                   | Correlation<br>Coefficient | .222**                               | 1.000         | .064             | .293**        |
|                |                          | Sig. (2-tailed)            | .000                                 | .             | .301             | .000          |
|                |                          | N                          | 263                                  | 263           | 263              | 263           |
|                | Education                | Correlation<br>Coefficient | -.074                                | .064          | 1.000            | .011          |
|                |                          | Sig. (2-tailed)            | .168                                 | .301          | .                | .842          |
|                |                          | N                          | 352                                  | 263           | 352              | 352           |
|                | Gender                   | Correlation<br>Coefficient | .112*                                | .293**        | .011             | 1.000         |
|                |                          | Sig. (2-tailed)            | .036                                 | .000          | .842             | .             |
|                |                          | N                          | 352                                  | 263           | 352              | 352           |

Source: sample survey 2011

Correlation is significant at 0.01 levels (two tails)

\* Correlation is significant at 0.01 levels (two tails)

According to nonparametric correlation vocational training and the individual income positively correlate at the 0.01 confidence level correlation coefficient is 0.222. Gender also positively correlates with income where coefficient is 0.293 at the same level of confidence. But education and income did not correlate at the above mentioned confidence levels. The correlation rate is 0.094. These relationships we can further test with the regression analyze method.

## 5.1 Regression analyze:-

Regression analyze was done with the following regression equation

$$I = b_0 + b_1X + b_2VT + b_3Ed + u$$

I = salary or wages income of the ex-trainees who graduated before four or five years ago

(2005 and 2004)

X = Gender

VT = dummy variable of with vocational training and without vocational training.

Ed, = Educational level

**Table 5.3 Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .332 <sup>a</sup> | .110     | .100              | 11253.072                  |

a. Predictors: (Constant), Gender, Trained / not Trained, Education

**Table 5.4 ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 4.063E9        | 3   | 1.354E9     | 10.695 | .000 <sup>a</sup> |
|       | Residual   | 3.280E10       | 259 | 1.266E8     |        |                   |
|       | Total      | 3.686E10       | 262 |             |        |                   |

a. Predictors: (Constant), Gender, Trained / not Trained, Education

**Table 5.4 ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 4.063E9        | 3   | 1.354E9     | 10.695 | .000 <sup>a</sup> |
|       | Residual   | 3.280E10       | 259 | 1.266E8     |        |                   |
|       | Total      | 3.686E10       | 262 |             |        |                   |

a. Predictors: (Constant), Gender, Trained / not Trained, Education

b. Dependent Variable: Total

**Table 5.5 Coefficients**

|       |                                      | Un standardized Coefficients |            | Standardized Coefficients |       |      |
|-------|--------------------------------------|------------------------------|------------|---------------------------|-------|------|
| Model |                                      | B                            | Std. Error | Beta                      | t     | Sig. |
| 1     | (Constant)                           | 3030.617                     | 3784.723   |                           | .801  | .424 |
|       | With and without Vocational training | 5327.633                     | 1431.106   | .220                      | 3.723 | .000 |
|       | Education                            | -171.392                     | 235.963    | -.043                     | -.726 | .468 |
|       | Gender                               | 7858.510                     | 1812.938   | .254                      | 4.335 | .000 |

a. Dependent Variable: Total

The coefficient 0.22 of with vocational training and without vocational training is positive and significant at 0.05 confidence level, but education coefficient is negative and not significant. Coefficient of the gender is significant at the 0.05 confidence level.

## **Chapter 6 - Issues in linking School Education & TEVT**

Group discussion was held with officials of education sector in these two sectors of education and TEVT. It was held to identify issues and obtain opinions about linking school education and TEVT sector. As found during the discussion it has a major problem of in advocating training awareness and counseling. Especially school children did not aware about training courses and training organization during the school period. Therefore, many of them not do not have attention to involve to the vocational training courses. On the other thing, Parents also do not well aware in this sector and their attitude is to encourage the children to have university education. Their understanding on NVQ, economic value of the technical education and vocational training programme remain low.

The other problem in this regard is the training marketing strategy being adopted by relevant officials. The Government conduct TEVT programmes but does not have an attractive marketing strategy to make aware parents and children. However, private sector has better strategy in this regard. Good marketing strategy can change the mindset of the school children and also the parents.

The other important factor attributed to Low linkage is school teacher's attitude. Some teachers have good attitude and hence direct their children towards suitable path. However, many of them does not have any attention about TEVT programmes. If all the school teachers do this awareness and counseling activities in addition to their teaching duties school children would select the right career path.

The group discussion pointed out, there are no flexibility of the TEVT programmes conducted by the Government sector. Specially, the entry qualification, Training delivery time, course diversification, course duration, Industry requirement, and course start time etc. If it has flexible training environment school leavers would be able to easily enroll to the courses.

The other important thing is the institutional bottlenecks affecting to the linkages. There are no smoothly function programmes among institutions of the education and also the TEVT organizations. Now try to do this kind of programmes by these two parties but it is very insufficient to required level. Group members emphasized that government need to stimulate this problem and adapt national level programme in this regard.

Quality of the TEVT is another barrier for the low linkage. All members of the group discussion were agreement on this factor. Training quality has an effect on low enrollment and school leavers discourage to enter into TEVT programmes. However, last decade TEVT organizations undertake programme to improve quality of the training with adopting NVQ system with course accreditations to strengthen quality of training.

The group discussion suggested the importance of linkages among, the educational officers and also TEVT officers. Also suggested the idea of conducting career test before leave the school. In fac, if a carrier test was conducted for school children it would be able to decide what will do? Where will do for enhance future success?

Other thing is introducing alternative mathematical subject for school syllabus to prevent difficulties in calculations. The many vocational training courses need not higher mathematical calculations but it is only need subject related or trade related mathematical knowledge. Especially it is important that introduce vocational mathematic subject.

TEVT sector has a good system of NVQ. Those having NVQ can be easily employed so that the employers will not require academic qualification.

Appointing Zonal and District level career guidance and counseling committee it is important to strengthen the linkage. They discussed, this committee can appoint with the officers in educational sector and TEVT sector.

Another factor pointed out was starting carrier guidance unit in each school to promote linkages. Carrier guidance centers in the VT organizations are secondly important. In order to enhance the media support, upgrade the teachers training to increase Carrier guidance capacity in school teachers are necessary to strengthen the linkage.



## **Chapter 7 - Review, Conclusions and Recommendations**

### **7.1 Review**

According to the sample survey and the regression analyze method the rate of return to technical education and vocational training is 22 percent. It is quite higher rate. Kelly's (1993) provisional estimates show that the marginal rate of return to the primary education is nearly 6 percent and that increases to nearly 18 percent in the G.C.E. (O.L) (grade 11 completers). The marginal rate of return to the university education is also around 18 percent. These statistics show that the rate of return to education is high and increasing with the schooling level. Marginal rate of return to TEVT is higher than those rates and affecting factor for higher employability of the TEVT graduates and also higher salary earning by the TEVT graduates.

Data were collected in difference ways to analyze linkage among TEVT and school education. Sample survey, focus group discussion, observation with participating to the case and also secondary data reviews represented that same results of the in advocate linkage among these two sectors.

So many barriers for useful linkages were identified by the research. These issues can be classified into two parts. On the one hand, TEVT sector pointed out the problem of there are no formal system to school leavers aware and directing to TEVT organizations and other professionals. Existing carrier guidance and counseling programmes those under the education department are very few with compared to required level. There are no school based carrier guidance units at schools. Different type of organizations conduct marketing programmes in the schools to maximize profit or achieve targets. There are no individual carrier counseling and group counseling at the schools level as required.

On the other hand, TEVT sector related problems were also pointed out by the research. The major problem is there are no flexibility of the TEVE programmes such as training duration, entry qualification, training delivery time, course diversification according to the market requirement (Industry), Quality of the training, availability of the training opportunity etc.

Although these two sector arguments, TEVT sector has quit high rate of return. On the other hand survey found out that it has good indication with regard to vocational training groups with

compared to without vocational training groups. Specially, family income, employability, job satisfaction etc. and statistically difference by the tested variables among these two groups of with vocational training and without vocational training.

## 7.2 Conclusion

- Existing linkage in TEVT sector & school education is insufficient. Every school leavers should know about carrier path and necessary vocational or professional training courses to achieve their goal. Provincial education department has been taken an action in this regard by appointing zonal carrier guidance officers for each educational zone. Yet there could not strengthen the linkage so far. They organizing carrier guidance seminars in the school but many of the students did not understood the situation.
- Non formal education programs are not popular among school children and not functioning properly. It has functioning non formal education units in the zonal education offices but the quality remain at low
- Father's education considerably correlates with their family income. It has a relationship between father's education and the family income. If father's education is high the family income also high.
- We can conclude that Vocational training positively correlate with their Income. Those who undergone vocational training, their earning capability is greater than those without vocational training.
- Coefficient of the return to vocational training is 22%. it is closed to previous research (20%)

According to sample survey, 83% of total employed VT Graduates doing jobs relevant to Their training courses

- 69% of total employed VT graduates get employed within 6 months period Around 48% ex-trainees wasted more than 6 months period to find VT training opportunities.

- 77% of respondents who employed VT graduates said that they were very satisfied or satisfied with their job and 34% said that they are dissatisfied with those without vocational training
- Income level of VT graduates is much greater than that of youth without vocational training
- Family income also is greater than that of those without vocational training group.
- Inadequate institutional arrangement is a reason to low linkage among these two sectors.
- Non formal education unit should have much closer relation with TEVT institutions for optimum utilization of the resources.

### **7.3 Suggestions and Recommendations**

- It needs a national policy for the school Education and TEVT linkage. How to do this? According to research findings every teacher must involve in this programme. Every teacher must have a training about career guidance and counseling and this duty also need to be added to teacher's duty list. And needs help of skilled coordinators for each school to follow up the programme.
- Actually Non formal education units are need to attach TEVT institutional framework with introducing NVQ system for the non formal education units of the department of education.
- Productivity of the youth improves by the Vocational training and we suggested that large proportions of school leavers should direct to the TEVT sector. For different Kind and different levels of the TEVT courses.
- We suggest that Education ministry need attention to introduce vocational mathematics subject for the School syllabus. If any school student prefers to TEVT they can follow this subject and it is a qualification instead to the mathematics subject. This is a solution for the mathematics failures to carry on their necessary courses.

## **7.4 Strategies for strengthening of the linkage:-**

- Carryout district level, provincial level committee with participants in both sectors of education and TEVT. Government support is required to function these committees.
- National policy for implementation of a programme in the schools. Every school students directing to the career councilors and decide further education, professional courses or vocational training courses from this counseling stage with the career test.
- Conduct “**career’s week**” with collaboration of the ministry of Vocational Training in the each school with participating students, parents, training providers and other professional qualification providers.
- Appoint a committee in this regard with senior officers in relevant ministries that specially Education, TEVT and science & technology etc.
- Improve Quality of the TEVT programmes to attractions of the school children on this areas. And strengthen the NVQ system further more.
- Aware school children, parents and all the social groups through public Media of audio and visual.

### **Further research areas**

Conduct model project in selected schools as action research with applying linking strategies,

Feasibility study to start carrier guidance units in the school

Study on Linkages among TEVT and Industry,

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