

**Female Enrollment and Retention in TVET
Program: Asella and Nekemte TVET Colleges
in Focus**

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**A Thesis Submitted to the School of Graduate Studies
of Addis Ababa University in Partial Fulfillment of the
Requirements for the Degree of Master of Art in
Curriculum and Teachers Professional Development
Studies**

June, 2009

Addis Ababa

ACKNOWLEDGMENT

First and foremost, I would like to extend my gratitude to Ato Tilahun Fanta, my thesis advisor, for his technical and professional guidance. Without his ripe guidance and exhaustive help and advise, I would not have been through with this thesis.

I would also like to take this opportunity to express my heart felt gratitude to my beloved wife w/ro Yewodianesh Mengesha and my son Motuma Adugna who have contributed much in my stay at study for years.

My profound appreciation also goes to w/rt Nibret Hailu for carefully and neatly typing this manuscript.

Gratitude must also be expressed to Oromiya Regional State TVET Agency staff members in general and curriculum development and Training Department staffs in particular for their brotherly supports.

Last but not least, I am also thankful to Asella and Nekemte TVET Colleges trainee and trainer respondents, principals and others supportive staffs. Without their cooperation access to the data would have been difficult.

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List of acronyms

AAU	Addis Ababa University
AU	African Union
ESDP	Education Sector Development Program
FDRE	Federal Democratic Republic of Ethiopia
IER	Institute of Educational Research
IIEP	International Institute for Educational Planning
ILO	International Labour Organization
JICA	Japan International Cooperation Agency
MOE	Ministry of Education
TVET	Technical and Vocational Education and Training
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
WAD	Women Affairs Department

ABSTRACT

The purpose of this study was to investigate the status of female enrollment and retention in technical and vocational education and training programs in Oromiya Regional state, Asella and Nekemte TVET Colleges in focus.

In order to attain the objectives of the study, a descriptive survey research method was employed to identify the difference between female and male trainees with respect to enrollment and retention on the one hand and to see difference between male and female in choice of study fields in relation to TVET old curriculum which has been implemented since 1994 E.C.

Data for the study were obtained from primary and secondary sources. Concerning secondary sources, Relevant books, journals and documents were consulted. In addition, by using stratified sampling 132 female trainee respondents and 20 trainer respondents were selected. Two colleges were chosen using purposive sampling technique.

Information was obtained using questionnaires, interviews and documents.

The finding shown that female enrollment in TVET program of Oromiya Region was 'low'. On the other hand, the discontinuity of female trainees after joining TVET field of studies was found to be low. This implies that female retention rate in technical and vocational education and training institutions was 'high'.

Therefore, it is advisable that, in the short term, regional TVET Agency use quota system to ensure female enrollment in different TVET field of studies. Moreover, depending on the economic capacity of the country, TVET institutions should be accessible to the targeted population. Thus, Oromiya TVET Agency and Zonal TVET offices should have a short term and long term plan of opening institutions working together with the community.

CHAPTER ONE

I. Introduction

1.1 Background of the Study

Education has a vital role to play in country's development process. So, the use of human capital as a strategic resource in the process of development can be taken as a sign of strengtheness. As cited in Ali (2007), Kono (1982:4) and Jack et.al (1993.140) expressed that schools are expected to supply either technically and vocationally competent man power or knowledgeable theoretician in the society, which is however the result of the relationship between education and productivity that is depending up on the type of training offered so as to increase productivity.

Scholars define technical ad vocational education and training (TVET) as the form and mode of delivery of skills for trainees, which is beneficial for both the individual and the society to cope up with life changes and to address economic demands. This point has become increasingly significant to countries seeking to expand their economies and improve the welfare of their citizens in a highly competitive and rapidly changing world economy. Character stoically, the country's confection that success in the economies will largely depend, more than ever before, on mastery of increasingly more and more complex and abstract information and skills. Trends of technological changes in recent years also suggest that the forthcoming economic prospects will depend on comprehensive endeavors of countries to prepare young people and adults for employment in jobs that require new skills (Levine,1992:23).

A somewhat different justification has been the notion that vocational skills improve the employment chances of economically and academically disadvantaged youth. The perspective is that of the individual, and while consistent with the manpower supply objective, rests on a different assumption in improving employability than general education. It is also hoped that vocational education will improve attitudes towards skilled "blue collar" work, diverting youth from the white collar jobs that are in increasingly short supply (World Bank, 1990:18).

Nevertheless, until recently, relatively little attention has been given to technical and vocational education and training for women. Interest is growing, not only for reasons of social equity, but also in recognition of the potential productive value of half of the population. Many of the issues to be addressed concern skills training for women in agriculture and in the informal sector (traditional apprenticeship), but there are important issues in training for the modern sector as well. Factors that play a role in the termination of the level and nature of female enrolment in technical and vocational education can be grouped in to the following categories: Overriding societal perceptions about the role of women, women's social conditions, characteristics of the education system, and labor market dynamics. All of these factors combine to create a complex web of social pressure and prejudice that contributes to the types of secondary technical and vocational programs in which women engage (World Bank, 1990:29).

The general social conditions governing women's lives also strongly influence their participation in technical and vocational education. In addition, the supply of places in secondary technical and vocational programs may also be influenced by the existing gender defined roles.

Where technical and vocational schools are available, the characteristics of those schools can render them effectively inaccessible to women.

Predominance of male instructors/ trainers, lack of segregated boarding facilities, instructional materials that reinforce traditional stereo types, and class room practices that place female trainees at a disadvantage all create barriers to female enrolment in technical and vocational education and /or force the traditional tendency of women to enroll in only certain fields of study. It is clear that females generally account for significantly higher percentage of enrolments in courses study and training oriented towards commercial and service trades or occupations rather than courses towards industrial and engineering trades and occupations (Hoffman et.al, 1999).

Therefore, in cognizance of the importance of the need for improving the enrolment and retention of female trainees this research is aimed at the strategies, practices and influencing factors in the two colleges , and consequently to suggest possible solutions for the problems pertaining to enrolment and retention issues.

1.2 Statement of the Problem

The very focus of any vocational and technical education is to create integration between mental and hands of the learners, which will capacitate the trainee in an individual base and to ensure the training of skilled labour force for the growing societal and economic services. This implies that there is a high correlation between education and national development in general and human resource development in particular.

With this regard today girls' education is widely recognized as the most effective development investment a country can make. The education of girls enhances economic productivity, reduces fertility rates, lower infant and maternal mortality and improves the health and nutritional status. It promotes sound management of environmental resources and closely linked with reduction of poverty through women's absorption in the economy as employees and in self employment (Edda G.2000).

Therefore, the education of girls has particular significance to Ethiopia where economic and social development is limited by rapid Population growth and inadequate development of the human resource base. These impacts of education can fully be realized when women in a country have equal opportunity and access to education and training to that of men (Tirufat, 1998).

It is believed that gender imbalance in different field of study is a result of a combination of factors such as cultural factors, school factors, home factors, etc. The Cultural factors that arise from gender specific belief and bases in a society do not allow females to spire careers that all are perceived as male domain due to being afraid of disapproval from others (Hyde, 1993:4).

The school environment such as teachers, peers, and learning materials plays vital role in transmitting all forms of beliefs that reinforce gender inequalities in natural science and technical fields. The image of subjects as male domains in school environment affects female's field of study choices (Wolpe A., 1997).

4. What are the views and reactions of teachers, department heads, principals, parents and students towards female enrollment to technical and vocational fields of study?
5. What factors highly influence female students' choice of field of study and enrolment to technical and vocational education and training programs?

1.3. Objectives of the Study

1.3.1. General Objective

The over all objective of this study was to assess the status of female enrolment and retention in technical and vocational education and to identify effective strategies and practices in use.

1.3.2. Specific Objectives

- To find out the rate of female enrollment and retention in TVET,
- To find out the influence of parents, teachers, peers on female trainees' choice of study,
- To look into the practices of the two colleges with respect to female enrolment and retention,
- To forward suggestions on how to enhance female enrolment in technical and vocational education and training programs.

1.4. Significance of the Study

The researcher feels that this study is important for the following:

- Provide insight on the similarities and differences between male and female enrolment in technical and vocational education with respect to choice of study courses.
- It indicates the importance of female participation in technical and vocational education and training.

- Pave the way for other researchers who want to conduct in-depth further study on female enrolment and retention in technical and vocational education and training institutions.
- Suggest ways and means of improving female enrolment practices in technical and vocational education institutions.

1.5. The Scope of the Study

The study was delimited to two technical and vocational education and training colleges namely Asella in Arsi zone and Nekemte in East Wollega Zone. Both are found in Oromiya region. This was because both of them were among the first institutions to be called technical and vocational education and training colleges. Moreover, these two colleges were in a position of providing education and training in several different fields of study. Their location and the relative availability of human and non-human resources were also taken in to account.

1.6. Limitation of the study

There are 83 government Technical and Vocational Education and Training institutions in Oromia Regional State. Among these, 12 of them are labeled as TVET Colleges while others are institutions.

However, due to shortage of time and money, this study was confined to Nekemte and Asella TVET Colleges. In addition to this, the distance between the two sample colleges as well as from AAU also consumed time proposed for the study. Therefore, shortage of time and finance has also to some extent posed a setback to the investigation as much as they can contribute to the quality and validity of the research. Moreover, the fast reform occurring in TVET has an impact especially on getting the required data concerning trainees because of some of the trainees were moving from old curriculum i.e. 10+1, 10+2 & 10+3 to level one, level two, level three, etc. However, with great commitment and effort made, the researcher was able to overcome these problems.

1.7. Definition of Terms

For maintaining clarity and consistency, some of operational definitions of terms have been included in this study.

Enrollment: - Number of trainees registered for technical and vocational education and training (TVET) fields of studies.

Gender: - refers to those characteristics and functions society ascribes or assigns to males or females (UNESCO, 1999:210).

Gender stereotyping: - is defined as a collection of commonly held beliefs or opinions about behaviors and activities considered by society as appropriate for males and for females (UNESCO,1999:210).

Labor Market: - refers to geographical setting where potential employees are located and from which employees' recruitment is made. Cover a wide geographical area, depending on types of national requirement in demand (Mondy, 1990:439).

Occupational Information: - is a valid and usable data about positions, jobs and occupations including relevant duties, requirements for entrance, conditions of work, rewards offered, advancement pattern, existing and predicting supply and demand for workers and sources for further information (Adesina,1990:82).

Retention: - the act of retaining trainees in technical and vocational education and training (TVET) programs.

Self-Employment:- encompasses activities ranging from working in subsistence agriculture (on one's family plot) or petty production at street corner to the creation of small enterprises (King,1985:29-34).

Trainee:- means a person who participates in technical and vocational education and training program provided by a training institution with a view to acquiring or upgrading his technical and vocational skills (Federal Negarit Gazeta, March 1,2004 No. 391/2004:2553).

Technical and Vocational Education and Training (TVET):- a comprehensive term referring to the educational process when it involves, in addition to general education, the studies of technologies and related sciences and the acquisition of practical skills and knowledge related to occupations in various sectors of economic and social life (UNESCO,1984).

CHAPTER TWO

Review of Related Literature

2.1. Historical Development of Technical and Vocational Education and Training

Education is an instrument to the society to develop and meet the cultural, social and economic demands. Developing human potential for better performance in the world of work is the significant role that any education and training system need to address.

Scholars define technical and vocational education and training as form and mode of delivery of skills for trainees, which is beneficial for both the individual and the society to cope up with life changes and to address economic demands.

2.1.1. The Traditional Technical and Vocational Education and Training

The history of vocational education is as old as the history of human beings. It started when men and women learned essential skills through a trial- and-error method, and advanced when they started to acquire work skills by being told why and shown how (Gallinelli, 1979; Wenrich, 1958).

The traditional form of vocational preparation emerged as a form of skill training when men started to shift from the ancient trial- and- error method of acquiring life skills into more systematic imitational activities.

It began when parents started to teach their children the basic skills necessary for the survival in their communities. During these times, children learned the skills of their parents by watching carefully and imitating the process until they could produce an exact duplicate. In its latter development skill training had been carried out by the elders of the society, parents and religious leaders (Gallinelli, 1979; Sifuna and Otiende, 1992).

In the ancient Jewish culture, the boys were to go to the 'Rabbis' for religious instruction in the morning and learn their fathers trades in the after noon. Similarly, the early Christian monks had also established learning centers inside their monasteries where boys were sent to them to learn crafts, scripture and reading (Gallinelli, 1979).

According to UNESCO (1998:18) it was gradually that people learned to use fire to cook and melt metals to produce different tools. These ancient craftsmen (like Greece, Roman and man of the middle age) added much to the civilization of the mankind, and these arts and technical skills made the life of the people more comfortable and easy. In this regard, Sifuna and Otiende (1992) explained that in most African societies, parents and elders played a very important role in the skill training of young children. The mother educated the female child how to live and work as a woman in the society; and the father and the elders trained the male children to become competent craftsmen, and responsible skilled persons. Elleni (1996) also noted that in most African societies, life, work and learning are inseparable. She argued that in such societies, knowledge is holistic, that is to say, it is not compartmentalized into theoretical and practical, intellectual and emotional, mental and spiritual.

Moreover, as she further argued, it is also communal so that every member of the society is expected to acquire it in order to live responsible life as an average member of the society he/she represents. Traditional skill training existed until the 1400s in the developed world; but it is still continuing to exist in most parts of the developing world, especially in Africa, where it is used as a major provider of vocational skill training.

Like any other part of the world, traditional skills, in Ethiopia, also transmitted from family to new generation as a family tradition. The children were learning by observing and practicing the job with their elders and it became the job of their own by which they earned a living latter on. However, Teklehaimanot (2002) stated that after the golden age of arts and technology of the Axumite kingdom, when skills must have been highly regarded, technology seemed to have ceased evaluation in Ethiopia for a long span of time. In this regard, Belete (1995:13) also explained that, even though, Ethiopia had a long history in art and culture, there was no significant sign of development in science and technology that helped for socio- economic development of the country.

As Teklehaimanot (2002) the reason for no significant development in the area was because of the craftsmen, artisans and manually skilled people were insulted and discriminated and their works like pottery, leather works, weaving and metal works, etc. were viewed as an inferior occupation. Further more, he stated that practical skills and trades have been discouraged for a long time in Ethiopia. This social history has negatively affected the development of technical and vocational education and training and thereby the technical and technological capacity of the country.

Long before the coming of the western type of education to Ethiopia, as cited by Pankhurst (1990) and Tsehai (1991) in Wanna (1998), the

heterogeneous societies of the country had their own craftsmen and artisans who were traditionally trained through parent- to- child on the job coaching. The father- to-son and mother- to- daughter type of on the job training system was the basic source for the skilled people such as potters, blacksmiths, weavers, tanners, and many others. However, these skilled people were delegated to a lower status by their fellow countrymen, who most of the time call themselves “chewas”, and were marginalized by being labeled as sorcerers having evil spirits. In some instances, as they explained, these crafts people were also killed by their fellow society members due to misguided beliefs. Mean while, in many parts of the country, especially in the rural areas, this type of indigenous training of artisans and crafts people still prevails to be one of the major means for the training of the youth in the above mentioned skills.

2.1.2. The Modern Technical and Vocational Education and Training

Technical and vocational education and training in a relative explanation is a recent phenomenon. Though man kind has had a long history of involvement in work, to respond for basic necessities, it was not as such well organized.

As Isaacson (1977:4) cited in Mekonnen (2004), as time went on, a change in the whole system of the work force emerged as an outcome of the changing relationship between man and work. Technical and vocational education and training in the modern sense developed during the industrial revolution in order to produce the skilled human power required by the newly established factories. It is widely believed that the industrial revolution with the advent of the industrial age, which was ushered in by the discovery of the steam engine and the ability to generate and to handle large amounts of power rendered possible by the invention of the steam engine, men passed from dependence on human labor and hand tools to large and complicated, machinery production of commodities passed from cottage workshops to factories.

As the mass production developed, individual crafts men became obsolete and the production of goods shifted from the small shops into huge factories, where hundreds of workers shared the task of production, each performing only one small task and none learning the entire spectrum of skills required to make a finished product. It was this complex production system that forced the big factories to establish vocational schools, in or near their own plants, for the aim of training their own future workers before they actually assume their production duties (Unger, 1996).

Different countries organize their formal school technical and vocational education and training programs at different levels of their educational systems. According to (Jallade, 1994; King, 1994), some countries position their technical and vocational education and training programs at the primary education level; others in their secondary education level; and the rest at the tertiary education level. Depending on their economic strengths, mainly developed countries organize their school- based TVET programs at the end of their compulsory schooling periods- usually after nine years of prior general education.

As far as the historical development of the modern TVET systems in Ethiopia is concerned, different research findings expressed it in different ways. For instance, Teshome (1979) states that around 1931 Empress Menen School for girls was founded in Addis Ababa in which initially fifty girls were registered. He further expressed that Empress Menen Handcraft School was also opened in the capital primarily for girls in order to give technical education for young women and girls. On the other hand, Teklehaimanot (2002) states that modern education “the first government school was opened in 1908 and the first Technical vocational school was founded 43 years later after the establishment of modern

schooling". This is to mean the first technical vocational school i.e. Addis Ababa Technical School was established in 1951. In addition to this, MOE (1999) in Bizuneh (2006) expressed the following:

It was from 1937-1940 that the vocational education was introduced to the education system in the country. For the first time, hand craft education was given parallel to the academic education for students of grade one to six to plant the dignity of work in students mind.

Girma and others (1990) also stated that, even though, there were about thirty modern schools in the country up to 1935 none of them include vocational education in their curriculum. MOE (1973) in Buzineh (2006) also indicated that Addis Ababa Technical School was established in 1941 under the name of "Ecole National des arts Techniques" and popularly known as "ENAT"

According to (MOE, 2002a; Wanna, 1998), the first attempt to introduce the western type of technical and vocational education to Ethiopia was made by the imperial government in the years following the expulsion of the Italian colonizers in 1940. They further expressed that between 1940 and 1960, the government had opened six technical and vocational schools namely Addis Ababa Technical school (1942), Addis Ababa Commercial school (1943), Jimma Agricultural school (1944), Addis Ababa Building Trade school (1946), Ambo Agricultural school (1946), and Bahirdar polytechnic school (1964). The main purpose of these schools was to produce administrative and managerial elites who can fill different vacancies available mainly in the government machinery.

Different research findings reveal different years of the introduction of the first technical school. However, as majority of research findings indicated it is believed that the first technical school (Addis Ababa Technical School) was established in 1941/42.

2.2. TVET in the Education System of Ethiopia

The supply of skilled and productive man-power is the pre-requisite for social and economic developments. No matter how vast its natural resources might be, a country can not achieve economic growth without trained and skilled man power. The fundamental reason for the gap between highly developed and developing countries lies in this fact (MOE, 2002). Before the introduction of the western type of technical and vocational education and training to Ethiopia, the heterogeneous societies of the country had their own craftsmen and artisans who were traditionally trained through parent-to-child on the job coaching. The father-to-son and mother-to-daughter type of on the job training system was the basic source for the skilled people such as potters, blacksmiths, weavers, tanners, and many others.

However, this skilled people were delegated to a lower status by their fellow country men, who most of the time call themselves “chewas”, and were marginalized by being labeled as sorcerers having evil spirits (Pankhurst, 1990 and Tsehai, 1991 in Wanna, 1998). In some instances, as they described these crafts people were also killed by their fellow society members due to misguided beliefs. Mean while, in many parts of the country, especially in the rural areas, this type of indigenous training of artisans and crafts people still prevails to be one of the major means for the training of the youth in the above mentioned skills.

It was after the expulsion of the Italians that Ethiopian government has given attention to technical and vocational education and training as a part of its education system. The first attempt to introduce the western type of technical and vocational education to Ethiopia was made by the imperial government in 1940. Regarding this, Teklehaimanot (2002), states that the first technical vocational school was founded 43 years later after the establishment of modern schooling. In 1951, Addis Ababa

Technical School was established to meet the growing demand for skilled technicians in industry.

According to (MOE, 2002a; and Wanna, 1998), during the years between 1940 and 1960 the government had opened six technical and vocational schools in different parts of the country to provide training in the areas of agriculture, industrial arts, commerce, and home economics. They also indicated that Addis Ababa Technical School was founded in 1942. However, it seems that there is a disagreement on the specific year of the opening of the first technical schools. As it was reviewed from other research studies, Addis Ababa Technical School was founded in 1941/42.

Despite the introduction of modern education and the intention of the government to develop technical skills in the country, the subjects that students were taught in the schools were basically academic, because the primary and immediate objective of preparing educated Ethiopians was mainly for various clerical and administrative purposes. As a result, the cumulative effect of these factors becomes the major retarding force for technical education development (Teklehaimanot, 2002).

In addition to the government technical and vocational schools, missionaries residing in the country were also allowed to open technical and vocational schools. Accordingly, the seventh day Adventist and the Philadelphia missionaries had opened technical and vocational schools in Kuyera (1946) and Awassa (1960) respectively. However, it was cited (MOE, 2002; and Wanna, 1998), that due to the inability of the graduates of those separate technical and vocational schools to satisfy the growing needs for skilled human power, the government had introduced what it called "comprehensive Education" in to its secondary schools in the early years of the 1960s.

The Ethiopian comprehensive school scheme was also proved to be less successful because its graduates, who had been trained in the presence of an acute shortage of human and material resources, couldn't get enough employment opportunities in the job market as it was intended (Mekonen, 2004; Wanna, 1998).

The third attempt to introduce technical and vocational education scheme in to the country's educational system was made in the years between the late 1970s and 1991, when the government introduced the polytechnic education in some selected pilot schools in different parts of the country. According to (MOE, 2002a; Wanna, 1998) the polytechnic education scheme which was intended for the provision of the technical and vocational education was also proved to be less effective because: (a) there was a huge mismatch between the skills of the graduates and the skills required in the industries; (b) the majority of the graduates were not able to be employed in the jobs to which they were trained for; (c) the total number of subjects offered and their contents were beyond the capacity of the students; and (d) the time allotted for each subject was not sufficient to cover the entire curricula in the given period of time.

In line with Education and Training policy of 1994 technical and vocational education and Training forms a separate system that parallels the general education system. After the completion of grade 10 general education, students may enter to TVET program which was organized as middle level technical and vocational education and training programs of training years (one year, two years and three years). It also be designed in such a way that students may join junior and basic technical and vocational education and training programs after the completion of grade 8 and 4 respectively.

However, Teklehaimanot (2002) expressed that a high power national TVET capacity Building Task Force was established by the prime Minister's office to study the ways and means of enhancing the TVET. Accordingly, a strategy was set and implementation of an expanded, diversified and integrated TVET system started in 2001/2002. Thus, it is possible to say that Ethiopian TVET programs are still under continuous reforms.

2.3. Technical and Vocational Education as Compared to General Education

The term technical and vocational education encompasses programs that provide participants with skills, knowledge, and attitudes that enable them to engage in productive work, adapt to rapidly changing labor markets and economies, and participate as responsible citizens in their societies. Regarding this, the Second International Congress on Technical and Vocational Education in Seoul (1998) and at the 30th session of the General conference of UNESCO in Paris, it was agreed to adopt the phrase "Technical and vocational education and training" (TVET) to describe the combined process of education and training and recognize the common objective of employment as their immediate goal. The congress emphasized that TVET should be a multi-domain concern, requiring collaborative and integrated approaches. According to Becker (1964) Technical and vocational education differs from general education in that general education creates 'general human capital' and Technical and vocational education 'specific human capital'.

Since the ultimate objective of TVET is employability and employment promotion, it needs to link training to the needs of the labor market. Unlike general education, which is given as a compulsory in most countries, technical vocational education must not only be relevant but also demand-driven, rather than supply driven and a stand-alone activity. In

order to do this, data is required on the actual employability of technical vocational education and training graduates, available job opportunities, and the evolving skills demands on the labor front.

As cited by (UNESCO, 2001), however, even a secondary level of education is no more regarded as guarantee to getting employment. This is so because, changes in the nature of the labor market have made completion of secondary education just a minimum requirement to joining the labor force. General academic education and vocational training has many features in common. The elements they share include financial affairs, facilities, staff and students. On the other hand, their difference is related to the unique characteristics of vocational training. These unique natures of vocational training include job related courses, source of income, higher per student costs, and close relationship with the labor market (Gilli, 1976:55).

The cost of one technical vocational school is equivalent to two or three schools offering general education (UNESCO, 1996:20-37). So, the financial aspect of vocational training forced governments to search for cost reduction mechanism. Further more, it is indicated that cost reduction methods incorporate a strategy which includes student fees, sponsorship of trainees, sales of extension education service, sales of students' product, introduction of a training levy on employers (1 to 3 percent payroll tax) and apprenticeship training.

According to Yekunoamlak (2000), it may be difficult to increase the wealth of a nation without improving the quality of human resources. This can be possible through education. However, academic education is not enough for rapid and continuous social and economic changes. To this effect, vocational training is introduced in the education system with the purpose of preparing individuals for the world of work.

Although it seems a different justification (World Bank, 1990:18) vocational technical education and trainings improve the employment chances of economically and academically disadvantaged youth. The perspective is that of the individual, and while consistent with the man power supply objective, rests on a different assumption that vocational skills are more appropriate in improving employability than general education. It is also hoped that technical and vocational education will improve attitudes towards skilled “blue collar” work, diverting youth from the white collar jobs that are in increasingly short supply.

It was also expressed in the TVET strategy document by AU (2007) that one of the most important features of TVET is its orientation towards the world of work and the emphasis of the curriculum on the acquisition of employable skills. TVET delivery systems are therefore well placed to train the skilled and entrepreneurial work force that Africa needs to create wealth and emerge out of poverty. Another important characteristic of TVET is that it can be delivered at different levels of sophistication which means that TVET institutions can respond to the different training needs of learners from different socio-economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods.

The youth, the poor and the vulnerable of society can therefore benefit from TVET. The very focus of any technical and vocational education is to create integration between mental and hands of the learners, which will capacitate the trainee in an individual base and to ensure the training of skilled labor force for the growing societal and economic services. However, the technically skilled and semiprofessional occupations, all demands substantial amount of general secondary education as a pre-requisite.

Regarding this, Foster (in Fogerlind and Saha, 1989:87) in Yekunoamlak (2000) expressed that academic education has been in the eyes of most Africans in that it leads to clerical and white-collar jobs. He further argued that as long as the economic structure gives greater rewards to the white-collar sector, vocational or practical schooling will be unsuccessful in achieving its goal.

Lauglo and Lillis (1988) state that vocational education is that aspect of education that aims at the development of human abilities in terms of knowledge, skills and understandings to that the individual may serve happily and efficiently in carrying on the activities in the vocational pursuits of his choice. It is an education designed to develop skills, abilities, understandings, attitudes, work habits and appreciation encompassing knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis. In relation to this, UNESCO (1978:54) defines vocational education as a comprehensive process referring to the educational process when it involves in addition to general education, the study of technologies and related science, and the acquisition of practical skills and knowledge relating to occupations in various sectors of economic and social life. Thus, general education generates general human capital whereas vocational and technical education generates skilled human capital.

2.4. Principles of Vocational Education

Great socio-economic movements like vocational education result when fundamental ideas are put in to practice. Fundamental principles regarding vocational education help us determine policies, plans, and procedures. Stressing this aspect, Struck (1958:129-149) illustrates the following sound principles which good programs of vocational education and training observe:

- The programs of vocational education and training are administered and supervised at national and local levels by personnel who are properly prepared and experienced in vocational education; who understand the needs of vocational pupils and the needs of business, industry, and agriculture; and who are able to work effectively with employers, labor, school authorities and other governmental agencies concerned with worker education and training,
- The programs have flexibility of organization and an administrative, supervisor and instructional staff capable of and willing to meet national emergency and unusual national or local occupational training demands,
- The instructional program is conducted by instructors who have had sufficient and varied practical experience through bona fide experience in the occupations being taught to qualify them as outstanding workers, and education and training in theory and skills of teaching vocational subjects,
- Teachers are recruited from the world of work whenever this makes for a more sound and realistic program,
- The equipment and physical facilities are as nearly like the counterpart situation in the actual world of work as it is possible to achieve in an educational institution,
- Flexibility is a guiding principle of construction and layout so that essential change and updating of equipment and facilities are encouraged and easily attainable,
- The instructional program is developed from job analyses of the occupations,
- The course of study represents honest, realistic educational goal, and as a result, students are not arbitrarily stopped from entering or graduation because of unrealistic also or indefensible standards,

- Learning is motivated by relating the practical to the theoretical,
- The students enrolled in any specific programs are those who can profit from the instruction and who can qualify for placement upon credible completion,
- Sound occupational guidance with opportunities for a wide variety of exploratory experiences is given prior to entry in the program and organized guidance is continued after entry,
- Placement and follow- up of graduates are integral and important parts of the program,
- Programs are established up on proven need as revealed through scurvies, studies, and research, etc.

2.5. Objectives of Technical and Vocational Education and Training: Ethiopian Context

Development of the economy without expanding the educational system will result in shortage of man power which is the most important force to run the modern sector. According to JICA (2006), technical and vocational education and Training (TVET) helps learners to acquire skills, knowledge and attitudes needed to enter into the world of work. It adds that a quality TVET program plays an essential role in promoting a country's economic growth and contributing to poverty reduction as well as ensuring the social and economical inclusion of marginalized communities. Regarding this, Kazanas(1973) cited in Yekunoamlak(2000) that the main purpose of vocational education and training is "to help the individual develop desirable and effective work habits and acquire the necessary knowledge and skills of an occupation to either enter and/or make progress in it".

The primary objective of the new technical and vocational education and training (TVET) programs in Ethiopia is to provide various skill trainings for the present and future labor force in order to adapt to the

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The primary objective of the new technical and vocational education and training (TVET) programs in Ethiopia is to provide various skill trainings for the present and future labor force in order to adapt to the

requirements of the labor market. More specifically, as it has been indicated in the Federal Negarit Gazeta (FNG, 2004) and MOE (2002a), TVET program is intend to meet the following objectives:

- To create both manual and middle level clerical or technical work force in various occupations or jobs in the areas of agriculture, industry, commerce, and social services.
- To enable trainees to utilize resources wisely as well as economically for the benefit of both the individuals and the society.
- To bring up trainees who are self- confident to take up business risks when establishing their own business related to their skill trades.
- To develop the problem solving capacity of the trainees by providing adequate knowledge and skills.
- To enable the trainees to work individually or in cooperation with groups of people in the area of their skill trades.

The above stated objectives seems that more attention is given to the formal technical and vocational education and training given at TVET institutions. However, as it is cited in the Ethiopian reform of TVET system document (MOE, 2006), there exist public and formal private sector as well as massive informal type of significant segmentation in the economic sector. Moreover, in this reform document, the following points were also stated as a challenges for Ethiopian TVET.

- How to prepare youth for employment or self employment in the formal or the informal economic sector?
- How to train millions of youths on a limited public budget?
- How to provides access to training for all target groups, including disadvantaged?
- How to include further training for those already active in the labor market (unemployed or self- employed).

Developing one coherent, comprehensive, integrated TVE system (including formal, non- formal and informal training) was expressed as a means to overcome, the above challenges.

2.6. Women and Technical and Vocational Education and Training

Girls educational and occupational choices are influenced by stereotypes of women promoted by their families, communities, schools, religious, mass media and the like. The UN (1996:28) has identified the presence of particular barriers of diverse nature that isolate or marginalize women. It underlines that women "... are denied their human right, ...are denied access to education and vocational training, employment, housing and economic self- sufficiency and they are excluded from decision making process." It adds that they are denied to be active contributor to the growth of the community as part of the main stream.

According to Leach. F (1998:18), even in countries where gender equality is formally achieved, there frequently remain disparities between women and men with regard to employment and career opportunities. Women often do not have access to certain sectors or fields of occupation. This discrimination against women has consequences not only for the women themselves, but the underutilization of existing potentials results in a loss for the economy and the society as a whole. Therefore, one of the responsibilities of TVET is to contribute to unfold the potentials also of women for the benefit of the economic and social development.

Although education benefits both males and females, results of different researchers showed that investment on females education gave the highest output both at socio- economic, cultural and political levels.

Regarding this, Economic and Social Council (1998), expressed that educating girls is associated with numerous social benefits across a variety of sectors, which are increased economic productivity, increased political participation, improved health, delayed marriage, lower fertility and more effective investments in the next generation.

However, access of women to the technical professions is still very restricted. While equality between men and women in access to vocational training is enshrined in community texts, the fact remains that scientific and technical careers are still a male preserve. Even though women today have an increased opportunity to enroll in technology education programs, the vast majority still chose not to. Women perceive technology education as a male domain in which they do not belong and feel even more so after having taken a technology education course. Fewer women are attracted to product and industrial design, and there has been a decline in the proportion of women on IT courses. Male students elsewhere in the world appear to be more skillful, knowledgeable, and confident in information technology attitudes, use, and skills when compared to female peers (Zuga, K., 1999). Even in the wake of the perkins act there still remains blatant gender segregation among the trades. Most often women are predominant in crafts, such as cosmetology and health care assistance, which pay substantially less than trades which are typically male-dominated such as carpentry and plumbing (Eckstein, Z.; Cohen, S. 2002).

As being discussed by AU (2007), some vocational training programs like dressmaking, hairdressing, and cookery are associated with girls- very often girls who are less gifted academically. In addition to this, inequities exist with regard to the participation of women in TVET. Women are underrepresented in many areas of skills development. It adds that

conscious efforts should be made to encourage equitable access to TVET by young women, not only in relation to jobs identified with women (e.g. Sewing, hairdressing, Cookery, etc.) but also in the male- dominated engineering or industrial sectors.

2.6.1. Promoting equal access of girls/women to technical and vocational Education

Technical and vocational education and training (TVET) helps learners to acquire skills, knowledge and attitudes needed to enter into the world of work.

As it was stated by ILO, (2000):

“Every person shall have the opportunity to have his or her experiences and skills gained through work, through society or through formal and non-formal training assessed, recognized and certified. Programmes to compensate for skill deficits by individuals through increased access to education and training should be made available as part of the recognition of prior learning programmes.”

According to UNESCO’s Recommendation (1974) and the convention on Technical and Vocational Education (1989), promoting the equal access of girls and women to technical and vocational education is based on the organization’s normative instruments which indicate that the continued persistence of inequality in this field calls for specific action in respect of girls and women taking into account their particular needs and the obstacles to be overcome.

Furthermore, some major challenges facing the 21st century with regard to ensuring equal access of girls and women to TVET were identified by UNESCO as follows:

- Increasing the participation of girls' especially rural girls in TVET, removing the gender bias in TVET from educational planning, parents, society and employers. Besides, facilitating employment for girls is also a major challenge.
- In order to be able to meet these challenges, it is imperative that specific strategies are adopted keeping in view the cultural, geographical and ecological variations as also problems relating to poverty and ignorance. Some of the proposed strategies as indicated are:
 - Decentralized and non- respective educational planning, expanded program of non- formal, low- tech vocational training for rural girls, gender sensitive planning, gender inclusive curriculum and gender exclusive educational and vocational guidance and counseling services for girls and their parents, periodic up-gradation of syllabi and instructional materials and creation of gender sensitive support structure for working women.

In relation to this, the world Declaration on Education for all is also emphasized the importance of education for girls and women that the most urgent priority is to ensure access to, and improve the quality of education for girls and women, and to remove every obstacle that hampers their active participation.

Regarding female participation in the field of science and technology, Assefa (2002) indicated that their participation is very low. Taking the data of 2001/02 as an example, female diploma applicants admitted into public higher learning institutes by choice indicated that 0% were in building technology. In his conclusion Assefa (2002) adds that role models, both in and out of school, are crucial factors in encouraging the greater involvement of female students in the sciences, thereby improving

of education can fully be realized when women in a country have equal opportunity and access to education and training to that of men.

In Ethiopia girls are under represented in technical and vocational institutes as in all other educational sub- sectors. In technical and vocational education gender based division of labor and low enrollment rate for girls are reflected due to the status that society attributed to women (Atchoarena David, 2002).

As cited by Afework (2006) a close examination of girls enrollment in TVET reveals a heavy traditional bias for home economics, secretarial and dressing with very few enrollments in the traditionally male oriented technical areas such as building construction, auto mechanics, wood work and machine technology. In this regard, Smith (1990) indicated that in the years prior to the late 1990s, in Ethiopia, technical and vocational education received less attention. It generally used to occupy a small, if not a marginal position in the education system of the country. According to the ministry of Education (MOE, 2002a:4) in the past, the TVET schools and skill development centers (SDCs) were working under capacity due to lack of promotion and inadequate funding.

It is only recently that TVET in Ethiopia forms a separate system that parallels the general education system, with its own institutions, teachers/ trainers, programs, etc. to achieve the intended objectives. Although there exist a separate system and equal access for TVET in Ethiopia girls still continue to opt of traditionally female oriented occupations than male dominated ones.

2.7. Factors influencing women's participation in TVET

Until recently, relatively little attention has been given to vocational education and training for women. Interest is growing, not only for reasons of social equity, but also in recognition of the potential productive value of half of the population. Many of the issues to be addressed concern skills training for women in agriculture and in the informal sector, but there are important issues in training for the modern sector as well.

The factors that play a role in the determination of the level and nature of female enrollment in vocational education can be grouped into the following categories:

- Over-riding societal perceptions about the role of women,
- Women's social condition,
- Characteristics of the education system, and
- Labor market dynamics.

All the above factors combine to create a complex web of social pressure and prejudice that contributes to the types of secondary vocational programs in which women engage (World Bank, 1990). It adds that the general social conditions governing women's lives also strongly influence their participation in vocational education. Moreover, the supply of places in secondary vocational programs may also be influenced by the existing gender defined roles. Where vocational schools are available, the characteristics of those schools can render them effectively inaccessible to women..

Predominance of male instructors, lack of segregated boarding facilities, instructional materials that reinforce traditional stereotypes and classroom practices that place female trainees at a disadvantage all create barriers to female enrollment in vocational education and/or force the traditional tendency of women to enroll in only certain fields of study.

Education systems providing more equitable access of the primary and general secondary levels have higher female vocational education participation rates. It therefore appears that the policies countries employ to increase female access to primary and secondary education also increase female participation in vocational education.

Access to vocational education for women increases along with changes in demographic patterns, that facilitate labor market participation (World Bank, 1990:30).

Parents in rural areas with low household income and socio- economic background face problems in sending their children to schools. The increasing costs of schooling coupled with low household income is found to be among other reasons why parents do not send children particularly females to school or remove them from school. Since poverty is often linked to the limited educational attainment and low occupational status of the parents, poor families do not give priority to the value of education (Lockhead and Verspoor, 1991:150).

In rural areas, where the majority of the people are illiterate, the socio-cultural expectations of females and priorities given to their future roles as mothers and wives have a strong negative influence on their schooling. Male and female students could drop out of school for similar reasons. However, female students are more affected by cultural outlooks and the weight and value placed on girls' education by their community. In many societies, especially in the societies of developing countries, girls' education is accorded a relatively low priority. Most societies make a clear distinction between men's roles and women's roles. And women's roles often lie outside the main- stream of economic activities. As a result the education of girls is given less importance than that of boys (UNESCO, 1998; Coombs, 1968).

According to Coombs (1968), developing countries are not able to use the full potential of their citizens especially the potentials of women because of the heavy weight of traditional attitudes, religious customs, prestige and incentives patterns and institutional structures which has blocked them from making the optimum use of education and of educated manpower to faster national development.

The participants of the Oslo International conference on child labor, October 1997, also underlined that; gender gap in education is what characterizes most developing countries. There are disparities in girls' and boys' enrollment as well as retention in many societies. Where the practice of early marriage continues girls are withdrawn from school at the age of puberty. And girls are more likely to be hidden in domestic service, most often in their own homes (ILO, 1997).

According to (Rose et al., 1997) the low status given to women in some countries with discriminatory laws and regulations about inheritance, access to and ownership of land and access to credit affect the participation of girls in education. This situation is aggravated by lack of female role models for girls and parents to be emulated.

Khale S. (1993) in Assefa (2002) also stressed that, even in the schools teachers have strong powerful influence on the attitude, interest and achievement of students in a given subject. The gender stereotyping of subjects promoted by teachers appears to be a major constraints for females to a given field of study. Wolpe A. (1997) also stated that the school environment such as teachers, peers, learning materials plays vital role in transmitting all forms of beliefs that reinforce gender inequalities in natural science and technical fields. The image of subjects as male domains in school environment affects female's field of study choices.

Nevertheless, Khale and Meece (1994) in Assefa (2002) explained that the more women assume roles of instruction and leadership in the sciences and conduct research in these fields, the more likely that young girls will follow in their footsteps.

2.8. Vocationalization of Curriculum

UNESCO in Aggarwal (1997:200) defined vocationalization as “the study of technologies and related sciences and the acquisition of practical skills, attitudes, and knowledge relating to occupations in the various sectors of economic and social life”. Vocationalization of secondary education refers to the reorganization of secondary school curriculum by offering job related skills in order to widen the employability of young graduates (Atchoarena, 1994:151).

According to Aggarwal (1997:201), the merits of vocationalization are outlined as:

1. Education related to productivity:

Vocational training contributes to the achievement of society’s goal of self- sufficiency in agriculture and industry by developing suitable skills.

2. Employment potentialities:

Education doesn’t produce jobs but vocationalized education makes it more timely for an individual to get a job or to be his own master starting a new productive activity.

3. Dignity of labor:

Vocationalization of education provides useful experience for the development of dignity of labor.

4. Maximum utilization of material resources:

Due to lack of trained technical know how resources have remained unutilized. Hence, vocationalization provides suitable opportunities.

As Wanna (1998:58) noted, Ethiopia had started its new innovation of vocationalizing its secondary education by transforming the Woizero Sehin Secondary school at Dessie into a comprehensive school in 1962. The comprehensive school scheme, which existed in the country between the years of the early 1960s to the late 1970s, was designed to serve the purpose of providing technical and vocational education side by side with the academic education. Its curricula provided technical and vocational subjects in the areas of agriculture, commerce, industrial arts and home economics to all the students in the secondary level.

UNESCO (1989) in Teklehaimanot (2002) stated that modern concepts of TVET are in favor of integrated education and training system and assert that technical and vocational training must be arranged to be provided within a framework of open-ended and flexible structure in the context of life long education. The practical skill training is an important means of invention and creativity as well as the promotion and adaptation of technology.

In many developing countries where primary schooling is considered effectively terminal for the majority of the pupils, governments encourage vocationalization of their primary education by creating varieties of exposures to practical subjects, manual activities, and even elementary business awareness within the primary school level. For instance, African countries such as Ghana, Senegal, Swziland incorporate vocational contents into their general education at the primary or

secondary education levels in order to ready their young people for wage employment or self-employment, if they don't want to continue their schooling (Atchoarena and Delluc, 2002).

In conformity with the above ideas, the Economic Development Strategy for the country and the macro and small Enterprises Development strategy underscore the need for an industrial development that makes use of locally available skilled manpower on a sustainable basis. Both documents take also the view that in the frame of the agricultural led industrialization large, medium, small and micro industrial establishments, as well as construction and service enterprises will create employment opportunities (Masresha, 2004:4).

A somewhat different justification has been the notion that vocational skills improve the employment chances of economically and academically disadvantaged youth. The perspective is that of the individual, and while consistent with the manpower supply objective, rests on a different assumption that vocational skills are more appropriate in improving employability than general education. It is also hoped that vocational education will improve attitudes towards skilled "blue collar" work diverting youth from the white color jobs that are in increasingly short supply (World Bank, 1990:18).

2.8.1. Vocational Training for Self-Employment

It is believed that technical and vocational education and training for wage employment is becoming expensive. It is also important to distinguish between training as a preparation for existing jobs, training intended to lead to job creation, and training designed to improve performance on the job. According to Fluitman (1989) training for job creation has widely proved problematic. There are many difficulties that confront in experienced young adults in starting a new lively hood rather

than entering existing employment. Some of the problems are related to the availability of capital, credit and land, attitudes of senior community members, existence of and access to markets, the problem of employing other workers.

However, due to lack of job opportunities for new graduates, it seems logical to think of self-employment. In relation to this, King (1985) stated that "if we train our young people for modern sector jobs, they will be unemployed, since there are not enough jobs". To this effect, self-employment schemes came into the scene so as to complement the formal sector. Self-employment encompasses activities ranging from working in subsistence agriculture (on one's family plot) or petty production at street corner to the creation of small enterprises (King, 1985). Since developing the economy of a given country is not only the concern of government and private investors, there should be a change of attitude on the part of the community to be engaged in manual self-employing activities. With regard to this, (UNESCO, 1974) recommended that the government of developing countries should allocate relatively larger share of budget to productive job creating activities as opposed to education. In addition to this, attention has to be given to improve rural infrastructure and modern urban sectors where employment opportunities are not saturated.

Technical and vocational education and training, as expressed by Clark et al. (1965) in Mekonen (2004), is a process of preparing trainees "to work in specific occupation which is job oriented, directed to employable skills in the world of work or labor and advancement of skills and work habits that give priority for self-employment.

Though mankind has had a long history of involvement in work, to respond for basic necessities, as time went on, a change in the whole system of the work force emerged as an outcome of the changing relationship between man and work. In any traditional society, vocational skills were transmitted from family to new generation as a family tradition.

But it may be difficult to increase the wealth of a nation without improving the quality of human resources. According to Yekunoamlak (2000) improving human resources can be possible through education. He further expressed that academic education is not enough for rapid and continuous economic and social changes. To this effect, vocational training is introduced in the education system with the purpose of preparing individuals for the world of work. Where self-employment opportunities exist and can be expanded, those who have been in the labor market for some time may take precedence, and have competitive advantages, over those emerging from training programs. In this case, training designed to improve job performance is more likely to occur in or near the work place.

2.8.2. Vocational Training and the Labor Market

Sustained demographic pressure, social disintegration and economic stagnation, as stated by Yekunoamlak (2000), are among the main problems to youth transition into the world of work. In relation to this, UNESCO (1996) explained that in order to overcome such problems, all projects of education and training should make assumptions about the nature and the world of work. Skills being developed in training programs must correspond with needs in the labor market.

However, in order to accomplish their goals, TVET institutions should have a strong and ever-lasting relationship with employing organizations and trade unions. It is demanding to create a strong unit in charge of relations with different companies within their establishments. According to Yekunoamlak (2000) such units can serve their institutions in registering of data concerning the local enterprises, their activities, and if possible their needs, targeting continuing training, provision of labor market assistance to graduates and then follow-up and capacitating them when ever it becomes necessary.

Thus, training institutions are supposed to handle both the training and provision of information relating to job and employment matters. It is widely believed that an improved system of labor market analysis is essential for improving the fit between what is needed in education and training institutions and what is needed on-the job, facilitating the movement from the institutions to work, and ultimately strengthening the country's economic position.

As cited by Teklehaimanot (2002), the twenty-first century is the era of information and communication on one hand, and of knowledge and skill on the other hand where computers and other recent technologies do not only provide a myriad of new products for the market but also the way the work is carried out. Nowadays, the development of the world economy and society, as expressed by Delors (1998:74) is influenced and accelerated mainly by three factors: demography, the world wide interdependence (globalization), and scientific and technological progress. He further explained that dynamism of technology and the world-wide globalization put TVET on the top of the development agenda of the countries in order to produce well trained and qualified manpower in the shortest possible period of time to cope up with the changing situation and to compete in the world market.

The relationship between vocational training and the labor market is seen in light of the relation between the function of education as investment in human capital and as a filter that sorts individuals according to their talents. If much attention is given to the investment side disregarding the filtering function, more educated and trained people beyond the capacity of the economy will be produced. Therefore, labor market information system is a very important information tool which provides a timely data for vocational training centers on the type of occupation and number of the skilled labor force required by the economy.

According to (UNESCO, 2001), even a secondary level of education is no more regarded as a guarantee to getting employment. This is so because, changes in the nature of the labor market have made completion of secondary education just a minimum requirement to join the labor force. It adds that the world economy nowadays demands for higher and higher levels of skills, which can only be achieved through higher levels of education. In general, developing human potential for better performance in the world of work is the significant role that any education and training system need to address. However, Tickhar (1971) stated that if an effective information exchange is taking place between the training institution and the labor market, no problem will arise with regard to employment, and the trainees themselves determine what to study.

Technical and vocational Education and training is seen as a major task and response of schools, to a dual problem that are the need of business and the drop out rate of out of school society and, as well as, as it is mentioned by Jack et al (1993) "many parents want schools to give their children skills that makes them employable". Skills being developed in training programs must correspond with needs in the labor market. This

means jobs required and/or available in the labor market must be identified and analyzed to develop relevant training programs.

According to Delors (1998), however, if the education system gives much emphasis to qualification rather than marketable skills, it will end up producing examination oriented, shallow and unproductive individuals.

Thus, a distinction must be made between technical and vocational provision that is directed towards training for specific jobs, and that aimed at more generalized skill up grading with a flexible range of outcomes that can be utilized across a number of occupational categories. In the poorest economies specialization is often at an early stage and the numbers of job opportunities are limited before particular specialized labor markets saturate. On the other hand, more developed economies have more opportunities for specialization and for those with a flexible range of skills who may move from one occupation into other (Education Research, No. 6, 1993).

2.9. The Importance of Vocational Guidance and Counselor in TVET

Educational assistance for Technical and vocational education and training has a long history. It has always had attraction to policy makers since it seems to offer, "to kill several birds with the same stone".

2.9.1. Definitions and Concepts of Guidance and Counseling

Guidance is a process of helping students to understand, accept and use their abilities, aptitudes and interests in order to achieve their ambition. Vocational guidance is a type of guidance activity which enables students to make decisions for their future career. In connection to this, Crites (in Herr and Gramer, 1972:4), describes vocational guidance as "the process or program of assistance designed to aid the individual in choosing and adjusting to a vocation".

On the other hand, counseling is an interaction process that facilitates meaningful understanding of self and environment and results in the establishment and for clarification of goals and values for future behavior (Stone and Shertzer, 1980).

Counseling is defined as assisting an individual to make an optimum use of his/her potential so that he/she is able to develop philosophical outlook and cultivate his/her talents and potentialities to optimize his/her human and material resources both for the benefit of the individual and the society (Haregewoin and Yusuf, 1994; Yusuf, 1998).

According to the New Encyclopedia of Britannica (1998) in Amare Bulti (2004), counseling is the process of helping an individual discover and develop his/her educational, vocational and psychological potentialities and thereby to achieve an optimal level of personal happiness and social use fullness. The concept of counseling is essentially democratic in that the assumptions underlying its theory and practice are, first, that each individual has the right to shape his/her own destiny and, second, that the relatively mature and experienced members of the community are responsible for ensuring that each person's choice shall serve both his/her own interest and those of the society to which he/she belongs.

A UNESCO publication indicates that guidance and counseling was introduced in the 1930's and 1940's in industrialized countries and in the 1950's and 1960's in most developing countries. The justification given to the late introduction of the program is that in the developing countries competing priorities and limited resources led policy makers to give low priority to guidance programs in education policy and its implementation (UNESCO, 1987:1).

In Ethiopia, guidance and counseling services were started by professionals who graduated in psychology at B.SC degree level around 1978 in few urban secondary schools (WAD- MOE, 2000:ii). It adds that guidance counselors need to be equipped with skills required to design comprehensive guidance programs provide counseling service and use assessment procedures with a gender perspective. Emphasis should be on the gender sensitization of trainers of guidance counselors, as well as on provision of the knowledge and skills which they can use in training their trainees on how to address gender stereotypes, that may influence the decisions that female students may make with respect to careers and other roles in society.

Guidance and counseling is an important aspect of education that can help the learners in solving their problems. It is essential service that can support instructional work to enable students to develop their abilities.

The main function of guidance and counseling program is to help students understand their problems and handle their feelings and actions in more acceptable way. Counselors need to be gender sensitive and handle students from that perspective. Women's Affairs Department of ministry of Education (WAD- MOE, 2000:2) said that guidance and counselors are expected to give special attention to hindrances like social stereotypes and sexual harassment that interfere with girl's progress and performance at all levels of the educational system.

2.9.2. Vocational Guidance in Selection and Placement Process

According to Chauham (1982) in Girma and others (1990), the process of selection and placement of students in to different fields of specialization consists of:

1. Explaining the general characteristics of each field,
2. Orient to some vocational fields about which the students have no enough educational experiences,
3. Enabling students to understand their own interest and aptitudes and to relate them to vocational areas under their study, and
4. The actual placement service which deals with the actual choice of an educational field of study.

In developing countries like Ethiopia, appropriate vocational guidance service will minimize the wastage of scarce resources, which is invested on students due to their wrong or unwise choice of vocations (Seyoum and Tirussew, 1981). Identifying vocational problems will assist to prescribe the right type of guidance activity. In relation to this, Williamson (in Herr and Gramer, 1972:8), described vocational problems pertinent to guidance as:

1. No choice: individuals can not discriminate sufficiently among occupations to select one and commit themselves to it,
2. Uncertain choice: A choice has been made but the person uncertain about it,
3. Unwise choice: there is a disagreement between the individuals abilities or interests and the occupation which he/she selects,
4. Discrepancy between interests and aptitudes: there is disagreement in the type or amount of these two traits as they interact or should interact in defining choice. In order to help students in their choice of future career, attention has to be directed to match the talent of students with occupational expectations.

According to the National Youth Administration (NYA) in Herr and Gramer (1972:6) the following five guidance goals are identified to increase the employability of youngsters:

1. To help the young evaluate himself,
2. To help him make a vocational choice,
3. To help him plan his training program to achieve this choice,
4. To place him in the work,
5. To follow upon the work assignment to insure good results for him.

Students usually face a real problem in selecting their future occupation. To respond to this problem, Strong, (1994) raises questions and react to them as follows:

“Which way should a student be headed? How far can or will he go? This is dependent primarily upon his various abilities and his potentialities. How far he will go is dependent primarily upon his motivation both today and tomorrow. The best direction is the one in which his abilities and interest may both be used to best advantage.

The core of streaming students must be lasting abilities and interests. To effectively know the students over all performance and guide them to the vocation for which they have the potential, ability and demonstrated performance needs effective guidance services. Therefore, vocational guidance as Carlton E.1963 cited in Abebe Gete (1984) assists students to make choice is based on the identification of potentials to be reconciled with what is known as “level of aspiration on the one hand and level of performance on the other hand”. Some times, as expressed further, an individual may aspire too high and his level of performance may be too low and vise versa. Thus, it is only when these two factors are congruent that an individual would be regarded unrealistic in his assignment.

In the vocational area, there are few students who make their choice after an objective analysis and evaluation of their ability and interests. Most students make their choice being influenced by ill- advice of parents, class- mates or teachers, from a desire to make money and to get social acceptance or from feeling and superficial aspects of jobs (Williamson and Darely in Campbell, 1985:10). According to the same author (s), guidance service at this school level is vital in assisting students to identify and select their educational and vocational interests in relation to their intelligence and to make decision for further education. Moreover they also emphasize that” to ensure satisfactory academic and vocational adjustments, it becomes necessary to subject students to a clinical procedure with utilizes and integrates methods of selection, vocational and educational orientation, and scholastic motivation”.

2.9.3. Vocational Guidance and Job Placement

Vocational guidance is assistance given by institutions to match ones abilities or skills, knowledge and interest to the demand of the market and community. Vocational guidance should help people whether they are learners/trainees to plan their education, training and careers, or adults to plan their career or further training as well as to prepare to become more employable. Vocational guidance is more than providing information, it is a blend of self development to adapt, a changing cultural and economical situation and learning and assimilation of career, providing educational, labor market and economic opportunities information (Ipaye, 1986: 94-95).

Job placement, which is a part of vocational guidance, is assistance given by institution (Normally department of Employment Agencies) to find employment or self- employment (Napier, 1992:76). Probably the

most basic role of vocational counselor is to assist trainees of formal vocational training to find apprenticeship (on- the- job training) places in order to fulfill the requirements given by the curricula. When the students are placed to have actual work experience such opportunities enable them to develop specific attitudes, occupational and skill training on the job.

But it also helps them to know the world of work and in particular to know the world of work and in particular to know what one could do that employer would pay for it. Even more basic is it enable to feel the integrity involved in doing a job and exercising a talent to comprehend the integrity of work and to discover how vocation can a route to employment (Ipaye, 1986:110).

CHAPTER THREE

Research Design and Methodology

3.1. The Research Method

A descriptive survey research method was employed in this study because it could help to describe the present condition of technical and vocational education and training institutions. Moreover, the method was particularly important for the study since it was intended to make detailed description and analysis of the strategies and practices that can influence female student enrolment in technical and vocational education and training programs.

3.2. Data Sources

The data for the study were obtained from primary and secondary sources. Concerning secondary sources, relevant books, journals and legal documents were consulted. Moreover, various reports and documents in technical and vocational education and training institutions were reviewed to obtain pertinent data such as the number and enrolment status of female students, types of courses of studies and training levels attended.

In order to get first hand information, primary data were collected from respondents: trainees, trainers, principals and Zonal TVET heads.

Table 1: Female Trainees Attending TVET Old Curriculum and their Sample Size

No	Department	10+1			10+2			10+3		
		Total Population	Sample population	%	Total population	Sample population	%	Total population	Sample population	%
1	Drafting	64	24	38.0	24	9	38.0	44	16	36.0
2	Wood work	5	2	40.0	3	1	33.0	2	1	50.0
3	Surveying	34	13	38.0	46	17	37.0	55	20	36.0
4	Construction	7	3	43.0	12	4	33.0	-	-	-
5	Auto	-	-	-	-	-	-	3	1	33.0
6	Electronics	-	-	-	5	2	40.0	5	2	40.0
7	Electricity	-	-	-	11	4	36.0	12	4	33.0
8	Textile	12	4	33.0	-	-	-	-	-	-
9	Electro mechanical Techno	5	2	40.0	6	2	33.0	-	-	-
10	Machine Techno	-	-	-	2	1	50.0	-	-	-
	sum	127	48	38.0	109	40	37.0	121	44	36.0

NB. Total population =357

. Sample size = 132

Table 2: TVET old Curriculum Trainers and their Sample Size

No	Department	Total Population				Sample population			
		M	%	F	%	M	%	F	%
1	Drafting	11	100	-	-	3	27.0	-	-
2	Wood work	6	100	-	-	1	17.0	-	-
3	Surveying	15	100	-	-	4	27.0	-	-
4	Construction	10	83	2	17.0	2	20.0	1	10.00
5	Auto	14	100	-	-	3	21.0	-	-
6	Electronics	6	100	-	-	1	17.0	-	-
7	Electricity	9	100	-	-	2	22.0	-	-
8	Textile	4	100	-	-	1	25.0	-	-
9	Electro mechanical Techno	3	100	-	-	1	33.0	-	-
10	Machine Techno	3	100	-	-	1	33.0	-	-
	sum	81	98	2	2.0	19	23.0	1	1.0

NB. Total population 83

. sample population 20

3.3. Sampling Techniques and population

In Oromiyay, there are 83 technical and vocational education and training institutions among which 12 of them are labeled as college. Out of these twelve colleges, two of them (16.7%) were chosen using purposive sampling technique. These include: Asella and Nekemte technical and vocational education and training colleges.

The researcher employed purposive sampling technique to select the two colleges (Asella and Nekemte)for the following major reasons: first,

Questionnaire: Questionnaire was preferred with the intention that it enables to secure information from many people. Thus, 18 and 13 close and open- ended main research question items were prepared and administered for trainer and trainee respondents respectively. The questionnaire was contained different parts: personal data, general question items, rating scale and filling of individual feelings on the space provided.

Interview: There were 10 structured interview questions prepared in English Language. Thus, interviewees included in this study were principals of the two colleges and Zonal TVET heads. This technique was employed, especially, to acquire qualitative data on various components of the program and to complement and obtain relevant data that wouldn't be handled by questionnaire.

Documents: Different documents of both published and unpublished were also reviewed to obtain background information on female enrolment and retention in technical and vocational education and training program.

3.5. Procedures of the Study

The study incorporated different stages. At the initial stage of the study, a review of literature was made to develop theoretical background and instrument of data collection. In this regard, documents, statistical abstracts and reports were investigated to collect relevant information. Both 18 and 13 close and open- ended main question items as well as personal data questions were prepared in English language, then, for trainee respondents, it was translated to Afan Oromo to minimize and over come language barrier and promote better understanding of the items contained in the questionnaire. Then, before distribution of the questionnaire for the main study, pilot test was conducted for their validity and reliability at Adama TVET College. The purpose of the pre-

test was to find out ambiguities, double-barreled questions, omissions or misunderstandings in the instruments that may pose problems in responding to the items.

Accordingly, the feedback to the item regarding the prevailing situations of “ Female Enrollment and Retention in TVET program” was found very important to the construction of the questionnaire for the main study. Finally, the research questionnaires were administered on face-to -face situation. Interviews and document analysis were also made.

3.6. Methods of Data Analysis and Organization

Both qualitative and quantitative methods were employed in analyzing the data gathered through different tools. Depending on the nature of the basic questions and gathered data, the respondents were categorized according to their groups; response frequencies were tallied and computed using percentages to: analyze various characteristics of the sample population, to determine the proportion of the total respondents who have had similar judgments. Then, based on the data analysis interpretations were made to reach certain conclusions. Finally, on the bases of the conclusions made, possible solutions were recommended.

CHAPTER FOUR

Presentation, Interpretation and Analysis of Data

In this chapter the data collected through the questionnaires, interview and document analysis are presented with the help of tables. They are then followed by interpretation and discussion to give answers to the basic questions of the study.

Characteristic of Respondents

Description of the characteristics of the target population gives some basic information about the sample population involved in the study. The respondents of this study were 132 TVET female trainees and 20 trainers who were chosen based on the proportion of their respective department population. On top of this, two zonal TVET heads and principals of the two colleges were interviewed. As a result, the researcher believed that the responses were found to be sufficient to draw inferences for the study.

Table 3: Respondents by Age, Sex, Department, and Level of Education and Training experience

No	Characteristics	Sample Respondents			
		Trainers		Trainees	
		No	%	No	%
1	Sex				
	a. Male	19	95.0	-	-
	b. Female	1	5.0	132	100
	Total	20	100	132	100
2	Age				
	a. 16-20	4	20.0	79	60.0
	b. 21-25	6	30.0	46	35.0
	c. 26-30	7	35.0	7	5.0
	d. 31 and above	3	15.0	-	-
	Total	20	100	132	100

3	Department				
	a. drafting	3	15.0	49	37.0
	b. Surveying	4	20.0	50	38.0
	c. Textile	1	5.0	4	3.0
	d. Auto	3	15.0	1	1.0
	e. Electricity	2	10.0	8	6.0
	f. Building construction	3	15.0	7	5.0
	g. Electromechanical Technology	1	5.0	4	3.0
	h. Electronics	1	5.0	4	3.0
	i. Wood work	1	5.0	4	3.0
	j. Machine Technology	1	5.0	1	1.0
	Total	20	100	132	100
4	Level of Education/ Qualification				
	a. MA/MSC	-	-	-	-
	b. BA/BSC	19	95.0	-	-
	c. Diploma	1	5.0	-	-
	d. 10+1	-	-	48	36.4
	e. 10+2	-	-	40	30.3
	f. 10+3	-	-	44	33.3
	Total	20	100	132	100
5	Training service				
	a. below 5 years	5	25.0		
	b. 6-10 years	4	20.0		
	c. 11-15 years	8	40.0		
	d. 16 and above	3	15.0		
	Total	20	100		

The data in Table 3, shows the characteristics of the respondents. As it can be seen in the above table, 132(100 percent) trainee respondents were females. From trainer respondents 19 (95 percent) were males and 1(5 percent) was female. This data indicates there was few female trainers in those TVET colleges.

This implies that there were shortage of role models for the educational and training progress of female trainees, which has a significant influence on their educational and training participation.

In the case of age distribution, 7(35 percent) of trainer respondents were between the age 26-30, whereas 6(30 percent) were between the age range of 21-25 and the rest, 4(20 percent) as well as 3(15 percent) of

respondents were between 16-20 and 31 and above respectively. The trainee respondents on the other hand, 79 (60 percent) were between the age range of 16 and 20, and 46(35 percent) were between the age range of 21 -25. The rest respondents (5 percent) were between the age range of 26 and 30.

Concerning level of education, 48(36.4 percent) of trainee respondents were 10+1, and 44 (33.3 percent) were 10+3 and the rest 40(30.3 percent) were 10+2. From the data above it is possible to say that during old curriculum it seems that trainees were almost evenly distributed at each levels. Moreover, the data also indicated that female enrollment decline as they move from 10+1 to the upper levels of training programs. This implies that some of the requirements were too tough for female trainees to join 10+2 and 10+3. Data of trainer respondents on the other hand revealed that 19 (95percent) were BA/BSC degree holders while 1(5percent) was diploma holder. This implies that majority of the trainers in the two colleges were qualified to the standards suggested by the education and training policy. In addition to this, the data showed that 8(40percent) of the trainer respondents were between 11-15 and 5(25percent) were below the service range of 5 years. Therefore, the existence of well qualified and experienced trainers may help trainees in getting quality education and training.

As to departments of the respondents, both trainer and trainee respondents were drawn from ten departments in which TVET old curriculum was being carried out. This was so, because the new curriculum which was demand driven and competency based was introduced lately by the year 2000 E.C. The researcher was intended to focus on the participants of old curriculum because TVET old curriculum has been implemented since 1994 E.C. In addition to this, some of the courses are still being given according to the old curriculum.

Table 4: Trainees Living area before joining their respective TVET institution and their family's level of Education

No	Item with alternatives	Trainee Respondents	
		No	%
1	Where have you been living before you join this college?		
	a. In Town	81	61.0
	b. In Rural	51	39.0
	Total	132	100
2	Educational level of your family (mother and father) more than one answer is possible		
	a. Illiterate	15	12.0
	b. Grade 1-4	36	27.0
	c. Grade 5-8	31	23.0
	d. Grade 9-10	12	9.0
	e. Grade 11-12	9	7.0
	f. Above grade 12	29	22.0
	Total	132	100

From the data, it has been found that 81(61 percent) of the respondents were living in town before they joined their respective training institution. In this respect, it seems that trainees from the town have much better understanding about different field of studies in the system of TVET than trainees from rural areas. On the other hand, 51(39 percent) of the respondent trainees replied that they were living in rural areas before they came to the training institute under study.

According to UNESCO (1974) increasing the participation of girls, especially rural girls, in TVET, removing the gender bias in TVET from educational planning, parents, society and employers is among the major challenges facing the 21st century with regard to ensuring equal access of girls and women to TVET. In relation to this, World Bank (1995) also

stated that in most least developing countries, the long distance girls often have to travel to get school is found to limit their participation.

From data above, it is possible to recognize that there was inequity between rural and town. As indicated in literature review, TVET institutions that were situated in town may require short distance travel when compared to TVET institutions found in rural areas. In this case, due to fear of sexual abuse, families in rural areas may be reluctant to send their female children to TVET institution.

Table 5: Trainees awareness about TVET fields of study

No	Item with alternatives	Trainee Respondents	
		No	%
1	Did you get any orientation about TVET fields before registration?		
	a. Yes	82	62.0
	b. No	50	38.0
	Total	132	100
2	If your response for Question No.1 is "yes" the department you attend now is because:		
	a. It was your interest	73	89.0
	b. Your friends have chosen	6	7.0
	c. It was your parents interest	3	4.0
	d. You lack other option	-	-
	Total	82	100

The process of selection and placement of students into different fields require an explanation of the general characteristics of each field which

the students have no enough educational experiences in order to enable them understand their own interest and aptitudes.

In this regard, respondents were asked to rate whether the trainees get orientation about technical and vocational education and training field of studies before they were registered. As can be seen from table 5 above, 82 (62 percent) of trainees responded that orientations were given before the registration. On the contrary, 50 (38 percent) respondents replied that orientation about different field of studies in TVET was not given to them. This difference might happen due to the fact that 81 (61 percent) trainee respondents were from the town and some of them might have got a comprehensive school experience in which some vocational education was given side by side with general education. Some of the respondents might have chosen their field of study without understanding the nature of the course and the existing labor market demand for it. In effect, such trainees may remain unproductive. Therefore, from the data in Table 5 item 1, it seems that lack of orientation about the fields of study on the parts of the trainees might influence their choice of study fields.

Based on the 'yes' response given to Table 5, item 1, respondents were also asked to identify how they have chosen their respective fields of studies. As table 5, item 2, indicates majority (89 percent) of the respondents assured that they have chosen their department because it was their interest. Only 3(4 percent) of the respondents reported that they engaged in the fields chosen by their parents.

Table 6: Status of economic and socio- cultural problems affecting female enrollment

No	Item with alternatives	Trainee Respondents	
		No	%
1	To what extent do you think that parent economic problems affect female enrollment in TVET?		
	a. High	75	57.0
	b. Medium	48	36.0
	c. Low	9	7.0
	Total	132	100
2	To what extent socio- cultural barriers such as early marriage, sexual abuse, etc hinder females from attending and remaining in TVET colleges?		
	a. High	40	30.0
	b. Medium	38	29.0
	c. Low	54	41.0
	Total	132	100

It seems that parents in rural areas with low household income and socio- economic background face problems in sending their children to schools. The increasing costs of schooling coupled with low household income are found to be the major reason why parents do not send children particularly girls to school or remove them from school. In most developing countries, children of poor families have less chance to enroll in school and more probability to dropout than children of well-to-do families (Anderson 1988 in Lockhead and Verspoor, 1991:150).

In this regard, as can be seen in Table 6, 75(57 percent) of respondents indicated that parent economic problems affected their enrollment in TVET. In addition to this, 48(36 percent) of respondents affirmed that the influence of parent economic problem on females enrollment in TVET was medium. The fact that majority (57 percent)of respondents affirmed that parent economic problems affected their enrollment in TVET may be attributed to living cost and distance to be traveled by 10+3 trainees and those coming from rural areas.

Table 7. Attitude of Female Trainees toward field of Studies

No	Item with alternatives	Trainee Respondents	
		No	%
1	Female trainees do not feel happy to join construction and industrial field of study a. agree b. disagree	41	31.0
		91	69.0
	Total	132	100
2	In most cases females prefer business education and training to technical education and training a. agree b. disagree	49	37.0
		83	63.0
	Total	132	100

As it can be observed from Table 7, item 1, trainee respondents were asked to indicate their opinion on whether 'majority of female trainees do not feel happy to join construction and industrial field of study' or not. Majority (69 percent) of the respondents indicated that they 'disagree' with statement that females dislike to join construction and industrial fields. However, 41(31 percent) of the respondents agreed that majority of female trainees do not feel happy to join those fields.

This could be due to the difference in their level of awareness about different fields of studies that were available in TVET programs.

Regarding this, Athanasou (2005) expressed that stereotypically, females conceived by the society as too much submissive, timid, mentally and physically weak, while males are competitive, courageous, and intelligent. Thus, girls taught to sew, cook and fulfill caring roles, while boys learned metal work, wood work and technical skills; because, females considered weak to perform such similar technological activities.

As supporting evidence, study done by Kelly et al., (1982) on Gender role at home and school indicated that the jobs like nurse, secretary, social worker and hair dresser were considered much more suitable for girls than for boys and the jobs of engineer, electrician and draughtsman were considered much more suitable for boys than girls by parents.

Although present research results revealed that fields like construction and industrial technologies were less preferred by females, majority (69 percent) of the respondents indicated their 'disagreement' to the statement that read as 'female do not feel happy to join construction and industrial field of study'. On the other hand, the fact that 41(31 percent) trainee respondents agree that they dislike construction and industrial fields has proven the differences in choosing field of studies. It is also possible to say that the kind of field of study (construction and industrial) they involved in would contribute to the difference. This difference in response might happen due to trainees' individual interest towards technical and vocational field of studies.

Almost a similar question was presented for female trainees in item 2 of the same table above. In this case, 83(63 percent) of the respondents replied that they were not preferring business education fields to technical education and training field of studies. On the contrary, 49(37 percent) of the respondents indicated that business education field of studies were their preference to technical fields.

Hence, it becomes not surprising to find differences in attitude within the same sex. This result also implies that there were female trainees who need awareness about different technical fields of studies that are given under TVET programs. Moreover, the result of the two items is partly answering the fourth basic question of this study.

Table 8: Attitude of Family towards field of Study

No	Item with alternatives	Trainee Respondents	
		No	%
1	What is the general attitude of your parents towards you being a TVET trainee?		
	a. Support it	101	77.0
	b. Not support it	16	12.0
	c. Indifferent	15	11.0
	Total	132	100

As depicted in Table 8, for the question asked to know whether a family supports women for being TVET trainee, the following data were obtained. Majority, (77 percent) of the respondents assured that their parents were supporting their participation in technical and vocational education and training fields. In comparison, it is only 16(12 percent) of the respondents who indicated that their parents were not supporting their participation in TVET. This might happen, because as indicated in Table 3, item 2 some families were illiterate. On the other hand, those families who support their daughters' participation in TVET might have observed that those who already graduated from TVET were engaged in some kind of employment in government or private institutions and still others might have got a chance of self-employment. However, it is possible to say that parents' attitude towards female trainee is positive.

Table 9. Problems Related to Retention of Female Trainees in TVET

No	Item with alternatives	Trainee Respondents	
		No	%
1	To what extent do female students are discontinuing their technical and vocational education and training after they joined TVET colleges?		
	a. High	26	20.0
	b. Medium	37	28.0
	c. Low	69	52.0
	Total	132	100

As depicted in Table 9, majority (52 percent) of the respondents indicated that the repetition and dropout rate were 'low'. On the other hand, 37(28percent) and 26(20 percent) assured the rate of the problems as 'medium' and 'High' respectively. This implies that female retention rate in technical and vocational education and training programs of Oromiya Regional state is high.

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Table 10. Factors affecting female enrollment and participation in TVET in general and construction and industrial field of studies in particular

No	Possible Factors	Degree of impact							
		High		Medium		Low		Total	
		No	%	No	%	No	%	No	%
1	Lack of awareness about different TVET field of studies	12	9.0	36	27.0	84	64.0	132	100
2	Absence of vocational guidance and counseling service	33	25.0	32	24.0	67	51.0	132	100
3	Lack of model female trainers in those fields	56	42.0	43	33.0	33	25.0	132	100
4	Lack of information about existing labor market	53	40.0	45	34.0	34	26.0	132	100
5	Differential attention to girls and boys by teachers	45	34.0	35	27.0	51	39.0	132	100
6	Poor training facilities related to construction and industrial fields	45	34.0	57	43.0	30	23.0	132	100
7	Gender stereotypes related to female and male	38	29.0	19	14.0	75	57.0	132	100
8	In accessibility of training institutions	71	54.0	43	32.0	19	14.0	132	100
9	Influence from peer groups in choosing fields	40	30.0	41	31.0	51	39.0	132	100
10	Poor interest of females towards construction and industrial fields	32	38.0	24	29.0	62	47.0	132	100

Here, the respondents were asked to rate the degree of influence that the possible factors listed in Table 8, have on female enrollment and participation in TVET in general and in construction and industrial field of studies in particular.

The impact of lack of awareness about different TVET field of studies was rated as 'low' by 84(64 percent) respondents. However, it is clear that there are trainees who did not get this opportunity. According to 75(57 percent) of the trainer respondents of this study, gender stereotypes related to female and male has 'low' influence on female enrollment and participation in technical and vocational education and training. On the other hand, the influence of inaccessibility of technical and vocational education and training institutions were rated as 'high' by 71(54 percent) of the respondents. It seems that low participation of rural trainees compared to the town was due to inaccessibility of TVET institutions in Oromiya Region. It is possible to say that inaccessibility of training institutions were among the major factors that influence female enrollment and participation in TVET in general and in construction and industrial fields in particular.

On the same table item 2, trainee respondents were asked to rate the influence of absence of vocational guidance and counseling service on female enrollment and participation in TVET. In this regard, as can be seen in Table 10, majority (51 percent) of the respondents assured that absence of such service was rated as 'low' factor in affecting their enrollment and participation in different fields of TVET. On the other hand, 33 (25 percent) and 32 (24 percent) rated the problem as 'high' and as 'low' respectively. Combined together, those who rated the problem as high and medium were equal to 65 (49 percent) which is almost half of the total population. With respect to this, Seyoum and Tirussew (1981) expressed that in developing countries like Ethiopia, appropriate

vocational guidance service will minimize the wastage of scarce resources, which is invested on students due to their wrong or unwise choice of vocations.

Therefore, it is possible to say that absence of vocational guidance has contributed to the absence of scheduled orientation for new trainees in a uniform way as indicated in table 3, item 1. This result strengthens the answer of the fourth basic question of this study. Absence of vocational guidance service together with other factors might contribute to many of the differences that was observed from the data. Thus, it seems that female trainees in the two colleges were not satisfied with the existing vocational guidance and counseling services.

It was indicated by 62(47 percent) of the respondents that 'poor interest towards construction and industrial fields by female trainees' also rated the impact of the problem as 'low'. Whereas 32(38 percent) and 24 (29 percent) rated as 'high' and 'low' respectively. When combined together, the response that assured the influence of this factor as 'high' and 'medium', it gives (42 percent). This implies that there were trainees who join some fields of study without having full interest. In addition to this, it also seems that some of the respondents have poor self- image on their own capacity and potentials.

Lack of model female trainers in construction and industrial field of studies as indicated by 56(42 percent) and lack of information about existing labor market according to 53(40 percent) were rated as the next highly influential factors on female enrollment and participation in technical and vocational education and training. On the other hand, this result is consistent with the finding of Kahle and Meece (1994) which says, the more women assume roles of instruction and leadership in the sciences and conduct research in these fields, the more likely that young girls will follow in their footsteps.

Moreover, 51(39 percent) of respondents rated the influence of 'differential attention to girls and boys by teachers' as 'low'. On the other hand, lack of awareness about different TVET field of studies' according to 84(64 percent) of the respondents rated as 'low'.

According to 45 (34 percent) respondents' influence of 'poor training facilities related to construction and industrial field' on female enrollment in TVET in general and in industrial and construction field of study in particular was rated as 'high'. Therefore, poor training facilities in training institutions could be one of the factors that influence female enrollment and participation especially in construction and industrial field of studies. In relation to this, World Bank (1995:116) states that lack of school facilities may affect enrollments, particularly girls.

Influence from peer groups in choosing field of study was rated as 'low' by 51(39 percent) trainee respondents. However, the fact that 40(30 percent) of respondents rated the problem as 'high' could indicate that there were trainees who engaged in their respective fields by following their friends.

Table 11. Difference in opportunities and choice of field of study between Male and female

No	Item with alternatives	Trainee Respondents	
		No	%
1	Do females have the same opportunity as males to be trained in both technical and vocational fields at different levels of TVET systems?		
	a. Yes	94	71.0
	b. No	38	29.0
	Total	132	100
2	Is there any special strategy that encourage female enrollment in construction and industrial field of studies?		
	a. Yes	26	20.0
	b. No	106	80.0
	Total	132	100

Respondents were asked 'whether both male and female do have the same opportunity to be trained in technical and vocational fields at different levels of TVET systems'. In this case, 94(71 percent) of respondents confirmed that both males and females have equal opportunity to attend any level of TVET programs. However, it is clear that even though there is equal opportunity both for male and female, this chance is not used equally.

In support of this, Williamson and Darely in Campbell (1985:10) indicated that in the vocational area, there are few students who make their choice after an objective analysis and evaluation of their ability and interests. Most students make their choice being influenced by ill- advice of parents, class- mates or teachers, from a desire to make money and to get social acceptance or from feeling and superficial aspects of jobs.

The fact that family's of the respondent supports in Table 6 their daughters of being a TVET trainee and the existence of the same opportunity both for male and female to be trained in technical and

vocational field of studies according to Table 11 item 1, were not consistent with the actual participation of female trainees that found in the two colleges attending TVET old curriculum (see Appendix-E). It is also not consistent with the finding reported by Atchoarena (2002) which indicates that in Ethiopia girls are under represented in technical and vocational institutes as in all other educational sub-sectors. He further argues that in technical and vocational education gender based division of labor and low enrollment rate for girls is reflected due to the status that society attributed to women.

In Table 11, item 2, respondents were asked whether 'there exist a special strategy used to encourage female enrollment to construction and industrial field of studies'. As it was indicated above, majority (80 percent) of the respondents assured that there was no special strategy developed to attract female trainees to industrial and construction field of studies. However, during the interview session with principals of the two colleges and Zonal TVET heads, they reported that there was a criterion to admit both male and female based on their grade 10 general education achievements in which females were admitted by one scale below males and given a priority when their achievements were equal. They further indicated that this approach was in place to encourage female participation not in construction and industrial field of studies, rather to encourage their involvement in technical and vocational education and training programs. Though both male and female trainees have equal opportunity to join construction and industrial field of studies females were not used this opportunity.

This implies that there is a need to have a strategy to help females engage in construction and industrial field of studies. Absence of clear strategy might contribute to the low participation of female trainees to those fields of studies.

Table 12. Trainer's response regarding how trainees were being assigned to different field of studies

No	Item with alternatives	Trainer Respondents	
		No	%
1	In your college, do the trainees be given orientation about different field of studies before they are assigned to their respective departments?		
	a. Yes	13	65.0
	b. No	7	35.0
	Total	20	100
2	If your answer for question No. 1 is 'yes', who gives the orientation?		
	a. Dean of the college	3	23.0
	b. Vocational counselors	6	46.0
	c. Department heads	4	31.0
	d. Others, if any	-	-
	Total	13	100

As can be seen in Table 12, majority (65 percent) of trainer respondents assured that trainees were given orientation about different field of studies before they were assigned to their respective departments. However, there were respondents (35 percent) who indicated there was no orientation to trainees concerning different field of studies. Trainee respondents were also answered this question almost in the same way. The data obtained from the trainer respondents strengthen what the trainee respondents already said in this regard.

Therefore, the result of this study indicates that orientation given at those TVET colleges addressed majority of the admitted students.

In the same Table item 2, those who replied that trainees were given orientation were requested to identify who gave the orientation. In this case, majority (46 percent) of trainer respondents indicated that orientation was given by vocational counselors, whereas 4(31 percent) of the respondents assured that it was the department heads who gave

orientation and the rest 3(23 percent) indicated that orientation was given by deans of the colleges.

Regarding this, Dubey et al., (1985) state that vocational guidance is a type of guidance activities which enable students to make decisions for their future career. On the other hand, counseling is an interaction process that facilitates meaningful understanding of self and environment and results in the establishment and for clarification of goals and values for future behavior (Stone and Shertzer, 1980).

What are presented by the two authors above remained us the importance of vocational guidance and counselors. Orientation about different occupations does not mean telling only the names and their characteristics. In addition to explaining the general characteristics of each field, it also requires enabling students to understand their own interest and aptitudes and to relate them to vocational areas under their study. The fact that orientation providers were dean of the colleges, department heads and vocational counselors might contribute to those different attitudes towards the given orientation. This result might imply that there was no uniformity in the assignment of trainees. In addition to this, such type of orientation might need a professionally responsible and accountable body.

In relation to this, Seyoum and Tirussew (1981) state that in developing countries like Ethiopia, appropriate vocational guidance service will minimize the wastage of scarce resources, which is invested on students due to their wrong or unwise choice of vocations. Therefore, this low level of agreement towards the given orientation on the part of trainer respondents, seem to be due to absence of scheduled orientation.

Table 13: Differences between female and male trainees in choosing field of studies

No	Item with alternatives	Trainer Respondents	
		No	%
1	Is there any difference between male and female trainees in choosing their field of studies?		
	a. Yes	9	45.0
	b. No	11	55.0
	Total	20	100
2	In your college, how do most of the trainees choose their current field of study among others?		
	a. Based on their interest	4	20.0
	b. Based on their friends choice	3	15.0
	c. Based on their parents choice	1	5.0
	d. Based on market opportunity	12	60.0
	e. Others, if any	-	-
	Total	20	100

According to the data in Table 13 item 1, 11(55 percent) of trainer respondents indicated that there were 'no' difference between male and female trainees in choosing their field of studies. However, in responding to open-ended question on the same issue, respondents indicated that females were less confident, timid, submissive, and physically weak. They further indicated that female trainees were frightened to engage in fields' requiring hard working.

In table 13 item 2, respondents were asked to identify how trainees have chosen their current field of study among others. In this regard, 12(60 percent) of respondents assured that trainees were assigned to their respective field of studies based on market opportunity. In Table 5 item

2, majority (89 percent) of trainee respondents indicated that they were attending their respective departments according to their interest. Therefore, it is possible to say that the existing market opportunity and trainees' interest was coinciding.

Table 14: Impact of Parent economic problems and socio- cultural barriers on female enrollment and participation in TVET

No	Item with alternatives	Trainer Respondents	
		No	%
1	To what extent do you think that parent economic problems affect female enrollment in TVET?		
	a. High	11	55.0
	b. Medium	5	25.0
	c. Low	4	20.0
	Total	20	100
2	To what extent socio- cultural barriers such as early marriage, sexual abuse, etc hinder females from attending and remaining in TVET colleges?		
	a. High	1	5.0
	b. Medium	7	35.0
	c. Low	12	60.0
	Total	20	100
3	To what extent do female trainees are discontinuing their technical and vocational education and training after they joined TVET colleges?		
	a. High	-	-
	b. Medium	9	45.0
	c. Low	11	55.0
	Total	20	100

As table 14 item 1, indicated 11(55 percent) of respondents assured that parent economic problems have 'high' impact on female enrollment in TVET.

Among the rest of the respondents 5(25 percent) also agreed that parental economic problems have a 'medium' impact on female enrollment in technical and vocational education and training programs. Regarding this, Zonal TVET heads and principals of the two colleges were also asked the same question through interview. According to the information obtained both from principals and Zonal TVET heads, parents economic problems found to be one of the major problems observed in their area.

Therefore, the data obtained from trainee respondents Table 6 and data of trainer respondents Table 14 together with supporting ideas from principals and Zonal TVET heads assured that parents economic problems were influencing female enrollment and participation in TVET. This implies that in order to increase female enrollment and participation, attention should be given to minimize high cost incurring school practices that may be a burden for female participants.

Item 2 in this table depicts that socio- cultural barriers such as early marriage, sexual abuse, etc have 'low' impact in hindering females from attending and remaining in TVET colleges under study according to 12 (60 percent) of trainer respondents. Only 1(5 percent) respondents were rated these problems as 'high'. In addition to this, 7(35 percent) of trainer respondents also rated the degree of the impact of socio- cultural barriers on female participation as 'medium'. Combined together those who rated as 'high' and 'medium' gives (40 percent) which was still below an average.

Trainee respondents as indicated in Table 4, also answered this question almost in a similar way. Moreover, principals and zonal TVET heads in their response during an interview session supported this idea. Therefore, these results might imply that there was a change in outlooks on the part of the community towards female and females' education.

Concerning the degree of female discontinuity of their education and training after they joined their respective colleges, the data in Table 14 revealed that there were 'low' problem according to the response of 11(55 percent) respondents. Among the respondents, 9(45 percent) indicated that discontinuity of female trainees from their technical and vocational education and training was found to be 'medium'. Regarding this, Zonal TVET heads and the principals also indicated that female trainees discontinuity rate from TVET was low. Therefore, it is possible to say female trainees retention rate in TVET program was found to be 'high'.

**Table 15: Trainers attitude towards Female participation in TVET
Different field of studies**

No	Item with alternatives	Trainer Respondents	
		No	%
1	Female trainees do not feel happy to join construction and industrial field of studies? a. agree b. disagree	7	35.0
		13	65.0
		Total	20
2	In most cases females prefer business education and training than technical education and training fields? a. agree b. disagree	5	25.0
		15	75.0
		Total	20

As table 15 item 1 shows, trainer respondents were asked to express whether they 'agree' with the idea that 'majority of female trainees do not feel happy to join construction and industrial field of studies or not'. Among trainer respondents 13(65 percent) indicated that they 'disagree' with the idea. On the contrary 7(35 percent) of the respondents shown their 'agreement' with the idea.

In item 2 of the same table, trainer respondents were also asked almost a similar question with item 1 in order to triangulate their responses regarding female trainees 'preference' of field of studies. Accordingly, 15(75 percent) of trainer respondents 'agreed' that females prefer business education and training than technical education and training fields. On the other hand, 5(25 percent) of the respondents rated the issue as 'disagree'.

Therefore, the result of this study is consistent with the finding by Eckstein, Z.; Cohen, S. (2002), which shown that even in the wake of the perkins act there still remains blatant gender segregation among the trades. Most often women are predominant in crafts, such as cosmetology and health care assistance, which pay substantially less than trades which are typically male- dominated such as carpentry and plumbing.

Table 16: Strategies used to encourage female students to join along all the streams.

No	Item with alternatives	Trainer Respondents	
		No	%
1	Are there any special effort (support) made/ given by the college to encourage female students to join along all the streams including construction and industry?		
	a. Yes	3	15.0
	b. No	17	85.0
	Total	20	100
2	Is there any special strategy deployed to encourage female trainees to involve in industrial and construction field of studies?		
	a. Yes	4	20.0
	b. No	16	80.0
	Total	20	100

Trainer respondents were requested to answer whether there were 'efforts made by their colleges to encourage female students to join along all the streams including construction and industry or not'. Table 16 item 1 revealed that 17 (85 percent) of trainer respondents assured that there were 'no' special effort made in their college to encourage female participation and enrollment to TVET various field of studies.

On item 2 of the same table, respondents were also requested whether there were a 'special strategy deployed to encourage female participation in industry and construction fields'. In this case again, 16(80 percent) of trainer respondents claimed that there were 'no' special strategy in use for such purpose.

In both cases a few (15 percent and 20 percent) respondents replied that there were special effort made and strategy deployed respectively. In relation to this, zonal TVET heads and the principals of the two colleges under study were asked a similar question during an interview session. They assured that there were no special strategy developed to encourage female participation in construction and industrial field of studies. Further, they explained that there were criteria of admission which were developed at regional level and distributed to each zones and TVET colleges so that they use it as a guide line. In this criterion as they explained it, if male and female compete for the same field and get equal average point, females were given priority. This is a general direction used to encourage female participation in all sectors.

It seems important to have a special strategy to encourage females' participation and enrollment in TVET. In relation to this, UNESCO (1974) states that promoting the equal access of girls and women to technical and vocational education is based on the organization's normative instruments which indicate that the continued persistence of inequality in those field calls for specific action in respect of girls and women taking in to account their particular needs and the obstacles to be overcome.

Absence of such strategy might contribute to low participation of female trainees to TVET in general and construction and industrial field of studies in particular.

Table 17: Factors affecting female enrollment and participation in TVET in general and industrial and construction field of studies in particular

No	Possible factors	Trainer Respondents							
		Degree of Impact							
		High		Medium		Low		Total	
		No	%	No	%	No	%	No	%
1	Lack of awareness on the part of trainees about TVET and its different fields	8	40.0	8	40.0	4	20.0	20	100
2	Absence of vocational guidance and counseling service	7	35.0	4	20.0	9	45.0	20	100
3	Lack of model female teachers/trainers in those fields	8	40.0	9	45.0	3	15.0	20	100
4	Lack of information about existing labor market	10	50.0	7	35.0	3	15.0	20	100
5	Differential attention to girls and boys by teachers	1	5.0	4	20.0	15	75.0	20	100
6	Poor training facilities	4	20.0	5	25.0	11	55.0	20	100
7	Gender stereotypes related to male and female	3	15.0	9	45.0	8	40.0	20	100
8	In-accessibility of training institutions	3	15.0	13	65.0	4	20.0	20	100
9	Influence from peer groups in choosing fields	4	20.0	15	75.0	1	5.0	20	100
10	Poor interest of females towards construction and industrial fields	7	35.0	9	45.0	4	20.0	20	100

The data summarized in Table 17, displayed the judgment of trainers towards the possible factors that affect female enrollment and participation in TVET in general and in construction and industrial field of studies in particular. Of the total respondent trainers, majority of them (75 percent) rated the 'differential attention to girls and boys by

teachers' as 'low'. As depicted in Table 8, the influence of this factor were also rated as 'low' by 51 (39 percent) of trainee respondents.

Regarding 'influence from peer groups in choosing field of studies' 15(75 percent) of trainer respondents rated the degree of its influence on female enrollment and participation in TVET as 'medium'. This result is in agreement with the result of Table 10, in which trainee respondents (39 percent) rated the influence of the same factor as 'low'. Thus, influence from peer groups in choosing field of study in TVET were not a major problem.

On the other hand, 13 (65 percent) of trainer respondents rated the impact of 'inaccessibility of training intuitions' on female enrollment and participation as 'medium'. According to the data in Table 8, trainee respondents (54 percent) indicated that inaccessibility of training institutions highly affected the enrollment and participation of female trainees in TVET. Therefore, it is possible to say that inaccessibility of training institutions were aggravating the problems related to low participation of females in TVET in general and in construction and industrial fields in particular.

Among the possible factors listed in the above table, 'lack of information about existing labor market' was identified as 'high' influential factor on female enrollment and participation in TVET. In relation to this UNESCO (1995) stated that skills being developed in training programs must correspond with needs in the labor market. Tickhar (1971:36) also expressed that if any effective information exchange is taking place between the training institution and the labor market, of no problem will arise with regard to employment, and the trainees themselves determine what to study.

According to 53(40 percent) of trainee respondents lack of information about existing labor market was one of the factors that affect female participation and enrollment in TVET. Thus, these results are consistent with the findings of the recent research indicated above. Therefore, it seems that trainees were negatively influenced in choosing their field of studies due to lack of necessary information related to labor market opportunities.

Lack of model female trainers in fields like construction and industry is seen to have 'medium' impact on female participation and enrollment according to 8(40 percent) trainer respondents. In Table 10, trainee respondents were also asked the same question. Accordingly, 56(42 percent) of trainee respondents confirmed that lack of model female trainers in construction and industrial fields influenced their participation in those fields. Regarding this, Khale and Meece (1994) cited in Assefa (2002) emphasized that the more women assume roles of instruction and leadership in the sciences and conduct research in these fields, the more likely that young girls will follow in their footsteps. Thus, lack of model female trainers in construction and industrial field of studies can be taken as the factor that affect females enrollment and participation in TVET in general and construction and industrial fields in particular.

Among the trainer respondents 9(45 percent) rated the influence that 'absence of vocational guidance and counseling services' on female enrollment and participation as 'low'. On the contrary, 7(35 percent) and 4(20 percent) of trainer respondents rated the impact as 'high' and 'low' respectively. In relation to this, trainee respondents were requested to give their response concerning the same issue. Accordingly, as depicted in Table 10, majority (51 percent) of the trainee respondents explained

that their participation in TVET in general and in construction and industrial fields in particular was less hampered by absence of vocational guidance and counseling services in their college.

Thus, like any other factors discussed above, absence of vocational guidance and counseling services also has an impact on female participation in TVET. This means that there was no sufficient support to trainees on various issues. This implies that there were no well organized guidance and counseling services which in turn might affect some of the trainees in recognizing 'why' and 'how' they were studying their fields.

The result of this study is inline with many of research findings indicated in the literature review. Therefore, had there been vocational guidance and counseling services in those TVET colleges, trainees would get opportunity to know about different TVET field of studies, existing labor market opportunities and other factors felt problematic.

CHAPTER FIVE

Summary, Conclusion and Recommendation

This final chapter of the thesis deals with the summary of the major findings of the study, conclusions and recommendations.

5.1. Summary

The overall purpose of the study was to investigate the extent of female enrollment and retention in TVET programs of Oromia region with specific reference to Nekemte and Asella TVET colleges.

To this effect, the descriptive survey approach was employed as a method of the study. In line with this, 132 (37 percent) of trainee respondents, 20(24 percent) of trainers as well as Zonal TVET heads and the principals of the two colleges were selected as sources of information. Questionnaire, interview, and document analysis were the data collection instruments used to secure information from sample respondents.

The data obtained were analyzed using percentage as a tool. On the basis of the analysis made the summary of the findings is presented as follows:

- Investigating the status of female and male students of Asella and Nekemte TVET colleges with respect to enrollment and retention rate was the first basic question of this study. Accordingly, the data obtained from the two colleges regarding the number of trainees who were attending TVET old curriculum in selected ten departments were 1,276(78 percent) male and 357(22 percent) female. The result of this data revealed that the number of female trainees in the two colleges were by far less than male trainees.
- It was indicated by majority of both trainee and trainer respondents that orientation was given to trainees concerning

different field of studies in TVET. However, it was assured by 50(38 percent) trainee respondents and 7(35 percent) of trainer respondents that there were no orientation given to trainees before their assignment to different field of studies. Thus, some of trainees might be confused in choosing their field of studies due to lack of orientation. In addition to this, it was also identified that different authorities like dean of the two colleges, department heads, etc. participated in providing orientation to trainees.

- Majority (89 percent) of trainee respondents claimed that they have chosen their field of studies according to their interest. This was supported by (60 percent) of trainer respondents who assured that trainees have chosen their training depending on the existing labor market opportunities.
- Parent economic problems are taken as one of the major factors that highly hinder female participation and enrollment in technical and vocational education and training programs. This claim is made by 75(57 percent) and 11(55 percent) of trainee and trainer respondents respectively. This might imply that there are trainees who need financial and material support.
- Socio- cultural barriers such as sexual abuse, early marriage, etc were seen as the most deterring factor regarding female educator in different research findings. However, the result of this study revealed that the impact of such socio- cultural problems is very low. This is supported by 12(60 percent) of trainer respondents and 54(41 percent) trainee respondents. However, the fact that 40(30 percent) and 38 (29 percent) trainee respondents rated the problem as 'high' and 'medium' respectively seems that these issues are still required more attention.
- Retention is one of the problems related to female participation in technical and vocational education and training. This is supported

by 11(55 percent) of trainer respondents that assured the existence of the problems by rating as 'yes' and 'medium'. Thus, from the data obtained, though the problem was not rated as serious, it is possible to say that retention was a common phenomenon in the two colleges under study.

- Different recent research findings indicate that females are not happy to join construction and industrial field of studies. Regarding this, both trainee and trainer respondents 91(69 percent) and 13(65 percent) 'disagree' with the above statement. Moreover, 83(63 percent) of the trainee respondents and 15(75 percent) of trainer respondents agreed on the statement that read 'in most cases females prefer business education and training than technical education and training'.
- In relation to this, trainee respondents were requested to give their opinion whether there exist 'differences between male and female trainees in choosing their field of studies'. It was assured by 93(70 percent) of trainee respondents that there is 'no' difference between the two sexes.
- According to the data obtained in Table 8, trainee respondents indicated that their families have positive attitude towards their being a TVET trainee. It was observed that 101 (77 percent) of trainee respondents affirmed that their families were supporting female participation in technical and vocational education and training programs. Thus, it seems that there may be a good opportunity to increase female enrollment in those field of studies.
- Developing human potential for better performance in the world of work is the significant role that any education and training system need to address. However, recent research findings revealed that females are under represented in some fields like industrial and construction technologies. Regarding this, trainer respondents were

by 11(55 percent) of trainer respondents that assured the existence of the problems by rating as 'yes' and 'medium'. Thus, from the data obtained, though the problem was not rated as serious, it is possible to say that retention was a common phenomenon in the two colleges under study.

- Different recent research findings indicate that females are not happy to join construction and industrial field of studies. Regarding this, both trainee and trainer respondents 91(69 percent) and 13(65 percent) 'disagree' with the above statement. Moreover, 83(63 percent) of the trainee respondents and 15(75 percent) of trainer respondents agreed on the statement that read 'in most cases females prefer business education and training than technical education and training'.
- In relation to this, trainee respondents were requested to give their opinion whether there exist 'differences between male and female trainees in choosing their field of studies'. It was assured by 93(70 percent) of trainee respondents that there is 'no' difference between the two sexes.
- According to the data obtained in Table 8, trainee respondents indicated that their families have positive attitude towards their being a TVET trainee. It was observed that 101 (77 percent) of trainee respondents affirmed that their families were supporting female participation in technical and vocational education and training programs. Thus, it seems that there may be a good opportunity to increase female enrollment in those field of studies.
- Developing human potential for better performance in the world of work is the significant role that any education and training system need to address. However, recent research findings revealed that females are under represented in some fields like industrial and construction technologies. Regarding this, trainer respondents were

asked to indicate if there was a special strategy deployed to encourage female trainees to involve in construction and industrial field of studies. Accordingly, 16(80 percent) of trainer respondents indicated that there was 'no' strategy. In addition to this, principals and zonal TVET heads also replied the same response during the interview session.

- Factors that are influencing female enrollment and participation in TVET in general and in construction and industrial field of studies were closely examined through the responses to the questionnaire administered for both trainee and trainer respondents. Accordingly, 'differential attention to girls and boys by teachers' rated as 'low' by 15(75 percent) of trainer respondents and it was rated as 'high' by 45(34 percent) of trainee respondents. The fact that 4(20 percent) of trainer respondents rated the influence of the situation as 'medium' seems similar with what was replied by majority of trainee respondents. In addition to this, 62(47 percent) of trainee respondents assured that females have poor interest towards construction and Industrial field of studies.
- On the other hand, the influence of 'inaccessibility of training institutions' on female enrollment and participation were rated as 'high' by 71(54 percent) of trainee respondents and as 'medium' by 13(65 percent) of trainer respondents. Thus, it is possible to say inaccessibility of training institutions were one of the factors hindering female enrollment and participation in TVET.
- Both trainers and trainee respondents were required to indicate the 'extent of the influence of gender stereotypes related to female and male' by labeling a scale ranging from 'medium' to 'low' respectively. In this way, 75(57 percent) of trainee respondents labeled as 'low' while trainer respondents labeled the influence of this factor as 'medium'. The difference between the responses of trainee and

trainer respondents may be attributed to their level of understanding of the factors.

- Lack of model female trainers in construction and industrial field of studies, also have an influences on female enrollment and participation in those field of studies according to 56 (42 percent) of trainee respondents who labeled the degree of the problem as 'high'. Trainer respondents on the other hand, 9(45 percent) rated the influence of the factor as 'medium'.
- Occupational information is one of the most important things in choosing field of studies. However, 10(50 percent) trainer respondents and 53(40 percent) trainee respondents indicated that 'lack of information about existing labor market' was among the factors that affect the enrollment and participation of female in TVET in general and in choosing field of studies in particular. In addition to this, 15(75 percent) of trainer respondents rated 'influence from peer groups in choosing fields' as 'medium'.

5.2. Conclusion

In an era where a gender issue has become a prerequisite for any sort of development endeavors, emphasis to female education and training is of paramount importance. Many of recent literatures revealed that much attention has been given to the question of gender differences in construction and industrial field of studies.

The data obtained from the two colleges (Appendix- E) regarding male and female enrollment on some specified dimensions such as enrollment in Construction, Automotive, and Machine Technology, etc. old curriculum have shown that male trainees appear to be dominant.

On the other hand, problems related to drop out and repetition of TVET female trainees was found to be 'low'. Thus, the result of this study revealed that retention rate of female trainees in TVET was 'high'. Though there are efforts made to ensure equity between town and rural areas, it is an evident that majority of the trainees were drawn from towns. Thus, the inaccessibility of training institution can contribute to the low participation of females for the very reason that they fear to travel long distance.

As already indicated in the literature review, in TVET majority of the trainees are expected to engage in self employment. This requires clear information not only about the nature and characteristics of different field of studies in TVET but also about a kind of the existing labor market opportunities. This is because the productivity of trainees both in their institutions and after graduation is mainly depends on marketability of training fields. To this end, the presence of vocational guidance and counseling in TVET institutions is of paramount importance.

According to the last basic question of the study there are different factors that affect female enrollment in TVET. It is believed that females are encouraged more when they get some one whom they may refer as a model. In this regard, the number of female trainers in TVET institutions is negligible. Therefore, lack of model trainers was perceived as one of the problems affecting female enrollment and participation in TVET in general and in construction and industrial field of studies in particular.

5.3 Recommendation

On the basis of the findings and the conclusion drawn, the following recommendations were put forward:

1. It was found that in Nekemte and Asella technical vocational education and training colleges the majority of trainees (78 percent) were males. Female trainees were only 22 percent. Since women constitute half of the total population, development without their participation is always deficient. Thus:
 - i. There should exist clearly stated strategies as to how equity between males and females is maintained. Therefore, it is advisable that, in the short term, regional TVET Agency use a Kota system to ensure female enrollment in different TVET field of studies.
 - ii. In the long- run, sensitizing parents about the importance of female participation in technical vocational education and training as a path to self-employment is necessary through public relations and by means of community sensitization campaign.
 - iii. TVET institutions should be accessible to the targeted population depending on the economic capacity of the country. Therefore, regional TVET Agency and Zonal TVET offices should have a short term and long term plan of opening institutions working together with the community.
2. As suggested by trainers and principals, it is advisable if there exists information communication system at the level of training institutions, woreda/ Zone and regional level for trainees are not trained only for the labor demand of their surrounding but also based on the existing larger opportunities. It is believed that labor

market demand is fluctuating now and then depending on the nature of the development of the economic activities. Thus, trying to manage ever changing labor market information being limited to a local area is very difficult. Therefore, responsible and accountable bodies at various levels should be organized in order to ensure the presence of reliable and continuous information flow. In addition to this, TVET institutions should develop a strategy that enable them establish cooperation with their feeder Secondary Schools so that they would be able to provide the necessary occupational information for the would be trainee as early as possible.

3. As suggested by female trainees, trainers, principals of the colleges and zonal TVET heads, the presence of female trainers in different fields of technical education and training requires much attention. Therefore, in hiring trainers, TVET Agency, woreda TVET offices /TVET colleges should try to look for competent female trainers especially in construction and industrial field of studies.
4. Further studies ought to be carried out on causes of female trainees' low participation and enrollment in TVET institution since this one is not exhaustive.

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Appendix- A

**School of Graduate Studies
College of Education
Department of Curriculum and Teachers
Professional development Studies**

Questionnaire for Teachers/Trainers

Dear Respondent!

The purpose of this questionnaire is to investigate the status of Female Enrollment and retention in technical and vocational education and training colleges in Oromia regional state.

You are kindly requested to provide honest and accurate responses to each of the items that follow.

I. Instruction:-

1. Don't write your name
2. For items with alternatives, please show your response by circling an appropriate alternative answers.
3. For items that ask for your view or suggestion, please respond by writing on the space provided.

II. Background of Respondents

1. Name of your TVET college _____
2. Sex _____
3. Age: a) 16-20 b) 21-25 c) 26-30 d) 31 & above
4. Your department _____
5. Your major field of study _____
6. Your Qualification _____
7. Teaching /Training experience _____

III. Main Research Questions

1. In your college, do the trainees be given orientation about different field of studies before they are assigned to their respective departments?
 - a. Yes
 - b. No
2. If your answer for Question No. 1 is 'yes', who gave the orientation?
 - a. Dean of the college
 - b. Vocational counselors
 - c. Department heads
 - d. Others, if any _____
3. In your college, how most of the trainees choose their current field of study among others?
 - a. Based on their interest
 - b. based on their friends choice
 - c. Based on their parents choice
 - d. others, if any _____
4. To what extent do you think that parent economic problems affect female enrollment in TVET?
 - a. High
 - b. Medium
 - c. Low
5. To what extent socio- cultural barriers such as early marriage, sexual abuse, etc hinder females from attending and remaining in TVET colleges?
 - a. High
 - b. Medium
 - c. Low
6. Female trainees do not feel happy to join construction and industrial field of study?
 - a. agree
 - b. disagree
7. If your response for Question No. 6 is 'agree', what do you think are possible reasons? Please, list them _____

8. Is there any special strategy deployed to encourage female trainees to involve in industrial and construction field of studies?
 - a. Yes
 - b. No

9. If your response for Question No. 8 is 'yes', please, specify the strategy used _____

10. In most cases females prefer business education and training than technical education and training fields?

- a. agree b. disagree

11. Are there any special incentives to encourage female enrollment in your college? a. Yes b. No

12. How does the community view female participation in TVET in general and in construction and industry fields in particular?

13. To what extent do female trainees are discontinuing their technical and vocational education and training after they joined TVET colleges?

- a. High b. Medium c. Low

14. If your response for Question No. 14 is 'high', please list the reasons for their discontinuing _____

18. What measures should be taken to improve the enrolment of females in TVET in general and in construction and industrial field of studies in particular? _____

Appendix- B

**School of Graduate Studies
College of Education
Department of Curriculum and Teachers
Professional development Studies**

Questionnaire for Female Trainees

Dear Respondent!

The purpose of this questionnaire is to investigate the status of Female Enrollment and retention in technical and vocational education and training colleges in Oromia regional state.

You are kindly requested to provide honest and accurate responses to each of the items that follow.

I. Instruction:-

1. Don't write your name
2. For items with alternatives, please show your response by circling an appropriate alternative answers.
3. For items that ask for your view or suggestion, please respond by writing on the space provided.

II. Background of Respondents

1. Name of your TVET college _____
2. Your Area of Residence before coming to this College
 - a) Urban
 - b) Rural
3. Your Sex : a) male b) female
4. Your Age: a) 16-20 b)21-25 c)26-30 d)31 & above
5. Family (Mother & Father) Educational Status (More than One Answer is possible)

Technical and vocational education and training after they joined TVET colleges? a. High b. Medium c. Low

9. If your response for Question No. 8 is 'high', please list the reasons for their discontinuing _____

10. To what extent do you think that the following factors affect the enrollment and participation of female trainees in TVET in general and construction and industrial field of studies in particular?

No	Possible Factors	Degree of impact		
		High	Medium	Low
10.1	Lack of awareness about the fields			
10.2	Absence of vocational guidance and counseling service			
10.3	Lack of model female trainers in those fields			
10.4	Lack of information about existing labour market			
10.5	Differential attention to girls and boys by teachers			
10.6	Poor training facilities related to construction and industrial fields			
10.7	Gender stereotypes related to female and male			
10.8	In accessibility of training institutions			
10.9	Influence from peer groups in choosing fields			
10.10	Poor interest of females towards construction and industrial fields			

11. Is there any special strategy that encourage female enrollment in construction and industrial field of studies?

a. Yes

b. No

12. If your answer for Question No. "11" is yes, specify a kind of strategies used _____

13. What measures should be taken to improve the enrollment of females in TVET in general and in construction and industrial field of studies in particular? _____

Appendix- C

Univarsitii Addis Ababaa Kolleejjii Barnootaatti Muummee Qo'annoo Sirna Barnootaa fi Dagaagina Ogummaa Barsiisotaa

Gaaffannoo Leenjifamtoota Shamarraniif

Kabajamtuu shamarree!

Kaayyoon gaaffannoo kanaa kollejjoota Barnootaa fi Leenjii Teeknikaaf Ogummaa Bulchiinsa Mootummaa Naannoo Oromiyaa Jiran keessatti hirmaannaa fi harcha'iinsi leenjiifamtoota shamarranii sadarkaa irra jiru qorachuudha.

Kanaaf gaaffiiwwan armaan gaditti dhiyaataniif deebii sirrii fi amansiisaa ta'e akka kennitun kabajaan gaafadha.

I. Qajeelfama:-

1. Maqaan hin barreeffamu
2. Gaaffiiwwan filannoo qaban qubee filannoo sirrii qabatetti giingoo maruun deebisi.
3. Gaaffiiwwan ilaalcha Ykn. yaada kee gaafataniif iddoo duwwaa kenname irratti yaada qabdu barreessi.

II. Odeeffannoo waa'ee deebistootaa

1. Maqaa kolleejjii BLTO Kee _____
2. Gara Kolleejjii kanaa otuu hin dhufin dura bakka jireenyaa kee
a/ Magaalaa b/ Baadiyyaa
3. Saala Kee : a) Dhi _____ b) Dubara
4. Umurii kee : a) 16-20 b) 21-25 c) 26- 30 d) 31 fi ol
5. Sadarkaa barnoota (haadha fi abbaa) warra kee (deebii tokkoo ol kennuu dandeessa).
a) doofaa d) Kutaa 9-10
b) Kutaa 1-4 e) 11-12
c) Kutaa 5-8 f) kutaa 12 oli
6. Bara Leenjii itti jalqabde _____
7. Sadarkaa amma leenji'aa jirtu _____

8. Muumnee/ ogummaa leenjituun _____

III. Gaaffiiwwan Ijoo Qo'annichaa

1. Muumnee ykn. Ogummaa kanatti otuu hin galmaa'in dura waa'ee ogummaalee adda addaa Barnootaa fi Leenjii Teeknikaaf Ogummaa irratti hubannon argatte jiraa?

a/ Eeyyee b/ Lakki

2. Gaaffii lakkoofsa "1" f deebiin kee "eeyyee" yoo ta'e muumnee ykn. ogummaa kana kan filatte:

- a) Fedhii keetiin
- b) Hiriyyoonni kee waan filataniif
- c) Fedhii warra keetiin
- d) Filannoo biroo waan dhabdeef
- e) Sababni biroo yoo jiraate ibisi

3. Harka qalleeyyii ta'uun maatii Barnootaa fi Leenjii Teeknikaaf Ogummaa keessatti sadarkaan miidhaa hirmaanaa shamarranii irratti fidu?

a) Olaanaa b) giddu-galeessa c) xiqqaa

4. Rakkoon hawaas-aadaa kan akka ijoollummaatti heerumsiisuu, dirqiin gudeeduu fi kkf. Kollejji Barnootaa fi Leenjii Teeknikaaf Ogummaa keessatti shamarran leenjii akka itti hin fufne taasisuu irratti miidhaan qabu?

a) Olaanaa b) giddu – galeessa c) xiqqaa

5. Shamarran hedduun ogummaa Ijaarsaa fi Induustirii leenji'uu hin fedhan

- a) Yaada kanatti waliigala
- b) Yaada kanatti walii hin galu

6. Leenjii/ barattuu Barnootaa fi Leenjii Teeknikaaf Ogummaa ta'uu keef ilaalchi warri kee qabu maal fakkaataa?

- a) Ni-deeggaru
- b) Hin deeggaran
- c) Hin beekkamu

7. Shamarran yeroo baay'ee leenjii teeknikaa caalaa leenjii ogummaa filatu?

- a) Yaanni kun sirriidha
- b) Yaanni kun sirrii miti

8. Shamarran Barnootaa fi Leenjii Teeknikaaf Ogummaa kollejjii keessatti edda eegalanii booda sadarkaan addaan kutiinsa isaanii hangamii?

- a) olaanaa
- b) giddu-galeessa
- c) xiqqaa

9. Gaaffii lakkoofsa "8" f deebiin kennite "olaanaa" yoo ta'e addaan kutiinsaaf dhimmoota sababa ta'u jettee yaaddu tarreessi? _____

10. Dhimmoonni armaan gaditti tarreeffaman Barnootaa fi Leenjii Teeknikaaf Ogummaa keessattis ta'ee ogummaa ijaarsaa fi in n hirmaanne taasisuu irratti dhiibbaa olaanaa, giddu – Galeessa ykn. dhiibbaa xiqqaa kan qaban adda baasuun sarara kallattii dhimmootaa tiin mallattoo "X" barreessuun sadarkaa miidhaa agarsiisi.

T.L	Dhimmoota	Sadarkaa miidhaa		
		olaanaa	Giddu Galeessa	Xiqqaa
10.1	Gosa ogummaalee jiranii irratti hubannoo dhabuu			
10.2	Tajaajila deeggarsaafi gorsa ogummaa dhabuu			
10.3	ogummaalee kanaan leenjistoota shamarranii fakeenya ta'an dhabuu			
10.4	Odeeffannoo fedhii gabaa hojii jiru dhabuu			
10.5	Leenjistoonni shamarran caalaa leenjifamtoota dhiiraaf xiyyeeffannoo kennuu			
10.6	Ogummaa induustirii fi ijaarsaa irratti meeshaaleen leenjii hanqina cimaa waan qabuuf			
10.7	Ilaalchi hojiifi ogummaa dhiiraa fi shamarraniin qoqqoodu/adda baasu jiraachuu			
10.8	Dhaabbileen leenjii BLTO dhiyeenyatti argamuu dhabuu			
10.9	Gosa Ogummaa filuu irratti dhiibbaa hiriyoonni geessisan			
10.10	Ogummaa induustirii fi ijaarsaa irratti fedhiin shamarranii baayyee xiqqachuu			

7. Ogummaa ijaarsaa fi Induustirii keessatti shamarran akka hirmaatan jajjabeessuuf tarsiimoon addatti qophaa'e jiraa?

- a) Eeyyee b) Lakkii

8. Gaaffii lakkoofsa "11" f deebiin kee "eeyyee" yoo ta'e tarsiimoo ittiin hojjetamaa jira jettuu tarreessi .

9. Barnootaa fi Leenjii Teeknikaaf Ogummaattis ta'ee gosa ogummaa ijaarsaa fi induustirii keessatti hirmaannaa shamarranii fooyyeessuuf tarkaanfiin akkamii otuu fudhatamee wayya jettuu?

Appendix- D

Structured Interview for Principals and Zonal TVET heads

1. What are the major objectives of your TVET College?
2. How do you select TVET trainees?
3. Before they came to TVET institute, do you think that trainees have a know how about TVET and existing job opportunities?
4. Who decide the number of trainees to be involved in different fields? How do you manage female-male ratio?
5. Is there any strategy used to encourage females enrollment and avoid retention in TVET?
6. What are parents' attitudes toward educating and training their daughters? Toward educating their sons?
7. Do these attitudes differ between parents who have attended school themselves and those who have not?
8. What communication links exist between this TVET college, parents and the community to over come problems related to female enrollment and retention?
9. What do the family fear to send their female trainees to TVET colleges?
10. What measures, do you think, should be taken to improve female enrollment and reduce their retention in TVET in general and construction and industrial fields in particular?

Appendix -E

Data of Male and Female Trainees Attending TVET old Curriculum in 2001 E.C

No	Department	Nekemte TVET College									Asella TVET College									Percentage			
		10+1			10+2			10+3			10+1			10+2			10+3			M	%	F	%
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T				
1	Drafting	50	39	89	35	14	49	39	28	67	19	25	44	25	10	35	28	16	44	196	60	132	40
2	Wood work	25	5	30	21	3	24	16	2	18	-									62	86	10	14
3	Surveying	80	20	100	62	20	82	110	38	148	60	14	74	60	26	86	38	17	55	410	75	135	25
4	Construction	67	7	74	82	12	94	-	-	-	-	-	-	-	-	-	-	-	-	149	89	19	11
5	Auto	-	-	-	-	-	-	28	3	31	-	-	-	-	-	-	-	-	-	28	90	3	10
6	Electronics	-	-	-	-	-	-	31	5	36	-	-	-	17	5	22				48	83	10	17
7	Electricity	-	-	-	-	-	-	63	6	69	-	-	-	49	11	60	63	6	69	175	88	23	12
8	Textile	-	-	-	-	-	-	-	-	-	20	12	32	-	-	-	-	-	-	20	62	12	38
9	Electro mechanical Techno	-	-	-	-	-	-	-	-	-	61	5	66	103	6	109	-	-	-	164	94	11	6
10	Machine Techno	-	-	-	-	-	-	-	-	-	-			24	2	26				24	92	2	8
	Sum	222	71	293	200	49	249	287	82	369	160	56	216	278	60	338	129	39	168	1276	78	357	22

Appendix -F**Total Number of Trainers from different Departments of the Two Colleges**

No	Department	Nekemte TVET College			Asella TVET College		
		M	F	T	M	F	T
1	Drafting	5	-	5	6	-	6
2	Wood work	4	-	4	2	-	2
3	Surveying	8	-	8	7	-	7
4	Construction	6	2	8	4	-	4
5	Auto	6	-	6	8	-	8
6	Electronics	3	-	3	3	-	3
7	Electricity	4	-	4	5	-	5
8	Textile	-	-	-	4	-	4
9	Electro mechanical Techno	-	-	-	3	-	3
10	Machine Techno	-	-	-	3	-	3
	sum	36	2	38	45	-	45

Appendix- G

Distribution of sample Trainers by Age, Qualification and Training Experiences

No	Items	Total Population	Sample Population	Percentage
1	Age Range			
	a. 16-20	25	6	24.0
	b. 21-25	17	4	24.0
	c. 26-30	29	7	24.0
	d. 31 and above	12	3	25.0
	Total	83	20	24.0
2	Qualification			
	a. BA/BSC	79	19	24.0
	b. Diploma	4	1	25.0
	Total	83	20	24.0
3	Training Experience			
	a. below 5 years	12	3	25.0
	b. 6-10 years	17	4	24.0
	c. 11-15 years	33	8	24.0
	d. 16 and above	21	5	24.0
	Total	83	20	24.0

Declaration

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university and that all sources of materials used for this thesis have been duly acknowledged.

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