

TVET Institutes in Support of Small Scale Manufacturing Enterprises towards Sustainable Development: the case of Gullele Sub- City in Addis Ababa

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A thesis submitted to the schools of graduate studies, Addis Ababa University in partial fulfillment of the requirements for the master of Arts Degree in Educational Leadership and Management

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This is to certify that, the thesis prepared by Dereje Anduanbessa Assayew, entitled: TVET institutes in support of small scale manufacturing enterprises towards sustainable development: the case of Gullele sub- city in Addis Ababa, and submitted in partial fulfillments of the requirements for the Master of Arts in Educational Leadership and Management complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

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Declaration

I, the undersigned, declare that this thesis is my original work, prepared for the partial fulfillment of the requirements for MA degree in Educational Leadership and Management entitled “TVET institutes in support of small scale manufacturing enterprises towards sustainable development; the case of Gullele sub- city in Addis Ababa” has not been presented for a degree in any other university and that all sources of material used for the thesis have been duly acknowledge. I have made it independently with the close advice and guidance of my advisor.

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This thesis entitled “TVET institutes in support of small scale manufacturing enterprises towards sustainable development; the case of Gullele sub- city in Addis Ababa” is submitted to me as a thesis advisor by Dereje Anduanbessa Assayew as students researcher for the purpose obtaining my approval on the study, to which I have agreed.

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Acronyms

AAMSEDA	Addis Ababa Micro and Small Enterprise Development Agency
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (German Federal Ministry for Economic Cooperation and Development)
BoCAED	Bonn Conference on Adult Education and Development
CEDEFOP	European Centre for the Development of Vocational Training
COAG	Council of Australian Government
COC	Center of Competency
CSTC	Community Skill Training Centers
DESD	Decade of Education for Sustainable Development
EfS	Education for Sustainability
ESD	Education for Sustainable Development
ESDP	Education Sector Development Program
FeDRE	Federal Democratic Republic of Ethiopia
FeMSEDA	Federal Micro and Small Enterprise Development Agency
GTP	Growth and Transformation Plan
ICT	Information and Communication Technology
IT	Information Technology
ILO	International Labor Organization
KSAs	Knowledge, skills and Attitudes
MDGs	Millennium Development Goals
MoE	Ministry of Education
MoFED	Ministry of Finance and Economic Development
MoTI	Ministry of Trade and Industry
MSE	Micro and Small Enterprise
MSED	Micro and Small Enterprises Development
OECD	Organization for Economic Cooperation and Development

ReMSEDA	Regional Micro and Small Enterprise Development Agencies
SD	Sustainable Development
TVET	Technical and Vocational Education and Training
UNDP	United Nation Development Program
UNEP	United Nations Environmental Program
UNESCO	United Nations Education, Science and Cultural Organization
UNEVOC	The UN's International Center for Technical and Vocational Education and Training
UNECE	United nation economic commission for Europe
WWF	World Wildlife Fund

ABSTRACT

This study was designed to assess TVETs institutes in support of small scale manufacturing enterprises towards sustainable development. It also addressed how successful TVETs incorporate their practices in-line with key aspects of sustainable development on the producing of skilled workforce of manufacturing sectors. Samples of woredas were taken by using random sampling methods and sample of small scale manufacturing enterprises were taken by using purposive sampling technique. With regard to TVETs trainers a census were conducted to select 67 trainers from manufacturing departments. From 58 small scale enterprises one respondent was selected to fill questioner that makes it a census survey. 3 deans and 3 department heads of TVET institutes, a head of sub- city TVET office and officials of MSED offices at woreda and sub-city were taken using purposive sampling techniques. Ongoing of answering basic questions, a questionnaire that include demographic profiles, the type of supports that TVETs provide to MSEs operators, the identification of supports were in- line with the needs of operators, and the practices of a successful TVETs on producing manufacturing sectors skilled workforce for sustainability were designed in a closed ended, open ended and likert- scales. Besides, interviews were held with TVETs deans and department heads, officials of MSED offices and TVET at sub-city and woredas level and observation was also carried out based on the checklist. After the data has been collected, it was analyzed using SPSS software version 22. The findings of the study revealed that, TVETs supports and trainings on; Kaizen implementation at working premises, entrepreneurship, marketing and customer services were significantly providing to operators. But, there are some discrepancies counted among TVETs trainers and MSEs operators supports and trainings related with adopted technology, certificates of assurance, machine maintenance, equipment rent, orientations before starting business and skill utilization of modern technologies. Further the study delineated that, MSEs are interested at high level towards having training on entrepreneurship, technical skill development, short- term courses, matters with sustainability development concepts and adopted technology from TVETs. Even though, TVETs supported enterprises in economic and ecological concepts of sustainable development, but still less on providing trainings to their trainees towards training on gender equality and cultural diversity which are societal suitability ethos. Even, TVETs practicing various pedagogical approaches and created linkage with many stakeholders still lots remained there to be done. Moreover, some discrepancy counted on training and support between MSEs operators to meet their needs and satisfaction. TVETs are playing their role on producing skilled manpower to the market needs of manufacturing sectors. TVET institutes found in Gullele sub-city should develop their capacity on supporting MSEs to implement with adopted technologies and provide services in all the way through, machine maintenance services and rent equipments as well, clearly state the concepts of sustainability terms and terminologies with full-fledged curriculum, use various pedagogical approaches and strengthen the collaboration with key organizations.

Key Terms: Sustainable Development; EfS, ESD, TVET for sustainability, sustainability skills, MSE; Manufacturing Enterprise.

Chapter 1: Introduction

1.1 Background of the Study

Now a day, any type of sector development should concern and mitigate its impact with sustainable development point of views. To do so, many development policies and strategies are designed by international and national level for their adequate advances towards to socio-economic and ecological initiatives.

Although the word sustainability is used in a great portion of the natural science literature as well as in the newspapers and global news, the term still remains unclear for the great majority of the world's population. In fact, there is no single definition for sustainability. Its definition acquired a policy perspective with the publication of the Brundtland's Report, which defines sustainability as: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987).

Education for Sustainable "aims to help people to develop the attitudes, skills and knowledge to make informed decisions for the benefit of themselves and others, now and in the future, and to act upon these decisions" (UNESCO, 2010). ESD covers different areas from elementary to university education. One of these areas is Technical and Vocational Education and training, which is the type of education that emphasizes on the application of the skills, knowledge and attitudes required for employment in a particular occupation in any field of social and economic activity.

The Clute Institute International Academic Conference (2014) state that, the objective of education, training and development is to provide for the trainees the knowledge, attitudes and skills needed for productive and gainful contribution to the process of development. To make the acquisition of high industrial skills possible, an appropriate learning environment is needed. Technical and vocational education UNESCO & ILO (2002) is that form of education which begins with a broad base which facilitates horizontal and vertical articulation within the education system and between school and the world of work, thus contributing to the elimination of all forms of discrimination. It is also prepares the individual for lifelong learning of

developing the necessary mental tools, technical and entrepreneurial skills and attitudes. It is needed for the industrial development of nation.

In response to the growing demand and need for skilled labor and technicians across a wide range of sectors, a comprehensive, up-to-date, and effective Technical and Vocational Educational Training (TVET) program is essential to a country's effort to expand levels of education and training cooperation between public and private sector employers, to increase productivity, to reduce poverty through comprehensive and productive activities, to build trade capacity and further develop priority sectors including energy and the environment (Stephen, 2010). In addition to this, the experience of developed countries shows that educated and trained workers are better prepared to learn new skills as production technologies change and thus to move up the occupational ladder and increase their earnings over the course of a career.

Government of Ethiopia has taken different type of measures for economic and social development of the society. According to (MoFED, 2010) Growth and Transformation plan (GTP), The National TVET Strategy, 2006 and the MSE Strategy, 1997 are the major actions which have been designed by the Ethiopian Government to meet Millennium Development Goals.

Technical Vocational Education and Training (TVET) programmers continue to be regarded by policy makers, higher education institutions and small and medium- sized enterprises (MSEs) as a primary means of strengthening the links between TVET and micro- enterprises and thus offering the wherewithal to overcome the many problems faced by micro-enterprise businesses (Hoque and Bacon, 2008; Desplaces and others, 2009; Stephens and Onofrei, 2009).

Recognizing that the vast majority of the worldwide labor force, including knowledge workers, require technical and vocational knowledge and skills throughout life, we affirm that skills development leading to age-appropriate TVET should be integral to education at all levels, and can no longer be regarded as optional or marginal. It is especially important to integrate skills development in Education for All (EFA) programs and to satisfy TVET demand created by learners completing basic education. (UNESCO–UNEVOC, 2005, p. 2).

The role of TVETs institutes on the producing skilled manpower are significantly acknowledged at different researches for development of sustainability of economic, societal and ecological aspects of benefits in terms of employability, entrepreneurial and competitiveness of their customers ability along with many development trends. Small enterprises development especially on the manufacturing sectors ultimately utilizes different sorts of human and natural capital and processes to the advantages of local and national development in various aspects. Not only that, manufacturers is producing tangible and intangible outcomes towards which directly or indirectly create the economy, social and environmental impacts on local development.

To develop its productivity, micro and small enterprises sector need support from the TVET sectors to produce quality products to the market and transfer advanced technology. These can be achieved through giving training to the MSEs operators by TVET institution based on their skill gaps, jobseekers demands and potentials to adapt advanced technology to achieve the national growth and transformation plan (GTP I, 2010).

TVETs is producing massive work force and giving support and training for this sectors being sustainability. Technical and vocational training colleges and institutions are home of qualified technicians that run the industry sector and for alleviating employment opportunity. And they are a bridge for technology transfer. The Addis Ababa city administration established TVET agency to manage, regulate and control the sector and closely works with MSEs.

According to the City TVET Agency in 2004 E.C there were 383 TVET colleges and institutions both government and private owned at different levels rendering various trainings with a gross enrollment rate of 100,000 students. The number of teachers who were teaching indifferent level in both government and non government institutions were 2,896. The main emphasis was on adoption, transferring of technology and training of qualified mid level trained man power in order to fill the needed human resource that contribute for the transformation of the country to middle income.

Gullele is one of the ten sub-cities of Addis Ababa, the capital of Ethiopia and divided in to ten woreda Administrations. As of 2011 its population was of 248,865. The district is located in northern suburb of the city, near the Mount Entoto and Entoto Natural Park. It borders with the districts of Kolfe Keranio, Addis Ketema, Arada and Yeka sub- cities. (BoFED, 2013).

Related with educational institutions, the sub- city holds that, 38 primary schools, 8 secondary schools, 2 preparatory schools, 5 TVETs, 5 colleges and 5 universities of its frontier. Among those TVETs, three of them are government owned public TVET institutions, stated as Entoto Polytechnic College, Shiromeda TVET institute and Gullele TVET institute and all are rendering various trainings and supports for MSEs operators and potential entrepreneurs at different levels. Over all, this study deeply covers how TVETs in support of small scale manufacturing enterprises towards sustainable development: the case of Addis Ababa, in Gullele sub- city.

1.2. Statement of the Problem

The major issue facing the world today is that of learning how to live and work in ways that are sustainable, so that the reasonable needs of people from all walks of life and in all countries can be satisfied, without overexploiting the natural resources upon which all life depends that the ability of future generations to meet their needs is threatened (UNESCO-UNEVOC, 2004).

Reorienting TVET for sustainable development and poverty alleviation has been a significant part of the agenda of the UNESCO. The central theme of the Second International Conference on Technical and Vocational Education was Lifelong Learning and Training. Developing this theme, it has been working hard at the task of moving TVET from the narrow task of providing training for industry and occupation-specific skills to the broader task of workforce development and lifelong learning for sustainable development. The Bonn Declaration (UNESCO-UNEVOC, 2006) affirmed that skills development leading to age- appropriate TVET should be integral to education at all levels.

TVET will help create environmental awareness in Ethiopia and will educate Ethiopians about sustainable uses of scarce natural resources. The core business of the TVET institutions is the development and delivery of sufficient well- trained and competent workers to satisfy the demands of industry. At the end of ESDP V 567115 MSEs which consist of more than 1.9 million operators, will have received support through industry extension services (ESDP V).

Technical and entrepreneurial skills of MSE operators will be increased through capacity building that is designed based on skill-gap analyses conducted by TVET trainers. MSE operators will then benefit from short-term training to refine skills and bridge gaps identified. At the end of any skill gap training, operators will be assessed to ensure their competency. Kaizen,

which helps to improve the quality and productivity of the product by streamlining production processes, is one of the supporting packages that will be delivered to MSEs to reduce wastage and increase cost-effectiveness. At the end of ESDP V, 44% of MSEs will be led by master craftspeople (competent at TVET level four or above). This is intended as a first step towards export-quality manufactures, with a target that 6% of manufacturing MSEs will be able to produce export standard products. This will be supported by establishing partnerships between MSEs and medium or large industries and with universities (ESDP V).

Moreover, the institutions are expected to relevantly transfer the technologies to micro and small enterprise (MSE) sector in order to increase their productivity, improve the quality of products and services and facilitate creation of new business. Provision of TVET programs and technology transfer services are the means to strengthen MSE in urban and semi-urban areas.

However, various studies have been conducted on TVETs and MSE in Ethiopia. Their major focuses of the study subjects are on TVET and MSE linkages and contribution on jobs creation and employability (Kibrom 2014, Dadi, 2013 and Taddese, 2010). TVETs support for small scale manufacturing enterprises in-line with producing a workforce having sustainability aspects of skills were missed and not observed yet.

Having these in considerations, the researcher visualized that, this study will help TVET in terms of identifying their current supports for MSEs, TVET support provisions were in line with MSEs needs of development business. TVETs on producing skilled workforce of enterprises particularly manufacturing once and as a major stakeholder involving on the supports of MSEs too, by doing much to empower them and train operators and trainees on knowledge, skills and attitudes with sustainability ethos.

Besides, the research believed that the study will enhance TVET efforts on producing skilled work force having green skills/ core skills with sustainable development points of views. Green producing skilled work force for local manufacturing based enterprises for create sustainable development: in Gullele Sub- City of Addis Ababa.

1.3. Research Questions

1. How TVETs are linked with small scale manufacturing enterprises?
2. How TVETs supports and trainings related in need of the small scale manufacturing enterprises operators?
3. How successful TVETs go on developing a workforce skilled for sustainability of small scale manufacturing?

1.4. Objectives of the Study

1.4.1. General objective

How TVETs institutes in support of small scale manufacturing enterprises towards sustainable development the case of Addis Ababa in Gullele sub- city.

1.4.2. Specific Objectives

1. To identify the support and training provisions by TVETs to those small scale manufacturing enterprises in Gullele Sub- City.
2. To identify TVETs supports and trainings are in- line with the needs of Small scale manufacturing enterprises operators.
3. To examine the key aspects of a successful TVETs on developing a workforce skilled for sustainability of small scale manufacturing.

1.5. Significant of the Study

The low level of skilled human resource has a significant effect on the low development of the industrial sector. Therefore, the country needs to educate and train its workforce to the international standards to increase TVET's contribution to the industrial development and on building a culture of entrepreneurship and preparing the people for self employment (Yekunoamlak, 2000).

Much has been reported about the significance of MSEs to the national economy. The literature on sustainable business practices and their barriers has naturally concentrated on the large, usually multi-national companies whose individual impacts are significant. Although MSEs have relatively minor importance individually, their collective impacts may be significant (Parisa and others, 2013).

Our TVET systems have not given adequate consideration to training potential entrepreneurs or encouraging higher order skills. Inputs for self-employment and entrepreneurial development have either not yet been provided or are provided in an unstructured fashion. There is therefore an urgent need to make a sincere effort in this direction for sustainable development. Students in our TVET system need to learn entrepreneurial skills and competencies. This will go a long way in fulfilling the needs of the modern workplace as well as the aspirations of those who have the desire and potential for setting up their independent ventures, but are unable to do so. (UNEVOC, 2006).

Higher order skills and entrepreneurship need not simply be confined to industry, trade and commerce. In fact, the pace of development would be far greater when people in general in all walks of life and in all work situations start demonstrating entrepreneurial behavior. Developing economies need greater numbers of people possessing entrepreneurial qualities who are capable of taking decisions under uncertain conditions. It is this class of human resources which has the potential of transforming underdeveloped economies into developed ones.

The study findings expected to foster, TVET institutes found in Gullele- sub- city were as major producers of those enterprises and have to play significant roles with stakeholders involving on the supports to obtain the knowledge, skills and attitudinal concepts and practices of sustainability in order to contribute much to the green economy. Therefore, my intention with this research is to provide TVET institutes and related stakeholders with the key aspects of a successful TVET which supports sustainable development and evaluate their own results in this area, learn from the strengths and weaknesses of current approaches in order to build a successful TVET for sustainability.

It is anticipated that, the results obtained would add to the wealth of information currently available on current practice and the challenges in implementing policy and strategy for effective

sustainable TVETs and MSEs in Addis Ababa. This study will also be significant in terms of providing the necessary resource, awareness creation and academic policy issues of TVETs supports to MSEs and the intervention projections that might be proposed on the future or even carried out. In addition the finding of the study is expected to enhance the built of successful TVETs role on emphasizing production of sustainability acknowledged skilled manpower to manufacturing sectors for local development.

1.6 Delimitation of the Study

The study focus on how TVET institutes in support of small scale manufacturing enterprises towards to sustainable development. Gullele Sub-city is one of Addis Ababa City administration and has three TVETs institutions and Ten Woredas in its boundary. And the study was conducted in all TVET institutes and manufacturing based enterprises of five selected woredas. However, for the sake of making the study manageable and valid, it was delimited only on those acquiring small scale levels of manufacturing enterprises whose capital in exceed over 100,000 birr and managed more than six employees including owners. All three TVET institutes are engaged in support and training provisions for ten woredas' MSE operators based on their training demand and produce the skilled manpower for the sector continuously.

Of course, the concept of sustainable development is vast by its nature and not enough research conducted related with TVETs for sustainable development in Ethiopian context, the researcher utilized some contents of the background of the framework for “TVETs develop a skilled, committed and motivated workforce that understands how global changes impact upon local opportunities for business and industry and how these changes impact upon the quality of local social, economic and environmental conditions” (UNESCO-UNEVOC, 2009, p:21) and Australian Government documents on green skills and vocational training as illustration and try to made some recommendations on following- up.

Therefore, the study only focused to examine how those TVETs practices there supports and training provisions looks like, what are the MSEs operators needs and how their skill gaps are identified and the intervention, and examine those TVETs based on their practices related with successful TVETs characteristics for sustainability points of skills accusation; such in economic, social and environmental aspects in addition with their pedagogical approach, linkage with

stakeholders, leadership on practicing sustainable development concepts and overall producing the needed skilled man power related on sustainability aspects for the manufacturing industry.

1.7 Limitation of the study

Some limitations were observed in this study. Firstly, the study was only captures the circumstances prevailing at the time of the questioners, interviews and observation of the study area. Secondly, some of the officials of MSEDs offices and deans of TVETs were busy and lack enough time to undertake the interview because of different meetings and activities. Thirdly, there were some difficulties on understanding on some sustainability concepts and terminologies due interviewees and questionnaires. Fourthly, interviews and observations were held by the researcher himself only due to the implementation and intersections of sustainability activities is difficult to easily observe and conduct an exclusive interview with informants by other person. Even if there were the aforementioned limitations, the researcher tried to collect the data by giving appropriate time on conducting those surveys and observations, giving patience with time schedules and providing effective orientations to respondents and elaborating difficulty of terminologies by researcher himself respectively.

1.8 Operational Definitions of Terms

For the study purpose the researcher used the integration of TVETs for local sustainable development. Here;

Education for Sustainable Development:- “Education for sustainable development aims to help people to develop the attitudes, skills and knowledge to make informed decisions for the benefit of themselves and others, now and in the future, and to act upon these decisions” (UNESCO, 2010).

Core Skills: - Systematically focused combinations of individual technologies and production skills that support a multitude of product lines of a company.

Green Skills: - “Are the technical skills, knowledge, values and attitudes needed in the workforce to develop and support sustainable social, economic and environmental outcomes in business, industry and the community” (COAG, 2009).

Key aspects of successful TVET: - contributions of **developing a workforce skilled** on integrated sustainable (knowledge, skills and attitudes), leading by example, and partnership with key stakeholders and adopting relevant pedagogical approaches.

Supports: - mean that TVETs offer for MSEs towards gaining **physical capacity** like, technology transfer and adaptation, productivity, quality, product standardization and certification.

Sustainability: - “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations, 1987).

Training: - mean that TVETs offer for MSEs towards gaining **human capital** for, technical skills development.

1.9 Organization of the Study

This paper is organized into five chapters. The first chapter deals with the introduction including background of the study, statements of the problem, objectives, significance, delimitation and limitation of the study. Review of the related literature is treated in the second chapter. The third chapter focuses on the research design and methodology. Chapter four provides presentation and analysis of the data whereas, chapter five deals with the summary, conclusion and recommendation of the study.

Chapter 2: Literature Review

2.1 Concept of Technical and Vocational Education and Training

Vocational programs differ from academic ones in their curriculum, their aims of preparing students for specific types of occupations and, in some cases, for letting direct entry into the labor market. TVET is a concept that encompasses a diverse array of programs and activities. It emphasizes both education and training, and extends beyond schools, post- school institutions and work place enterprises to community-based systems.

The extreme diversity of TVET programs is reflected in their forms, structures, educational technologies, curricula, pedagogy, management, resourcing and funding. Different scholars define TVET differently. Akhilanand Sharma stated the following UNESCO definition of TVET as a comprehensive term referring to those aspects of the educational process involving, including general education, the study of technologies and related sciences. It also includes the acquisition of practical skills, attitudes and understanding and knowledge related to occupations in various sectors of economic and social life (as cited in Gebeyehu Tuji, 2014).

UNESCO (2000) outlined certain points about the objectives of TVET. Accordingly, it aim to produce the work qualification and skills demanded in a given social and economic context to contribute towards the implementation of national policy with regard to employment promotion, poverty reduction, private sectors promotion through increased productivity and enhanced competition in both local and global market.

Similarly, the overall objectives of the National TVET Strategies are to create a competent, motivated, adaptable and innovative workforce in Ethiopia. And it is contributing to poverty reduction and social and economic development through facilitating demand- driven, high quality technical and vocational education and training, relevant to all sectors of the economy, at all levels and to all people (MoE, 2008).

TVET is the major link connecting the school system and the job market. That is developments in TVET are intimately linked to general trends in the economy. However, to provide graduates of technical and vocational education and training for job is very difficult. Thus, it is necessary to focus on the opportunities to create jobs, in order to minimize problems of unemployment like

self-employment through Micro and Small enterprises (UNESCO, 1990, as cited in Gebeyehu Tuji, 2014).

Attaining the goals of the national TVET strategy of Ethiopia would strengthen the culture of self-employment and support job creation in the economy. In addition, TVET program offers relevant and demand driven training that correspond to the need of the economic and social sector for self-employment. This option obviously achieved through micro and small enterprise, which considered the basis for economic development and betterment of live hood of citizens (MoE, 2008).

2.2 TVET in Ethiopia

The Ministry of Education established the first formal vocational school in Addis Ababa in 1942. At the beginning, its medium of instruction was French and Amharic. Later on, English and Amharic become the mediums of instruction (Girma, 1990, as cited in Gebeyehu, 2014).

In the past TVET was the most neglected area of modern education. However, since 2000/01 massive expansion occurred within the TVET sub-sector. The strategic thinking behind the expansion of TVET sub-sector is to meet the middle level work force demands industry, service sectors and commercial agriculture, which are essential to the overall development of the country.

After a long period of stagnation of TVET , the expansion of the TVET system was fragmented and scattered and it was given in big towns in Comprehensive schools only and it was not targeted the whole segment of the society at that time . After 1994 with a new formation and organization of TVETs by the current government initially it was started with less capital intensive fields and gradually. Ethiopian TVET Strategy was formulated in 2006/7 and the TVET system is changed from input based to Outcome Based and the Ethiopian TVET qualification framework was designed.

Relating to its program, as stated on the strategy, formal TVET programs provided for those students who have failed to achieve scores for admission to preparatory program. Students in the TVET path could attend programs that range from level I to level V that would enable them to join the world of work (MoE, 2008).

On the other hand, the non-formal TVET is provided to wide range of target groups such as school dropouts, those with below grade 10 education or lower including non-literate people, unemployed, youth and adults. The training offered through different channels (community based, institutional, apprentice-ship) at Community Skill Training Centers (CSTC), prisons, and farmers training centers and so on. The trainings also offered over different periods from short-term courses of a few days to long-term programs of up to 6 months. The selection criterion of trainee for non-formal TVET depends on the basis of training centers (Gebeyehu, 2014:10).

With a view to creating a comprehensive, outcome based and flexible TVET system, the development of occupational standards, assessment tools, and certification based on labor market analysis benchmarking and stakeholder consultation will be continued, curriculum content will be designed and teaching materials prepared in line with occupational standards, assessment tools and certification requirements. In this respect, priority sectors will be emphasized in order to concentrate efforts and be better connected to market and increase relevance. It is also foreseen to provide support and enhance the capacity of centers of competencies (COCs).TVET programs will be modularized and institutions equipped with ICT in order to make the TVET offer more flexible in its delivery in terms of entry and exit levels career guidance structures will be strengthened so as to obtain a better match between TVET offer and labor market prospects (MoE, 2010: 54).

2.3 Conceptual Clarification of MSE

There is worldwide consensus that high rates of economic growth contribute to economic and social development and poverty reduction. At the same time, there is growing recognition that poverty reducing growth depends on the quality of growth: its composition, distribution and sustainability (OECD, 2004). Private Small enterprises typically account for more than 95% of all firms outside the primary agriculture sector, constitute a major source of employment and generate significant domestic and export earnings in the OECD, transition and developing countries. Improved small enterprises competitiveness could obviously contribute to economic and social development and poverty reduction (OECD, 2004, as cited in Yodit, 2015).

The ILO's global agenda for employment puts small enterprises in their proper place to the heart of job creation. It considered micro and small enterprises (MSE) as the natural home of

entrepreneurs. In most successful economy they are seen as an essential spring board for growth, job creation and social progress. Likely, ILO noted that there is no universal or international definition applied to the size of enterprises. The criteria used to determine this definition vary across countries (ILO, 2008).

Small and medium-sized enterprises (Small enterprises) are a very heterogeneous group of businesses usually operating in the service, trade, agri-business, and manufacturing sectors. They include a wide variety of firms such as village handicraft makers, small machine shops, and computer software firms that possess a wide range of sophistication and skills. Some are dynamic, innovative, and growth-oriented while others are satisfied to remain small and perhaps family owned. Small enterprises usually operate in the formal sector of the economy and employ mainly wage-earning workers. Small enterprises are often classified by the number of employees and/or by the value of their assets. The size classification varies within regions and across countries relative to the size of the economy and its endowments. It is important to note that there is a minimum as well as a maximum size for Small enterprises (Lukács, 2005, as cited in Yodit, 2015).

These criteria are number of employees, total assets, and annual revenue. Those three criteria classified in to qualitative and quantitative definitions.

Quantitative definitions use the criteria of number of workers or volume of sales, or a combination of both. These simple measures are commonly used by developing countries and are useful for programs that focus on employment creation. Qualitative definitions are more flexible and relate to how enterprises differ in aspects of business development such as financial development, and technical or managerial capacity. Qualitative definitions distinguish between different kinds of business and are more widely used in industrialized countries (ILO, 2002).

In Ethiopia the quantitative demarcation approach such as employment and asset are the most acceptable criteria to classify the MSE. According to the new definition: micro enterprise is when the numbers of its employees (including the owner or family) are not greater than 5 and total asset is $\leq 100,000$ ETB for industrial sector and $\leq 50,000$ ETB for service sector. For small enterprise: an enterprise with 6-30 employees and total asset 100,001—1,500,000 ETB for industrial sector and 50, 0001—500,000 ETB for service sector (MoHWC, 2013).

2.4 Micro and Small Enterprise in Ethiopia

2.4.1 Brief overview of the manufacturing sector policies and strategies

The level of industrialization in Ethiopia was at an incipient stage during the imperial period (prior to 1974). A conscious effort towards developing a modern industrial sector did not start till the 1950s. It was only in the 1950s when development plans (the three consecutive five year plans) began to be formulated that the development of the sector began to be shaped by policies and strategies pertinent to the sub-sector. A number of proclamations were promulgated to encourage foreign investment including tax incentives, provisions of credit on favorable terms with effective protection for domestic industries (Mulatu, Fantu and Tadele, 2006).

During the later years of the Imperial era, the main strategy for industrial development was import substitution, a process assisted by a system of import duties intended to encourage the domestic production of manufactured goods. The government of the time put much faith on private foreign investment and it went to great lengths to attract foreign investment. As a result, a number of light and consumer goods manufacturing establishments were created. On the contrary, small-scale industries were not given due attention and failed to develop (Mulatu, Fantu and Tadele, 2006).

During the socialist military regime (1974-1991), nearly all medium- and large-scale manufacturing industries were nationalized. The participation of the private sector was deliberately discouraged through imposition of capital ceilings and special treatment was made to public companies in the allocation of foreign exchange, market access, subsidies, etc. The industrial development strategy of the military government was, however, similar to that of the Imperial regime, i.e. import substitution industrialization. This development strategy brought no major change in the structure of manufacturing industries. The industrial structure remained the same as manufacturing industries continued to be dominated by light and consumer goods producing industries that were concentrated in the major urban centers and were highly dependent on imported inputs with poor linkages with the rest of the economy (Mulatu, Fantu and Tadele, 2006).

After the overthrow of the socialist government (in May 1991), a well-articulated industrial development strategy came in 2003. The development strategy duly acknowledges the role of the

private sector as an engine of economic transformation in the development of a robust and competitive industrial sector. The basic essence of the industrial sector strategy, as envisaged in the document, is promotion of industries that have strong linkages with other sectors of the economy, especially the agricultural sector, i.e. agro-processing and labor-using industries. Specifically, the strategy focuses on selected manufacturing activities such as textiles (garment industry), meat, leather and leather products that would generate substantial stimulus for the economy because these are largely based on domestic resources (as the country has relatively comparative advantage in these manufacturing activities) (Mulatu, Fantu and Tadele, 2006).

2.4.2 Brief over view of MSE Sector policy and strategy in Ethiopia

MSEs plays a significant role in terms of their employment generation capacity, quick production response and their adaptation to weak infrastructure and use of local resources, and as a means of developing indigenous entrepreneurial and managerial skills for sustained industrialization.

The vision of the MSE sector is to see “created competitive and convenient base for industry development”. Major objectives of MSE development are: (FDRE, 2011)

- Through creating job opportunity, bringing equal development, improving income of the society and poverty reduction.
- Enabling the sector competent, facilitate economic growth and lays foundation for industry development.
- Expanding the sector’s development in urban by creating developmental investors.

Ethiopia has launched various bold initiatives and development policies and plans to spur economic growth. Three major development plans have been executed so far, the last one being the ongoing Growth and Transformation Plan (GTP). The common and overarching objective of these development plans has been to ensure broad based economic growth. This is so because broad based economic growth is the main route to poverty reduction through employment generation. The role of Micro and Small Enterprises (MSEs) is indispensable in poverty reduction through employment generation. Cognizant of this, a national MSEs Development Strategy was formulated in 1997. Ethiopia’s MSE Policy envisages not only reducing poverty in urban areas but also nurturing entrepreneurship and laying the foundation for industrial

development. The strategy was revised in 2010/11 with renewed interests and more ambitious targets on employment and number of entrepreneurs and transition to medium size level (Assefa, Zerfu and Tekle, 2014).

Ethiopia developed basic structures to strengthen the development of MSEs in various measurements. Several government agencies are involved in MSE development. MoTI is the key ministry for enterprise development. Following the 1997 MSEs Development Strategy, the Federal Micro and Small Enterprises Development Agency (FeMSEDA) was established by the council of ministers regulation number 33/1998 to lead and stir Ethiopia's MSE development. The agency has been established as an autonomous government institution under the supervision of the Ministry of Urban Development and Construction.

To implement the MSE policies and strategies, Regional Micro and Small Enterprise Development Agencies (ReMSEDA) have been established. Also, MSE policy implementation involves a lot of other government agencies including TVETs, MFIs, and Ministry of Urban Development, Housing and Construction (MoUDHC) and other institutions. In addition to creating a conducive business environment for MSE growth, Ethiopia extends direct policy support to MSE operators. The direct policy support includes access to markets, access to finance, access to industrial extension, access to training and technological support (Assefa, Zerfu and Tekle, 2014; Solomon, 2010).

2.5 Linkages of TVETs and MSEs

A comparative global market economy requires technical and professional citizens trained in broad and specific occupation. This leads to have sectors which can absorb the post graduates of TVET. It is with this consideration the TVET institutions are believed as strategic centers for the development of marketable and entrepreneurial skills and as means to development. The MSE sectors are, therefore, host to intake the skilled and semi-skilled labor forces and a comprehensive human resource development program aimed at strengthening its capacity (MoE, 2006).

Technical and vocational education provide specialized vocational training in traditional and newly-emerging skills needed for existing jobs and production practices, and which encourages self employment and improves productivity. These initiatives enable MSE operators to enjoy

commercial viability and evolve into strong private business sector in the economy (UNESCO, 1998 as cited in Gebeyehu, 2014).

According to government of Ethiopia, the pillar sectors to alleviate poverty in Ethiopia are TVET and MSE to solve economic and social problems of the society. The established TVET program will be part of Governments capacity building program. The program is undertaken in coordination with institutions engaged in Micro and Small enterprises to support and expand employment.

TVETs reinforce the work of MSEs in order to get them successful and to develop their entrepreneurial motivation so that they can be transferred to small and large scale Enterprise. TVETs enable MSEs to produce world market competitive products for export purpose and import substitution items. Regarding Technology Transfer and industry Extension Service, it is a package designed to support MSEs by TVETs. TVET institutions will provide the new service package which targets all the major headaches of MSEs in the Country. The services are Technical Competence, Entrepreneurial Competency, Technology Capability, Quality and Productivity (AAATVET, 2012) as cited in (Aynabeba, 2014).

2.6 The role of TVET to Strengthening MSE

The integration of Technical and Vocational Education and Training and Small and Micro business sectors is essential particularly in developing countries since unemployment and underemployment is high. Therefore, the TVET system has the mandate and takes responsibility for building a competent and adaptable workforce according to the needs of different segment of the labor market with special emphasis to micro and small business enterprises. So, TVET is established to intensify productivity in this sector. And the linkages are often everlasting and essential when thought employability and reduction of poverty (Gebeyehu, 2014)

Both TVET and MSE sectors can only exist when each depends on the others. It seems very difficult to establish TVET institute without the function of MSE while intended to alleviate unemployment and to design objectives for creating job opportunities and self-employment tasks. That is why, from the strategic point of view, the TVET system of Ethiopia set objectives to make TVET be responsive to the needs of the labor market; to improve access to TVET for all target groups in needs of training in the Small and Micro business sectors, facilitate proper

training for the progress of self-employment and the development of small and micro business which are integrated with other MSE development services; to facilitate research in liaison with MSE in order to support the increase in the production (Taddese, 2010) as cited in (Gebeyehu, 2014).

The Ethiopian TVET institutions are expected to transfer relevant technologies to MSEs sector in order to increase their productivity, to improve the quality of products and services and facilitate the creation of new business. Provision of TVET programs and technology transfer services are the means to strengthen MSE in urban and semi-urban areas (MoE, 2008).

As the Federal Micro and Small Scale enterprise implementation frame work of 2011 stated that the Technical and Vocational Education and Training play the following roles in order to strengthen the MSEs:

- Organizing and providing industry extension services that enable to be effective.
- Identifying the provided technology undertaken and distribute sample and design activities.
- Preparing and providing training on the basis of MSE level of growth.
- Providing support to trainers to get certificate of assurance.
- Providing training and advice services about job creation/innovation/ hard working competency, KAIZEN that help to realize saving attitude/ outlook and analyzing other related management principles and methods.
- Providing support and common services of quality control, design, maintenance and material rent services to MSE of the region.

In general, Ethiopian Education and Training Policy has given particular emphasis to TVET to integrate with job creation and enterprising. The Ethiopian Government has established MSE development strategy in order to create long term employment and facilitate growth and equitable development. MSE development is particularly aimed at supporting the National Agriculture–led Development Industry Strategy (GTP, 2010).

2.7 Manufacturing MSE Operators Needs

A skilled and semi- skilled labor force is necessary to improve manufacturing enterprises productivity and competitiveness by adopting new and more efficient technologies to ensure quality of products. Entrepreneurship and technical skills development and technology upgrading are critical for rapid expansion of all firms, regardless of their size and sector.

Caroline Reeg (2015) stat that, there is a strong policy argument for addressing small entrepreneur's skill and knowledge constraints in order to improve business performance and induce more and better jobs among MSEs (Hampel-Milagrosa et al., 2015; see also Sub-section 3.1.). Against this background, policy discussions have recently evolved over the provision of entrepreneurship training measures aimed at the developing business and managerial skills of micro- entrepreneurs, new start-ups and even more experienced SME owners (Bruhn, Karlan, & Schoar, 2013; Cho & Honorati, 2014; Grimm & Paffhausen, 2014; World Bank, 2013).

Caroline Reeg (2015) stat that, the idea behind entrepreneurship trainings is that, since the capacity to acquire skills and to apply them to business constitutes a decisive characteristic of successful entrepreneurs, these capabilities need to be acquired and further developed in specialized trainings (World Bank, 2013). Generally, entrepreneurship training can focus on different aspects of business development, such as business plan development, financial literacy trainings, business and behavioral skills training, and some applied technical education and vocational training measures (see also Grimm & Paffhausen, 2014). Time frames range from short-term measures taking a few days of the entrepreneur's time, to long-term courses and coaching that can last several weeks or months being offered once or several times a week. Further, the specificity and degree of tailoring of training measures varies.

2.8 The concept of Sustainable Development

“With smart public policies, governments can grow their economies, generate decent employment and accelerate social progress in a way that keeps humanity’s ecological footprint within the planet’s carrying capacity,”

Former UN Secretary- General Ban Ki-moon

There is only one alternative to sustainability: un-sustainability. But sustainability involves a time dimension: un-sustainability now rarely implies an immediate existential threat. Existence is threatened only in the distant future, perhaps too far away to be properly recognized. Even if threats are understood, they may not cause much concern now: there still seems to be enough time for them to disappear, or for finding solutions (Bossel, 1999).

Finding approaches to development that balance economic and social progress, address cultural differences, conform to global, national and local needs, and respect ecological values and limits is the key to sustainable development. However, efforts to define exactly what sustainable development is must reflect the varying conditions in different parts of the world and their impact upon national and cultural priorities and values. For example, “to an individual living in rural poverty in the developing world, “sustainable development”, if it is to make any sense, must mean increased consumption and a higher living standard. By contrast, to an individual in a wealthy country, with a closet full of clothes, a pantry full of food and a garage full of cars, “sustainable development” could mean more modest and carefully considered consumption.” (UNESCO-UNEVOC, 2006).

The theoretical framework for sustainable development evolved between 1972 and 1992 through a series of international conferences and initiatives. The UN Conference on the Human Environment, held in Stockholm in 1972, was the first major international gathering to discuss sustainability at the global scale. The conference created considerable momentum, and a series of recommendations led to the establishment of the UN Environment Program (UNEP) as well as the creation of numerous national environmental protection agencies at the national level. The recommendations from Stockholm were further elaborated in the 1980 World Conservation Strategy—a collaboration between the International Union for the Conservation of Nature, the World Wildlife Fund (WWF), and UNEP—which aimed to advance sustainable development by

identifying priority conservation issues and key policy options (John and Deborah, 2010) as cited in (Yodit, 2015).

In 1983, the UN convened the World Commission on Environment and Development, chaired by Norwegian Prime Minister Gro Harlem Brundtland. Comprised of representatives from both developed and developing countries, the Commission was created to address growing concern over the “accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development.” Four years later, the group produced the landmark publication *Our Common Future* (or the Brundtland report) that provided a stark diagnosis of the state of the environment. The report popularized the most commonly used definition of sustainable development: “Development that meets the needs of current generations without compromising the ability of future generations to meet their own needs” (John and Deborah, 2010) as cited in (Yodit, 2015).

Development is not just about growth. Likewise, sustainability is not just about protecting the environment. Both development and sustainability are primarily about people living in peace with each other and in equilibrium with the planet. Their rights, opportunities, choices, dignity and values are (or should be) at the centre of everything (UNDP, 2012).

Attaining the Millennium Development Goals is the first step towards a sustainable future—even as the conversation on what the post-2015 development framework looks to begin in earnest. During 2010-2011, UNDP together with other UN agencies introduced the MDG acceleration framework to do just that. This framework has now been deployed in some 30 countries, and demand for its use is growing. The framework brings governments, development partners, and other stakeholders together to analyze why—often despite a range of strategies and plans—progress towards achieving specific MDGs is proceeding too slowly. Bottlenecks and constraints are identified, action plans to address them are designed and implemented, and the necessary resources are mobilized (UNDP 2012).

2.9 Framework on TVET for Sustainable Development

German development cooperation (BMZ, 2011) report states that, education is a strategic key to sustainable development, arguing that a well-educated population is a fundamental prerequisite for poverty reduction, sustainable economic growth, societal development, good governance, understanding of democracy and a committed civil society (ibid). Furthermore, the report states that Education for Sustainable Development (ESD) can make a contribution to securing ecological sustainability.

The UNESCO International Centre for Technical and Vocational Education and Training (UNEVOC) stressed that TVET is very important if EFA is to be achieved because skills development for employment strongly motivates the illiterate population to engage in Lifelong Learning. A focused TVET policy is needed to achieve gains in poverty reduction, job creation, health and environment. EFA and Education for Sustainable Development (ESD) could not be achieved without it (Karen Langer, ed., BoCAED, 2013)

While locally relevant and culturally appropriate approaches to sustainable development are necessary, it is possible to identify several common themes or goals appropriate to all settings, and all are highly relevant to the scope and goals of TVET. The International Implementation Scheme for the United Nations Decade of Education for Sustainable Development identifies a range of common themes of sustainable development across socio-cultural, environmental and economic perspectives (see a discussion paper on UNESCO-UNEVOC, 2006).

An attempt to bring a robust definition to how a sustainable society would look like and has been developed by a scientific-based exploration that it is continually being retested and refined by the collaboration of numerous scientists and sustainability practitioners. The description of a sustainable society was built based on four system conditions, known as the four sustainability principles: as cited in (Gu, Gomez and Brizuela, 2011).

“Education for sustainable development aims to help people to develop the attitudes, skills and knowledge to make informed decisions for the benefit of themselves and others, now and in the future, and to act upon these decisions” (UNESCO, 2010). Ideally, Education for Sustainability is the approach that not only provides theoretical information to people about sustainability but also gives them practical tools which are used to move society towards sustainability. That is

because theoretical knowledge may lead to merely having conversations about the topic but not having any impact by helping people adopt sustainability practices in their daily lives.

(Gu, Gomez and Brizuela, 2011) stated that, The Australian Government (Australian Government, 2009) has shown leadership in the area of ESD and has committed many efforts to promoting it. Evidence of this can be seen in the variety of government documents that address this topic. In their National Action Plan for Education for Sustainability, ESD is defined by the following principles:

- Transformation and change;
- education for all and lifelong learning;
- Systems thinking;
- envisioning a better future;
- critical thinking and reflection;
- participation; and
- Partnerships for change.

ESD involves all areas of education from elementary to university education. ESD is not just about formal education but education for everyday life at home, work and recreation as well. ESD is a life-long and continuous process (UNECE, 2005).

2.10 Key aspects of a successful TVET for sustainability

The role of TVET organizations is to provide people with the necessary skills to carry-out certain tasks or a profession. This is achieved by the development of skills. The OECD defines workforce development as: “The comprehensive management of human resources so as to better meets the demands of a global economy at both the national and local levels, through improving economic competitiveness and social cohesion” (OECD 2008, 11).

Having others things in consideration, TVETs success on producing workforce skilled in a given society are developed in four main aspects and other sub- aspects. (Gu, Gomez and Brizuela, 2011) stated that, Svanström, Lozano-Garcia, and Rowe (2008) address the KSAs for sustainability with the idea of Learning Outcomes (LO) which students need to attain at the end of their studies in order to support sustainability. They make an emphasis in the development of

skills such as critical thinking, communication, and finally different attitudes and values, in order to become change agents. They highlight as important: knowledge of the environmental, economic, and social issues related to sustainability, the attitudes to support the actions of a change agent based on a value system and self-concepts and the skills to have the proper abilities to create change.

2.10.1 Integrating Sustainability Knowledge

There is a great amount of knowledge that is related to sustainability and even though having a multi-disciplinary approach is necessary for trainees on different concepts and aspects of sustainable development and its framework working in a given system.

Table 1: Concepts relevant to sustainability in TVET

Overarching Concepts			
• Strategic Sustainable Development • FSSD • Four Sustainability Principles • Back-casting from principles • Systems Thinking • Triple Bottom Line			
Economic	Environmental		Social
Economic literacy	Carrying capacity	Interdependence	Social Capital
Sustainable production	Eco-space	Environmental management system	Gender equality
Sustainable consumption	Ecological footprint	Local-global links: related to production-consumption	Human Needs
Small enterprise management	Industrial Ecology	The 5 Rs: Reduce, reuse, renew, recycle and rethink.	Power, structures of inequality, and social systems that govern individual and communal life
Entrepreneurship	Natural resource accounting	Biodiversity	Teamwork at the workplace
Innovativeness	Eco-efficiency	Interspecies equity	Relations at the workplace
Accountability	Life cycle analysis	Intragenerational equity	Safety
Natural capitalism	Land use	Intergenerational equity	Citizenship
			Cultural Diversity

Source: (Fien, Maclean and Park 2009) (UNEVOC 2010) (Svanström, Lozano-Garcia and Rowe 2008)

2.10.2 Providing Skills for Sustainability

The European Centre for the Development of Vocational Training – CEDEFOP - distinguishes three categories of skills: Core skills, which are the fundamental skills to develop a profession; Generic skills such as management, leadership, communication; and Generic Green skills such as systems thinking, improving resource efficiency in the workplace and understanding environmental legislation (Gu, Gomez and Brizuela, 2011).

The ILO-CEDEFOP study “Skills for Green Jobs” (2011) points out that it is difficult to determine specific green skills that apply for all countries. Instead, the report derives core skills that appear to be relevant for green jobs from the 21 country studies.

Core Skills for Green Jobs: - Aside from specific vocational skills, the following core skills are necessary for green jobs.

- Strategic and leadership skills to enable policy- makers and business executives to set right incentives and create conditions conducive to cleaner production, cleaner transportations etc;
- Adaptability and transferability skills to enable workers to learn and apply the new technologies and processes required to green their jobs;
- Environmental awareness and willingness to learn about sustainable development;
- Coordination, management and business skills to facilitate holistic and interdisciplinary approaches incorporating economic, social and ecological objectives;
- Systems and risk analysis skills to assess, interpret and understand both the need for change and the measures required;
- Entrepreneurial skills to seize the opportunities of low- carbon technologies;
- Innovation skills to identify opportunities and create new strategies to respond to green challenges;
- Communication and negotiation skills to discuss conflicting interests in complex contexts;
- Marketing skills to promote greener products and services;
- Consulting skills to advise consumers about green solutions and to spread the use of green technologies; and
- Networking, IT and language skills to perform in global market.

Source: BMZ (Ed.) 2011

2.10.3 Promoting Attitudes for Sustainability

Having the necessary knowledge and skills for sustainability is not enough. That is why attitudes towards reaching sustainability need to be developed by students as well. Attitudes are based on values and the worldview which an individual carries on through his/her life. TVET organizations should promote those attitudes which will enable their students to feel empowered to successfully support sustainability in their careers (Gu, Gomez and Brizuela, 2011).

TVET organizations should promote the development of attitudes which will translate into the adoption of sustainability practices by students in their profession.

Table 2: Attitudes for sustainability

Attitudes for sustainability	
Work by oneself (self-discipline)	Engage in self-assessment, self-reflection, and analysis
Work with others in teams	Manage change
Work with integrity and honour, with honesty, punctuality and responsibility;	Create a stimulating and supportive environment
Adapt to varying situations; know and understand problems and issues; and work out solutions creatively	Appreciation of the importance of social, environmental and economic contexts
Peacefully resolve of conflicts	Ownership and entitlements
Have a good grasp of the reality of the world, of oneself and of others	Quality consciousness and appreciation of quality
Continue learning and pursue lifelong education in a learning society	Passion
Persistence	Entrepreneurial spirit

Source: (Fien, Maclean and Park, 2009) (Willard, 2010) (Svanström, Lozano-Garcia and Rowe, 2008) (UNEVOC, 2010).

2.10.4 Adopting Relevant Pedagogical Approaches

Pedagogic practices can be seen as those that enrich individuals' learning in ways which participation in social practices alone is not able to achieve. There are two kinds of pedagogic practice that are most central for learning effectively in practice settings. The first is direct guidance by experts, who can use particular strategies to support the learning of particular kinds of knowledge. Secondly, there are workplace activities that are inherently pedagogically rich.

Since its inception, TVET pedagogy has been characterized by a relatively uncritical response to industry demands for skilled labor. Focusing solely on fuelling productivity, efficiency and economic growth, the unintended environmental and social consequences of our skilled labor force have largely been ignored (Anderson 2009; Arenas and Londono, 2013).

Chappell (2004) and Smith (2005) noted changes in TVET teaching and learning, towards a more learner centered, work centered and attributes focused pedagogy. They observed a focus on developing and transforming people, with teachers requiring flexibility in selecting and using multiple pedagogical strategies to serve the needs of diverse learners and contexts. Describing what good teaching would look like in this changing TVET context, Smith (2005:3) saw effective teachers as facilitators of learning, with the learner playing an active role in construction of knowledge (Gitanjali Bedi & Susan Germein, 2016).

2.10.5 Partnering with Key Stakeholders

As cited in (Gu, Gomez and Brizuela, 2011), Building partnerships with key stakeholders is an essential component in implementing sustainable development principles (Chinien, 2003). Forward- thinking public policies remain critical in fostering and guiding the process of TVET. Governments at the global, national, and local levels must establish an ambitious policy to support and reward sustainable economic activity. Timely action on the scale needed will occur only with a clear set of targets and mandates, business incentives, public investment, sharing of green technologies, and scaling up and replicating best practices through genuine public-private partnerships. (Renner, Sweeney and Kubit, 2008).

(Gu, Gomez and Brizuela, 2011) stated that, There must be a new partnership between education and the world of work to address the need to develop a synergy between the sectors of education

and industry and the various other economic sectors, to foster the development of generic competences, the work ethic, technological and entrepreneurial skills, and for conveying human values and standards for responsible citizenship. This requires effective partnerships with schools and with industry and other economic sectors which embrace shared values, shared curriculum, shared resources and shared outcomes. (UNESCO, 1999). CEDEFOP has a similar approach by stating that “skill needs for jobs in a low-carbon economy have been taken most prominently by the regions, in cooperation with other partners – industry and educational bodies, such as universities and vocational institutions” (CEDEFOP, 2010, 12).

As cited in (Gu, Gomez and Brizuela, 2011), Other important perspective of the partnership is the cross-sectoral approach for identifying and anticipating skills needs for the coming low-carbon economy, taking into consideration the innovation and job growth potential in exploring new markets (CEDEFOP 2010). Collaboration is a key word when scaling up TVET at regional and national levels. Creating networks of regional training centers, coordinated nationally to create synergies and disseminate such best practices, would improve input for course design and mobility of workers between regions (CEDEFOP 2010).

2.10.6 Leading by example

A TVET organization cannot simply integrate sustainability into their programs because it is becoming a popular topic or because of government requirements, it must be a decision that comes from within the organization to adopt sustainability attitudes, values and practices.

Having skilled trainers in sustainability

Showing leadership and innovation in sustainability will inevitably lead TVET organization to having skilled trainers in sustainability; what CEDEFOP emphasized as important: training the trainers (CEDEFOP, 2010). This is totally logical if we think that they are the ones delivering the knowledge, acting as coaches in the journey that students need to take to develop the knowledge, skills and attitudes for sustainability.

Showing leadership and innovation in sustainability

TVET organization can lead by example by showing leadership and innovation in sustainability practices. To do this, organizations need to create a shared vision. This shared vision must be

connected to its member's personal vision (Senge, 1990). In order to move from just compliance to commitment to the shared vision this one needs to be co- created (ibid). After creating a shared vision an organization can move towards it with solid steps and show leadership and innovation in sustainability which more than a destination is a journey. Becoming a learning organization in which lessons learned are shared and everyone inside the organization grows together is essential as well. This is achieved by practicing the discipline of Team Work (ibid). This also means create proper environments for this to happen, which means adopting participative management models where dialogue is encouraged. As cited in (Gu, Gomez and Brizuela, 2011)

Chapter 3: Research Design and Methods

The major purpose of the study was how TVET Institutes in Support of Small Scale Manufacturing Enterprises towards Sustainable Development the case of Gullele Sub- City in Addis Ababa. The chapter includes a discussion of the research design, sources of data, population, sample and sampling techniques, tools and procedures of data collection and methods of data analysis.

3.1 Research Design

To undertake this study, mixed method was used. A mixed-methods approach was used in this study, combining both qualitative and quantitative components. According to Gall and Borg (2003), (as cited in Tigistu, 2012) qualitative research is best used to discover themes and relationships at the case level while quantitative research is best used to validate those themes and relationships in samples and populations. In addition, Frankel and Wallen (2004) described a mixed – methods study as one containing both a quantitative and a qualitative portion. The time dimension that used for this study was cross- sectional.

The concurrent triangulation approach was employed in this study. The reason is that, the researcher collected both quantitative and qualitative data concurrently and then compares the two databases to determine if there is convergence, differences, or some combination (Creswell, 2009).

Since the TVET are engaged in supporting small scale manufacturing enterprises in various means and linkage leads successful TVET on contributing their role towards sustainable development. Here different participants are involved from TVETs, MSEDs and MSEs operators and to utilize them appropriately, the researcher was interested to use concurrent triangulation strategy for this study.

3.2 Sources of Data

The researcher obtained data basically from primary sources. The primary data were collected from TVET deans and department heads, TVET trainers, operators from MSEs, sub- city administrators at both TVET and MSED Sectors by using different data collection instruments

for the reason that they can provide relevant information to understand the contribution to the problem under study.

3.3 Sample and Sampling Techniques

In Gullele Sub- City, there are three public TVET institutes and ten woredas administrations. To conduct the study, the researcher used manageable number of TVET deans and manufacturing department heads, manufacturing trainers, sub- city officials of both stated in TVETs and MSEs office, and MSEs operators involved in manufacturing business were selected as the study population.

The researcher used different sampling techniques while selecting the respondents. Random sampling technique was applied to select those five woredas. Those are woreda (2, 3, 7, 8 and 10) under the study. The researcher choose these techniques because this types of sampling techniques is unbiased and give equal chances for the woredas found in the sub-city. Regarding with TVET the researcher selected all three TVET institutions named as: Entoto Polytechnic College, Shiromeda and Gullele TVET Institutes under the study.

The researcher used census survey approach to collect data from the heterogeneous sub- groups of MSE operators of only small level manufacturing enterprises were taken as strata (enterprises capital exceed than 100,000 birr and having employees including own members greater than or equal to 6). Because, the researcher believed that those levels of enterprises have better experience with TVET services and besides have knowledge related on the study area, such determine the quality of the study.

In the three TVET institutes there are 70 trainers of manufacturing departments. Out of them, 49 are male and 21 are female respectively. But taking in account the total number of trainers in three TVET are 70, the researcher took all of them as representative from each department using census survey approach for questionnaire purpose. With regard to MSE of manufacturing sectors, 60 small scale manufacturing enterprises were available under the study area, which consist 371 male and 190 female. But the researcher intention was gathering data on enterprises level only and took a representative from each enterprises. Therefore, out of 60 small scale manufacturing enterprises of which (17% are Textile and garment, 8% leather goods and leather garment, 32% are food processing and beverage, 5% are general metal and fabrication, 33%

wood works and furniture and 5% are chemical processing) were available, the researcher selected 100% of those enterprises in the study because it seems manageable to use all under the study and took one representative from each enterprises for questionnaire purpose.

The deans of TVET institutes and department heads, MSE and TVET administrators at the Sub-City and the Woreda level were selected for interview purpose using purposive sampling technique because the researcher believed that they knew the condition better than other staff members because of their close contacts with the study area. But under the study area 11 department heads were available, and out of which 8 of them are male and 4 female and considering their significance for having the availability of better information, the researcher selected only one department head as representative from each TVET institutes randomly for interview purpose. Because, the researchers assumes it is enough to manage the interview session. In general 143 participants are participated during the study and their percentage shares listed on Table 3. Here, data were collected form Gullele sub- city MSED office and TVET human resource section data base.

Table 3: Types of sample respondents

S/ N	Types of respondent participated in questionnaire	Total small scale manufacturing MSEs population found in sample woredas	Sample size	Percentage	Total small scale MSEs Operators population in sample woredas		
1	Small level Manufacturing sub- sectors				Male	Female	Total
1.1	Textile and Garment	10	10	100%	160	25	185
1.2	Leather goods and leather garment	5	5	100%	9	18	27
1.3	Food processing and beverage	19	19	100%	77	115	192
1.4	General metal fabrication	3	3	100%	15	1	16
1.5	Wood works and furniture	20	20	100%	99	27	126
1.6	Chemical processing	3	3	100%	11	4	15
	Total MSEs	60	60	100%	371	190	561
2	TVET Trainers						
2.1	Textile and Garment	16	16	100%	5	11	16
2.2	Leather goods and leather garment	14	14	100%	12	2	14
2.3	Food processing and beverage	4	4	100%	0	4	4
2.4	General metal fabrication	19	19	100%	18	1	19
2.5	Wood works and furniture	11	11	100%	10	1	11
2.6	Chemical processing	6	6	100%	4	2	6
	Total Trainers	70	70	100%	49	21	70
	Total Questionnaire	130	130	100%	420	211	631
	Participants in interviewees						
3	TVETs and MSED Administrators in Sub-city and woredas officials	7	7	100%	7	0	7
4	TVET Deans and department heads	6	6	100%	4	2	6
	Total interviewees	13	13	100%	11	2	13
	Total participants	143	143	100%	431	213	644

3.4 Instruments of Data Collection

The study employed triple data gathering tools. The researcher used **questionnaire** as the main data collection instrument and depend on the respondents characters, the researcher prepared questionnaires for trainers of technical and vocational education and training institution and for Micro and small enterprises operators (MSEs). The **interviews** were conducted with Deans and Manufacturing Department Heads of TVET institutes, MSED Heads of Sub-City and Woreda level. Related with **observation**; the researcher observed TVET institutes practical supports and training provisions activities to the MSE enterprises guided by checklists. Three individuals, including the researcher have participated in data collection. Mostly based on preference of the respondent face to face interview was the method used in administering the questionnaire. This has allowed to higher response rate. Otherwise the questionnaire was left with the respondent and collected based on the appointment set by the respondent. A questionnaire for TVET trainers took on average 25 minutes to complete and for MSE operators it took 25- 30 minutes.

3.4.1 Questionnaire

Questionnaires were developed by the researcher based on review of the literature. Questionnaires were checked first by the advisor and also other professionals in the area for completeness, clarity, exhaustiveness and, consequently, necessary corrections were made on the basis of their comments before the actual data collection.

The study had two types of questionnaires, one conducted for TVET trainers and the other for MSE operators. Questionnaire for MSE operators consisted five sections and total 60 items in order to address the basic research questions in meaning full means. Section one consisted 5 items related with respondents' characteristics, section two consisted 5 items related with enterprises characteristics, section three contain 10 items to rate operators perception on TVET supports for MSE enterprises and these designed particularly to answer the first research question, section four had 8 items to rate operators perception on the current support of TVET institutes is in line with the needs of MSE operators, in order to answer the second research question, section five consisted four parts having 32 items to see successful TVET towards sustainable development and designed to address the third basic research question in detail. See Appendix A.

Questionnaire for TVET trainers consisted four sections and total 60 items in order to address the basic research questions in meaning full means. Section one consisted 5 items related with respondents' characteristics, section two consisted 11 items related to rate trainers perception on TVET supports to MSE enterprises and these designed particularly to answer the first research question, section three 12 items to rate trainers perception level on the current support of TVET institutes is in line with the needs of MSE operators, in order to answer the second research question and section four consisted four parts having 31 items to see successful TVET towards sustainable development and designed to address the third basic research question. See Appendix B.

Both questionnaires constructed in English but questionnaire for MSE operators were translated to Amharic. The Amharic translation was distributed to those MSEs operators because they might not understand easily the English questionnaire. Regarding the TVETs trainer they can easily understand the question rose at the questionnaire. The questionnaire comprises two item types (both open ended and closed ended) of items. Close ended question such as Likert scale was used because they are suitable for large scale survey as they are quick for respondents to answer, they are easy to analyze using statistical techniques, and they enable comparison to be made across groups. Open ended items are suited to allow free response. It is also more appropriate to elicit sensitive information (Somech and Lewin, 2005). In general structured questionnaire was used to gather the required information about the TVET support for manufacturing small enterprises, does the support is based on MSE operators needs, how are successful TVETs are on producing skilled workforce for manufacturing MSEs towards to sustainable development at local level.

The concept of sustainable development is broad by its nature and the role of TVET institutes towards sustainability is vast in terms of economic, social and environmental aspects by far. Therefore, researcher selected some portion of their elements discussed on the review literature and items attributed for the study purpose only.

The questionnaires included both open-ended and closed-ended questions to determine the context of the research by asking general questions like age, gender, occupation etc. Multiple choice questions were employed with Likert scales so respondents could indicate the 'intensity' of their attitude towards each aspect of their job and the Likert scale range label as ('Strongly

Agree’, ‘Agree’, ‘Undecided’, ‘Disagree’, and ‘Strongly Disagree’) or (‘Very High’, ‘High’, ‘Moderate’, ‘Low’, and ‘Very Low’) This gave respondents the ability to make fine distinctions between attitudes (Dundas, 2004). The questionnaire was structured so that general information was sought first before moving to questions that probed deeper aspects of the TVET support to MSEs towards sustainable development.

3.4.2 Interview

In addition to the questionnaire, the study employed a semi-structured interview. An interview questions for TVET Head at Sub- City, MSED Heads at Sub- City and Woreda consisted 9 items and an interview questions for TVET Deans and Manufacturing Department Heads consisted 11 items independently. See Appendix C & D.

Properly constructed and conducted interviews are practical methods of data collection concerning participants’ reactions, insights, and interpretations of relevant situations (Punch, 2005). They can be a versatile and successful method of obtaining specific information and insight relevant to a workplace. Similarly, an interview was more preferred to other methods in order to obtain deep information on issues that how the TVET support manufacturing MSEs operators towards sustainable development. The interview guide (a written list of questions) was prepared in English language; however, the interview was conducted in Amharic language and later translated to English by the researcher. This is done to avoid miss understanding between the informants and the researcher. The interviewees were conducted with Deans and Manufacturing Department Heads of TVET institutes, Head of Sub-City and Woreda MSEs Offices face- to face in their working place. The interviews lasted between 30 to 40 minutes, and were conducted consecutively with each respondent in their own organization. Finally, interview notes were taken; organized, summarized and then translated into English.

The researcher himself was conduct an exclusive interview with respondents due to the implementation and intersections of sustainability activities is difficult to easily observe and conduct an exclusive interview with informants by other person.

3.4.3 Observation

Regarding observation, it is important instrument to capture the real meaning of what is being observed in order to take the judgment how the TVETs supports are deliver to MSE, their

success for the manufacturing sector and sustainable development in the sub city takes place. As stated by Korthari, observation helps to observe activities accurately done and what is currently happening (Korthari C.R, 2004:96). In general eight items were designed to see and get relevant information in the area of linkages between TVET and MSE, the availability of training materials, assess methods of training conducted to MSEs operators. Similarly, the researcher observed the practical training activities provided to the MSE members in Entoto Polytechnic College, Shiromeda and Gullele TVET institutes guided by the checklists.

The researcher himself was conduct the observation on activities due to the implementation and intersections of sustainability activities is difficult to easily observe and to determine the rate of implementations rate by other person perspectives.

3.5 Procedure of data collection

Data gathering instrument used in the study were drafted on the bases of review of literature and the intended data to be collected. The review of literature concepts discussed on TVETs for sustainable development consist vast in content; the researcher select some portion of its element which are necessary for the study purpose only.

The expected relevant data were gathered by using questionnaires, interview and observation form the sites. In doing so, having letter of authorization from Addis Ababa University to get permission; the researcher directly went to three TVETs institutes, MSED offices and MSEs operators for consent. After making agreement with the concerned participants; the researcher introduced his objective and purposes. Then the questionnaires were administered to sample TVETs trainers and MSE operators, semi-structured interview for Deans and Department Heads of TVETs and MSED Administrators and observation were conducted both in TVETs and MSE operators working place to improve the level of study.

3.6 Techniques of Data Analyses

The main statistical analysis tools that applied for analysis were MS Excel and SPSS 22. Quantitative data generated through questionnaires were analyzed using this software; the researcher utilized mean, percentages, tabulation, T- test and non- parametric correlation coefficient test employed to facilitate meaningful analysis and interpretation of research findings

and analyzing it descriptive statistics. The data obtained through open ended items in the questionnaires, interviews and observation were analyzed and interpreted qualitatively by describing or narrating the ideas provided by the respondents based on their themes. Finally, after data were analyzed by employing appropriate statistics, findings were summarized, concluded and recommendation were made.

3.7 Pilot Testing

It is essential to ensure the validity and reliability whether the applied variables are suitable to measure TVETs role for sustainable development or not. Pilot study was conducted in Misrak General TVET Polytechnic College for trainers and Gullele woreda 4 for MSEs to check the validity and reliability of items prior to the final administration of the questionnaires to all respondents. Misrak General TVET Polytechnic College is found in Yeka sub- City and the researcher assumes that a place is more or less similar with Gullele Sub- City in terms political, social; and environmental and demography aspects. As pointed out by Choudhury A. (2010) Cronbach's Alpha was a measure of internal consistency, that is, how closely related a set of items are as a group. According to George and Mallery (2003: 231), the acceptance level of the reliability value (Cronbach's Alpha) must be higher than 0.7 (>0.7). If the Cronbach's Alpha is higher than 0.7, these questions are suitable measurements. Otherwise, these questions are not suitable to measure TVETs role for sustainable development, if this Cronbach's Alpha is less than 0.6. The result of the pilot testing is statistically computed by the SPSS version 22 computer software. The Cronbach's Alpha model was used for analysis. Based on the pilot test, the reliability coefficient of the instrument was found to be statistically calculated.

In general 20 questionnaires were distributed to respondents, out of which 10 questionnaires for TVET trainers of Misrak General Polytechnic College and 10 for small scale manufacturing operators working at Gullele Sub- City Woreda 4 independently. From the distributed pilot questionnaires, 6 of trainers' related questionnaires were returned and 10 of operators' oriented questionnaires were returned.

The Table 4 and Table 5 show the reliability analysis of questions which was used to measure the variables on TVET institutes in support of small scale manufacturing enterprises towards

sustainable development by trainers and operators independently. All Cronbach's Alpha is more than 0.7 in each variables and the overall Cronbach's Alpha for trainers were 0.948 and 0.922 were for operators respectively. This indicated that the used measurements are highly reliable and valid. The tables below demonstrate values received for all variables with regard to the perceived TVETs support to MSEs operators, MSEs operators needs, TVET provisions on the knowledge, skills, and attitude of sustainable development concepts.

Table 4: Reliability Analysis of the used items for TVET trainers

No	Variables	No. of items	Cronbach Alpha
1	TVETs supports for MSEs	9	0.779
2	MSEs operators needs	11	0.861
3	Knowledge on in terms of sustainability concepts	11	0.9
4	Skill development on in terms of sustainability concepts	5	0.894
5	Attitude development on in terms of sustainability concepts	6	0.907
6	Successful TVETs' practices	16	0.761
	Over all Cronbach's Alpha	58	0.948

Source: Field Survey (2017)

Table 5: Reliability Analysis of the used items for MSE Operators

No	Variables	No. of items	Cronbach Alpha
1	TVETs supports for MSEs	9	0.855
2	MSEs operators needs	7	0.883
3	Knowledge on in terms of sustainability concepts	11	0.915
4	Skill development on in terms of sustainability concepts	5	0.851
5	Attitude development on in terms of sustainability concepts	6	0.785
6	Successful TVETs' practices	16	0.804
	Over all Cronbach's Alpha	54	0.922

Source: Field Survey (2017)

3.8 Ethical Consideration

The purpose of the study was explained to the participants and the researcher has asked their permission to answer questions in the questionnaires or interviews guides. The researcher also informed the participants that the information they provided was only for the study purpose. Accordingly, the researcher used the information from his participants only for the study purpose. Taking this reality in mind, any communication with the concerned bodies were accomplished at their voluntarily consent without harming and threatening the personal and institutional wellbeing. In addition, the researcher ensured confidentiality by making the participants unnamed.

Chapter 4: Analysis and Presentation of Data

This chapter deals with the presentation, analysis and interpretation of data gathered from sample population and various data collection techniques to reveal the real nature of the TVETs in support of small scale manufacturing enterprises towards sustainable development in five selected Woredas of Gullele Sub-City. The researcher developed two categories of questionnaires for MSEs operators in five selected Woredas and TVET trainers in three TVET institutes found in Gullele sub- city. Similarly, interview questions for MSE heads/principals at Sub-City and Woreda level, and TVETs Deans and Manufacturing Department Heads to collect relevant information which strengthen the data collected from MSEs operators and TVET trainers. Besides, the researcher prepared observation checklist to know the extent of training provisions to MSE operators through TVET institutes.

For data collection purpose, the researcher conducted 130 questionnaires; of which 125 (96.15%) were filled and returned. From the total of 70 questionnaires distributed to the TVET trainers, 67 of them were returned; which covers (95.71%). Similarly, out of 60 questionnaires distributed to the small scale manufacturing enterprises operators in five selected Woredas, 58 of them were filled and returned; which accounts (96.67%). All the data obtained through questionnaires and interviews were analyzed based on the basic questions posed in chapter one. Interpretation and discussion were carried by taking in to account theories discussed and empirical works reviewed in the literature.

Finally, interpretations and analysis of collected data were made based on the basic questions raised under the statement of the problem used by SPSS version 22 to simplify the calculation of percentage, mean, standard deviation, T- test and non parametric correlation. Using mean values for describing Likert scales is common practice; the issue of treating ordinal scales as interval scales is controversial (Jamieson, 2004). Although, Non-parametric tests were used because these methods require less restrictive assumptions about the level of data measurements, probability distribution and homogeneity of variance (Anderson and others, 2007).

4.1 General characteristics of the respondents

The table below shows general characteristics of the respondents in terms of sex, age, and education background and service years of the respondents.

Table 6. General Characteristics of Respondents

No.	Characteristics	TVETs Trainers		MSEs Operators	
		Frequency	%	Frequency	%
1	Sex				
	Male	48	71.6	49	84.5
	Female	19	28.4	9	15.5
	Total	67	100	58	100
2	Age				
	Less than 25	21	31.3	4	6.9
	26-35	40	59.7	41	70.7
	36-45	3	4.5	12	20.7
	Above 45	3	4.5	1	1.7
	Total	67	100	58	100
3	Educational background				
	Non- formal education	0	0	0	0
	1-8 Grade	0	0	3	5.2
	9-10 Grade	0	0	22	37.9
	10+1-10+4	0	0	24	41.4
	Diploma	40	59.7	0	0
	Degree	24	35.8	8	13.8
	Masters	3	4.5	1	1.7
	PhD and above	0	0	0	0
	Total	67	100	58	100
4	Years of services				
	Less than 2 years	11	16.4	0	0
	2-5 years	32	47.8	0	0
	5-10 years	17	25.4	0	0
	Above 10 years	7	25.4	0	0
	Total	67	100	0	0
5	Where were you living before starting this MSE?				
	In Gullele sub- city	0	0	47	81
	In other sub- city of A.A	0	0	6	10.3
	Out of Addis Ababa	0	0	2	3.4
	Abroad of Ethiopia	0	0	3	5.2
	Total	0	0	58	100
6	The business you engaged before starting this MSE				
	Student	0	0	11	19
	Unemployed	0	0	17	29.3
	Daily labor	0	0	4	6.9
	Government employee	0	0	3	5.2
	Private business employee	0	0	18	31
	Owned private business	0	0	5	8.6
	Total	0	0	58	100

Related with respondent characteristics on item 1 of Table 6, in both TVETs trainers and MSEs operators, the majority of respondents were male. With sex ratio of the respondents TVETs composed of 48 (71.6%) male and 19 (28.4%) female whereas, MSEs operators composed of 49 (84.5%) male and nine of them were female. Here in both respondents' cases the gender inequality was observed. In general respondents' cases, there is a clear indication that there is gap between the two genders that shall be closed in some way. Therefore, gender mainstreaming initiatives is essential to promote the participation of females especially in TVET institutes as trainers and MSEs as operators.

Item 2 of Table 6 shows the age groups of the respondents. About 67 TVET trainers 21 (31.3%) falls below 25 years of age, 40 (59.7%) between 26-35 years, three of them fall 36- 45 age group and three of them (4.5%) fall above 45 age group. About MSEs operators four (6.9%) fall below 25 years age group, 41 (70.7%) were between 26-35 years of age, 12 (20.7%) fall under 36-45 age group and one (1.7) were above 45 years of age. The age group's category under 35 years is considered as youth by Ethiopian federal ministry of youth and sport. From here, the majority of both trainers and operators are consists below 35 years and can be consider as youth having energetic to do work but less experienced in the position or profession engaged. Therefore, TVET institutes have an assignment to empower those young trainers to their profession career.

Related with educational background, as stated on item 3 of Table 6, about 40 (59.7%) TVETs trainers are diploma holders, 24(35.8%) were degree holders and three of them were masters' holders. In other case, three MSEs Operators were between 1-8 grade, 22 (37.9%) are grade 9th or 10th, 24 (41.4%) were stated between 10+1- 10+4, 8 (13.8%) are degree holders and one of them was hold masters degree. The manufacturing requires highly technically and academically trained trainers in all aspects for higher productivity and sustainable development of this sector. Here, what observed is, TVET institutes are consisted with many diploma holders in their organization and this will have impact in learning and teaching process. Therefore, institutes should involve more on upgrading their trainers' educational qualifications by using different means.

Regarding TVET trainers work experiences, as stated on item 4 of Table 6, 11 TVET trainers (16.4%) had less than two years of teaching experience. Another 32 respondents (47.8%), others 17 trainers (25.4%), others seven trainers (10.4%) have teaching experiences ranging between 2-

5 years, 5-10 years and above 10 years correspondingly. However, there is no TVET trainer who has work experiences of more than 10 years teaching experience, thus the majority of trainers have inadequate teaching experiences. Similarly with their educational status, the majority of trainers have less work experience as TVET trainer. They need continuous training and capacity building in order to fill their skill gaps.

Item 5 of Table 6 shows, the place where were they lived before starting the MSE business. With operators respond, 47 (81.0%) were in Gullele sub- city, six of them lived in Addis Ababa but other sub- city, two of them lived out of Addis Ababa and three of them lived out of Ethiopia. Here, significant number of operators were from Gullele sub- city and this indicated that working in local place were matter on the practices of manufacturing and other MSE sectors for local sustainable business.

Regarding business type involved of operators before existed in this enterprise, as stated on item 6 Table 6, from 58 respondents 11 (19%) were from student, 17 (29.3%) were unemployed, four of them worked daily labor, three of them participated in governmental jobs, 18 (31%) were from private business and the rest five of them engaged on their own private business. The survey data revealed that, significant numbers of respondents are joined the sector from unemployed and from private business employee groups of people. These indicate, the manufacturing industry specially the small scale once is the creation of many entrepreneurs from unemployed group, and not only these people are also interested to join the sector while leaving off their former private business employment too.

4.2 General Characteristics of Enterprises'

The table below show that the general characteristics of enterprises of sample population in terms of sub- sector, business entity, establishment years, enterprises' level and current jobs created by the enterprises including members.

Table 7: Characteristics of manufacturing small scale enterprises

No.	Characteristics	Enterprises	
		Frequency	%
1	Enterprises sub- sector		
	Textile and garment	11	19
	Leather and leather products	5	8.6
	Food processing and beverages	18	31
	Metal and engineering	3	5.2
	Wood works and furniture	18	31
	Chemical products	3	5.2
	Total	58	100
2	Enterprises' entity		
	Sole proprietorship	3	5.2
	Partnership	35	60.3
	Private limited company	20	34.5
	Cooperative	0	0
	Share company	0	0
	Total	58	100
3	Age of enterprises		
	less than 2 years	8	13.8
	2- 5 years	45	77.6
	6- 10 years	5	8.6
	Above 10 years	0	0
	Total	58	100
4	Enterprises' current level		
	Small start- up	12	20.7
	Small growing	38	65.5
	Small maturity	8	13.8
	Growing middle	0	0
	Total	58	100
5	Jobs created including members		
	From 6- 15 jobs	54	93.1
	From 16- 30 jobs	4	6.9
	Above 30 jobs	0	0
	Total	58	100

With regard to characteristics of enterprises stated on item 1 Table 7, textile and garment enterprise ownership is counted 11, which means 19% and 5 (8.6%) were leather and leather products from those 58 enterprises found in sample population. Equal amounts of enterprises are existed between metal and engineering sub- sectors and chemical product of sub- sectors which

is 3(5.2%) of total enterprises in sample population. Similarly, equal amount which is 18 (31%) of 58 enterprises were also having business practices on food processing and beverage sub-sector and wood works and furniture sub- sector independently.

Item 2 Table 7 stated, about the legal status of enterprises, of these related aspect, MSEs in the sample area has one of those forms of ownership. Such as; sole proprietorship, partnership and private limited company legal entity. Sole proprietorship is defined as the sole trader or simply a proprietorship, which is a type of business entity that is owned and run by an individual only. In sole proprietorship there is no legal distinction between the owner and the business. The owner receives all benefits (subject to taxation specific to the business) and has unlimited responsibility for all losses and debts (FeDRE, 2013). Whereas, Partnership enterprise established by more than one person with responsibility/liability is equal for all the partners irrespective of their share and can consist of 2 or more people. With regard to private limited company, entity is more or less similar with partnership but different with its' initial capital or investment and responsibility/liability lay on the name of the enterprise not on members enterprises. The field survey result show, three of them were sole proprietorship, 35 (60.3%) are partnership and 20 (34.5%) are private limited company. Here, working in partnership and private limited company is more advantage on business market and have great chance to persist in the manufacturing industry. The government also highly encourages the partnership and private limited company (plc) form of entity to bring together the skills, knowledge and capital of individuals to enhance their business capacity.

On item 3 Table 7, the age of the most of the enterprises 58 (100%) were below 10 years of age and the majority 45 (77.6%), 8 (13.8%) of the enterprises and five of them were year establish 2 to 5 years, less than 2 years and 6 to 10 years old respectively. It show that, most enterprises have been established after the attention given to the sector specifically after the execution of 1997 MSE strategy and government interest on the development of manufacturing industry.

By ensuring faster and enhanced development of the industrial sector so that it turns out to be the foundation and leading sector of the country's development activities, special emphasis will be given particularly to two major sub-sectors, vastly develop the micro and small enterprises sector, and due attention will also be given to the development of medium and large scale industries as well. The field survey show on issues related with enterprises' level of current

status, majority 38 (65.5%) of 58 enterprises were small growing, 12 (20.7%) were at small start-up level and 8 (13.85%) were small maturity level which are prospective graduates. Here, significant level of enterprises are having the ability to graduate and join the middle growing industry sector on the next few years if supports and enrichment actions continuous in better pattern.

Item 5 on Table 7 demonstrates the number of employees including members in selected sample area. Around 54 (93.1%) of the sample were having between 6- 15 employees and only four of them of the selected sample were having employees between 16- 30. As stated in GTP II, new enterprises should be encouraged to engage mainly in manufacturing industry and requires fully implementing the strategic directions set out in order to improve entrepreneurship attitude, productivity and competitiveness of these enterprises. By addressing the aforementioned issues, small scale manufacturing enterprises in particular would play their roles as drivers for industrial development and source of quality and sustainable jobs.

4.3 Observing the supports given by TVETs for MSEs operators.

The quality and productivity improvements of the MSEs operators are the means to growth and developments of enterprises. This can be achieved by capacitating the physical and technical supports of TVET institutes on the bases of enterprises types of business. The next table illustrated that, TVETs trainers and MSEs operators perceptions degree on the stated supports of each rows.

With issue of having adopted technology, item 1 of Table 8, the majority of TVETs trainers 43 (64.5%) of 67 respondents agreed and their mean value is rate 3.43 above the average mean. Whereas, from the other group (MSEs operators) significant number which is 24 (41.4%) of 58 are strongly disagree with the role of TVETs in support of MSEs by adopted technology of mean value is 2.34 less than the expected mean. Therefore, the result show controversy between both group stand on this point and deep investigation is required to clarify at which group the difference gap possessed. But operators' perception result also similar with other study conducted by Kibrom (2014) but contradictory with an exclusive interview held with one of TVET dean stated that,

“as long as our relationship with micro and small enterprises tight, we equipped those enterprises mainly the manufacturers on technology adaptation and sometimes we used them as COC centers too. But, still many were expected from TVETs to support them in technology, which enhances their production and productivity quality” (Interviewee 2; May 5, 2017).

On issue related with getting certificate of assurance as stated on item 2 Table 8, 37 (55.2%) of TVETs trainer out of 67 were in a position of agree with mean value 3.58. But many operators opposed that getting certificate of assurance is not in a level of position as trainers indicated. Rather, the majority of operators of 12 (20.7%) and 15 (25.9%) of 58 respondents were in a position of undecided and strongly disagree respectively with it. The mean value is 2.91, which is below 3.0. Here also, similar with the study of Kibrom (2014) on his interview result. “TVET officials describe that instead of enterprise level they give COC for each individual after finalized the technical training.” An exclusive interview held with one of MSED official stated that,

“In my opinion, TVETs are expected to provide certificate of assurance to enterprises based on their business practices. Previously, such activities are not held in appropriate instance, but now a day’s efforts are intensified by those TVETs in order to support enterprises becoming leveled with certified in collaboration with COC centers” (Interviewee 8; April 25, 2017).

The second growth and transformation plan (2015- 2020) stated that, implementation of kaizen philosophy is crucial to bring sustained and continuous improvements in productivity, quality and competitiveness as well as to minimize cost, to ensure working environment and workers’ safety and bring attitudinal change through properly implementing the philosophy in micro, small, medium and large scale industries and in institutions which build the capacity of the manufacturing sector such as education and training, research and extension support providing institutions. With regard to kaizen implementation support of TVETs stated on Table 8 item 3, both groups were stands on agree position with having different mean value. The mean value is 3.86 for TVETs trainers and 3.22 for MSEs operators. Therefore, TVETs are practicing kaizen for those small manufacturing enterprises which is one of the mainly industry extension program on improving their quality products by using the philosophy of it. But, this result dissimilar with

other study, held by Brhanu (2014) ‘kaizen is moderately implemented at the SMEs. With the implementation of kaizen provided them with adequate and average level of the necessary ingredients for effective learning of the strategy.’

Item 4 Table 8 states, having machine maintenance services and rent equipments towards enterprises. TVETs trainers agree with mean value 3.47 in contrary, operators disagree with this service rendering by TVETs by significant number of 21 (36.2%) of 58 respondents disagree and 31 (53.4%) of 58 strongly disagree. The mean value of operators to this aspect is 1.63 which is so far from TVETs trainers respond. Here also, similar contradiction appeared among both respondent groups. Whereas, previous study by Gebeyehu (2014) supports the result of MSEs operators with the statement of ‘there is a general disagreement about the supports on machine maintenances services provided to the MSE operators by the TVET institutes. Because of lack of machine maintenance services, some of enterprises were forced to incur extra costs from their working capital and were forced to liquidate their businesses.’

The other contradictory results also existed from field survey analysis on item 5 Table 8, which is about TVETs in rendering orientation to MSEs operators before starting the business. To illustrate this point, no enterprise joins the sector without having an idea or clue about the business/ market by any means. Therefore, TVETs are not only providing skill based trainings but also give orientation and guiding how to operate a business. But the field data revealed that, TVETs trainers believed that orientation is conducting for MSEs operators before starting their business with mean value 3.46 above the average mean value. Whereas, MSEs operators’ mean value is 2.75, which is 0.25 less with the average value 3.0. Clearly, many operators believed that having orientation training or clue about what they are doing is generated from other sources not mentioned in the questioner. Operators result is similar in previous study conducted by Gebeyehu (2014).

Respondents from both categories agree on item 6, Table 8 statement having entrepreneurship training. Here, significant number of TVETs trainers and MSEs Operators say agree by 23 (39.7%) of 67 trainers and 14 (20.9%) of 58 operators respectively. The mean value is 4.0 for TVETs trainers and 3.1 for operators. More or less both are agreed on this aspect of TVETs role on providing entrepreneurship skill training to operators. Such result also similar with other studies (see for, Gebeyehu Tuji, 2014; Tesfaye Tegegne, 2014; and Yostana G/yesus, 2014).

Table 8: TVETs Support to MSEs Operators

S/N	Items statements	Respon dents	Frequency of both TVETs trainers and MSEs operators responds'										Mean	St. D	T value	Df	Sig.(2- tailed)
			5 SA		4 AG		3 UD		2 DA		1SDA						
			No.	%	No.	%	No.	%	No.	%	No.	%					
1	In terms of getting adopted technology base on their business?	TVETs	0	0	43	64.2	12	17.9	10	14.9	2	3	3.43	0.85	5.394	123	0.000
		MSEs	4	6.9	11	19	10	17.2	9	15.5	24	41.4	2.34	1.37			
2	In terms of getting certificate of assurance based on their business?	TVETs	9	13.4	37	55.2	7	10.4	12	17.9	2	3	3.58	1.03	3.039	123	0.003
		MSEs	8	13.8	16	27.6	12	20.7	7	12.1	15	25.9	2.91	1.41			
3	In terms of getting kaizen implementation at their business place?	TVETs	12	17.9	43	64.2	6	9	3	4.5	3	4.5	3.86	0.91	2.423	123	0.170
		MSEs	15	25.9	21	36.2	3	5.2	6	10.3	13	22.4	3.32	1.52			
4	In terms of getting machine maintenance service and rent equipments?	TVETs	11	16.4	26	38.8	15	22.4	14	20.9	1	1.5	3.47	1.05	10.64	123	0.000
		MSEs	0	0	4	6.9	2	3.4	21	36.2	31	53.4	1.63	0.85			
5	In terms of getting orientation before starting their business?	TVETs	8	11.9	32	47.8	14	20.9	9	13.4	4	6	3.46	1.06	3.165	123	0.002
		MSEs	7	12.1	17	29.3	3	5.2	17	29.3	14	24.1	2.75	1.41			
6	In terms of getting entrepreneurship training from TVET institutes?	TVETs	0	0	14	20.9	44	65.7	4	6	5	7.5	4	0.75	4.593	123	0.000
		MSEs	7	12.1	23	39.7	9	15.5	8	13.8	11	19	3.1	1.33			
7	In terms of getting marketing training from TVET institutes?	TVETs	6	9	27	40.3	19	28.4	12	17.9	3	4.5	3.31	1.01	0.411	123	0.682
		MSEs	8	13.8	28	48.3	3	5.2	7	12.1	12	20.7	3.22	1.4			
8	In terms of getting customer service training from TVET institutes?	TVETs	16	23.9	15	22.4	21	31.3	6	9	9	13.4	3.34	1.3	0.646	123	0.519
		MSEs	9	15.5	21	36.2	10	17.2	8	13.8	10	17.2	3.18	1.34			
9	In terms of getting skills of utilizing modern technology application from TVET institutes?	TVETs	11	16.4	27	40.3	10	14.9	7	10.4	12	17.9	3.26	1.35	4.884	123	0.000
		MSEs	4	6.9	5	8.6	5	8.6	26	44.8	18	31	2.15	1.16			

Source: Field data (2017) key: SA= Strongly Agree, A= Agree, UD= Undecided, DA= disagree, SDA= strongly Disagree

* - significant at 0.05 level of significance

This will lead enterprises to look forward on business creativity and increasing their market competition. “The entrepreneurial orientation-human capital interaction effect was also found to be a significant determinant of success for profit and turn-over regressions under many quintiles, indicating that operators who obtain technical and managerial training coupled with a better entrepreneurial orientation perform better.” Belay Fite (2012).

Similar agreement perspective perceived by both groups on issue with getting marketing training based on their business type stated on item 7 Table 8. The majority of 27 (40.3%) of 67 and 28 (48.3%) of 58 respondents of TVETs trainers and MSEs Operators agreed on this regard with mean value 3.31 and 3.22 respectively. This data reflects that, both are responding the question with similar approach and understanding. As stated in other studies (see Gebeyehu Tuji, 2014; Tekele Negasa, 2014; and Yodit G/yohannes, 2015). Having marketing training provision will further invite enterprises to expand their business in other place, create value-chain, from raw material supply to end markets and play their significant role in the macro economy also.

In terms of customer service training as stated on item 8 Table 8, almost both party reflected their believed in agreement base with mean value rate 3.34 for trainers and 3.18 for operators, which is above the average mean value 3.0. This rule is essential on handling and knowing customer’s desires or interests on products. Therefore, enterprises will benefit from such training on looking their customers interested and working continuously satisfies with their products. Whereas, the result is dissimilar with other study (see Gebeyehu Tuji, 2014).

The last item of Table 8 state that, getting skills on utilizing modern technology and application with the support of TVETs. The majority of respondents from field survey reflect that, 27 (40.3%) of 67 trainers were agree but the reciprocal amount of this, 26 (44.8%) of 58 operators disagree on it. Further study need to clarify the subject matter where the level of agreement should be set. Now a days, working with the help of technology and holding the skill to utilize it, is crucial on the development of the manufacturing industry. Without using current or updated technology, meeting the needs of the current generation interest is going difficult by off-setting future generation needs. Therefore, TVET will strengthen through capacitating of specialized industrial development institutes them via capable manpower, research equipment and effective incentive system.

With regard the supports given to MSEs operators by TVET institutes, in order to strength their efforts and development of production and productivities, different perspectives are observed on each items stated on Table 8. To illustrate them in deep, frequency of respondents, average mean value and arithmetic mean value 3.0 is utilized to make decision on their perceptions level. Generally, all TVETs trainers agreed observing their mean value score for each item, whereas, MSEs operators agree on items 3, 6, 7 and 8 only stated on table 8, by valuing their average mean value greater than 3.0. Whereas, significant mean value difference committed by both groups of respondents was testified with independent sample T- test.

The detail information about independent sample T-Test can find in Table 8. Independent Sample T-Test is also known as two sample tastes, due to this reason researcher used Independent Sample T-Test was employed to compare operators' average score against trainers'. The researcher has been trying to check the equality the two groups' means (null hypothesis).

In general, the researcher found that there is statistically significant difference between the two groups of respondents which have 2- tailed significant on mean values where $p < 0.05$ is significant, (in terms of supports on adopted technology sig. 2- tailed= 0.00, certificate of assurance sig. 2- tailed= 0.03, machine maintenance and rent sig. 2-tailed= 0.00, orientation before business start sig. 2- tailed= 0.02 and utilization of modern technology sig. 2- tailed= 0.02). (See, Table 8).

Summarizing the existing TVETs supports towards MSEs the study revealed that, there are some discrepancies counted among TVETs trainers and MSEs operators on items related with on getting adopted technology, getting certificates of assurance, having machine maintenance services and equipments rent, having orientations before starting business and on getting skills on utilization and modern technologies. Most trainers believed that, the aforementioned supports and trainings are delivering in significant manners to their trainees. But enterprises operators not satisfied with such supports acknowledged by trainers. TVETs supports on; kaizen implementation at working premises, having entrepreneurship training, marketing training and costumer services training were significantly providing to operators, and both groups of respondents are confirmed those supports.

4.4 Question related with TVET Supports is in line with MSEs' Operators?

The success of built mainly on the process and capacity development of industrial sector in each aspects need technical and physical support from various participants. Capacitating industry particularly the manufacturing sector requires continuous efforts because sector requires interchangeably involvement of government, big industries, micro and small enterprises, research institutes and TVETs in all steps of interchangeability and identification of gaps with possible interventions.

The field survey data indicates how TVETs supports are in line with the needs of MSEs operators for the development of enterprises and to become the future big industries. The Table 9 below illustrates item statements to observe such mitigations between the needs of enterprises and TVETs supports.

Item 1 Table 9 below stated the interest of MSEs operators on training of entrepreneurship. Here, both TVETs trainers and MSEs operators are agree with important of this item related aspects with mean value 3.55 and 4.41 independently. Because each groups score above the expected average mean value 3.0. To illustrates it, majority of the TVETs trainers of 67 respondents 22 (32.8%) answer at high level, whereas majority of operators respond very high level with 45 (77.6%) of 58 respondents. No TVETs trainers choose very low on this regard but 5 respondents opposed from MSEs operators to this particular item. This shows, may be they are reluctant to get training of it or had experience or enough knowledge encounter to it. The initiative to launch and promote entrepreneurship education in TVET institutions is promising as more young people than ever before now envisage self-employment through business creation (UNESCO, 2010).

With related to technical skill development support of needs of operators as mention on item 2 table 9 below, the agreement level is fall on high position of both category of respondents. Their mean value is 3.52 and 4.74 respectively for TVET strainers and MSEs operators. Huge number of operators about 49 (84.5%) of 58 have decided to take technical skill development, which will improved their quality of products and increase productivity rate of their practices. Therefore, continuous work of providing or assisting with technical skill ability expected from TVET institutes in order to strengthen their efforts on industrialization process. The result also confirmed the previous study held by Yodit (2015) and Aynabeba (2014). "Given the low

education profile of the employees' government in collaboration with other bodies should strengthen on job capacity building trainings and should receive trainings on business skill development and technical skills."

Table 9 item 3 stated that, interest on training financial skill and TVETs trainers responds differently with compared to MSEs operators believed with mean value 2.98 and standard deviation 1.13 which fall on low level of perception. Whereas, respondents from MSEs operators put their perception rate of mean value 4.44 and standard deviation 1.09. This figure indicated that, they have high interest towards financial skill development training. Majority of MSEs operators 42 (72.4%) of 58 stated very high level towards taking this course. The study results also confirm previous research report made by (Mnenwa and Maliti, 2009). And Mnenwa and Maliti (2005) reports that, "although regulations such as registration, taxation and licensing might have an influence on profit generation and employment growth, they were not capable by themselves to enable small businesses to increase their performance."

Short- term courses are the basic and the mostly practices of TVETs on following and addressing enterprises needs as prevention mechanizing on different training activities since the linkage started among micro and small enterprises development and TVET institutions based on the guideline of each sectors strategy implementation. Addressing the various intervention provisions is easy for training organizers on this aspect and transferring the theoretical and technical skill development with efficient and effective way. Perhaps, TVETs provide their training with on- the jobs and off- the jobs mechanizes and it can cover mostly by short- term training period. Regarding this point as stated on Table 9, item 4, both groups have common result with mean value and standard deviation rate 4.44 and 1.09 for TVETs respondents respectively. Nearly similar with it, operators' perception rate scored mean value 4.1 and standard deviation 1.0. Therefore, delivery training on short- term courses satisfies the gaps of MSEs operators in significant means. An exclusive interview with one of MSED official stated that,

"Most of the time enterprises are willing to have attended short- term trainings to fill the skill gaps in various occasions....., which TVETs prolong the training provisions in some situations and this might hesitate enterprises specially manufacturers to finished the training program." (Interviewee 8; April 25, 2017).

Table 9: TVETs support in line with MSEs Operators Needs

S/N	Items statements	Respondents	Frequency of both TVETs trainers and MSEs operators responds'										Mean	St. D	T value	Df	Sig.(2-tailed)
			5 VH		4 H		3 M		2 L		1VL						
			No.	%	No.	%	No.	%	No.	%	No.	%					
1	Interested to have training on Entrepreneurship?	TVETs	12	17.9	22	32.8	24	35.8	9	13.4	0	0	3.55	0.94	-4.370	123	0.000
		MSEs	45	77.6	4	6.9	2	3.4	2	3.4	5	8.6	4.41	1.25			
2	Interested to have training on technical skill development?	TVETs	18	26.9	18	26.9	18	26.9	7	10.4	6	9	3.52	1.24	-6.516	123	0.000
		MSEs	49	84.5	6	10.3	1	1.7	1	1.7	1	1.7	4.74	0.73			
3	Interested to have training on financial?	TVETs	4	6	20	29.	24	35.8	9	13.4	10	14.9	2.98	1.13	-7.307	123	0.000
		MSEs	42	72.4	8	13.8	3	5.2	2	3.4	3	5.2	4.44	1.09			
4	Interested to have training on short- term courses?	TVETs	30	44.8	19	28.4	15	22.4	1	1.5	3	3	4.1	1	0.901	123	0.369
		MSEs	0	0	33	56.9	8	13.8	6	10.3	11	19	3.89	1.55			
5	Interested to have training on long- term courses?	TVETs	31	46.3	15	22.4	6	9	10	14.9	5	7.5	3.85	1.35	0.522	123	0.000
		MSEs	10	17.2	3	5.2	3	5.2	16	27.6	26	44.8	2.22	1.49			
6	Interested to have training on sustainability concepts?	TVETs	14	20.9	20	29.9	20	29.9	9	13.4	4	6	3.46	1.14	0.428	123	0.000
		MSEs	39	67.2	13	22.4	0	0	0	0	6	10.3	4.36	1.22			
7	Interested to have a support on adopted technology?	TVETs	10	14.9	28	41.8	12	17.9	9	13.4	8	11.9	3.34	1.23	-6.950	123	0.000
		MSEs	50	86.2	2	3.4	3	5.2	2	3.4	1	1.7	4.68	0.86			

Source: Field survey (2017) Keys: VH= Very High, H= High, M= Moderate, L= Low and VL= Very Low

* - significant at 0.05 level of significance

Table 9 item 5 described interest of operators on the bases of long- term courses, which can be consider as above six months elongation period. Unlike, short- term training provisions many operators did not have interest to take over it with mean value 2.22 and standard deviation 1.49, which is lower than the expected arithmetic mean value 3.0. Here, opposite results are found from field survey on TVETs outlook of this particular question. TVETs trainers score 3.85 mean value and 1.35 standard deviation rate. This show that, operators have not interest to take long-term courses might consider it as time wastage or busy on doing their business activities.

The manufacturing sector is highly related with the concept of sustainable development and gives emphasis due with the improvement of sustainability practices as the main agenda of current development pattern. Development of current generation should not affect or compromise the needs and the ability of the next generation ‘triple- bottom- line’ (economical, social and environmental ethos). Taking sustainable development concepts will help or assist the manufacturing industry the effort towards minimizing or fewer the negative impact related outcomes. Item 6 on table 9 clarify interest of operators on taking the sustainable development concepts of training package. Even though, the concept of sustainable development is vast and vague by its understanding and implementation form, some sort of this concept related courses will glorify how individuals, institutions and business enterprises working due considering their role on sustainable development angel. Both categories of respondents indicated high level of perception with mean value 3.46 and 4.36 independently. Majority of operators respond very high of with 39 (67.2%) of 58 and of 20 (29.9%) of 67 TVETs trainers fall on high level. Zero level of perception rate is scored from operators towards Low and Very Low level through the field survey.

Business and industry today often speak of the ‘triple-bottom-line’ of their operations. It represents an integration of social, economic and environmental goals and a move away from a single priority only on economic growth and profit. In a related way, sustainable development is a concept that embraces environmentally sound production and consumption, social equity and economically viable work organizations. TVET for sustainable development is a process of incorporating into TVET considerations that impact on the long-term future of the economy, ecology and society. Building the competencies and commitments needed for such future-

oriented thinking is crucial. UNESCO-UNEVOC refers to this as TVET for sustainable development. J. Fien, R. Maclean (2009).

The other aim of TVET institutes is developing and transferring adopted technology for the industry in particular the manufacturing industry with minimum cost and available materials or resources in order to couple up the latest technology designed and be play their role on transformation agenda. Small scale enterprises utilized modern technology based on their field of participation. Supporting them with modern technology or adopted technology on research based is mandatory to strengthen them on the efforts of improving on their quality of production and productivity rate. Table 9 of item 7 clearly state interest of MSEs operators' on adopted technology support of TVETs. It was significantly highly rate among both groups of respondents towards this outlook. Majority of 50 (86.2%) of MSEs operators responds fall at very high rate and 28 (41.8%) of TVETs respondents fall at high rate to. These results were also similar with previous study of Aynabeba (2014). Therefore, TVETs have to strength its capacity on developing adopted technology and transfer it to such enterprises on significant manner.

Summarizing the existed MSEs needs from TVETs, the research clearly delineate that, MSEs are interested at high level towards having training on entrepreneurship, technical skill development, short- term courses, matters with sustainability development concepts and desired to obtain adopted technology from TVETs. Whereas, trainers are opposing the provision of training on financial concepts for enterprises and in contrast, operators do not have interest to attend long-term courses in general. Meanwhile, there are statistically significant mean values difference occurred among TVETs trainers and MSEs Operators' where $p < 0.05$ is significant level on financial training and long- terms courses with (sig. 2- tailed= 0.00 and sig. 2- tailed= 0.00 respectively, when equal variance assumed). (See, table 9).

To over reach TVETs training provision for trainers or operators, institutes conducts different need assessment on identifications of their skill gaps, exclusive questioners and interviews held with TVETs representatives. (See, Appendix- B of items 9, 10, 11, & 12).

The respondents were asked to answer for question raised in relation to the ways of providing training to the MSE operators. Item 1 Table 10 revealed that, from 67 TVET trainers 52 (77.6%) answered that the training was provided to the MSE operators based on the choices of TVET

institutes and 14(20.9%) of trainers answered that the training provided to the MSE operators based on the choice of MSEs operators. Only one respondent claimed that the training was provided to them based on the choices of MSED office.

From interview analysis, most TVETs deans and department heads believed that “the training provision choices emerge from MSEs operators during the industry extension support. Due this TVETs trainers will assess on filling their gap and provides the training on the collaboration organs of TVETs, MSED office and others stakeholders involvement”. Whereas, MSEDs officials also answer to such question is differ than TVETs principal and trainers. They state that, “mostly the training provision identification is developed by Addis Ababa MSED bureau in collaboration with Addis Ababa TVET Agency according with guidelines and budget allocations”. Considering these, researcher observed that training conducted mostly by the choice of TVETs institutes on training provisions of operators. May be other factor like budget, human resource with trainers and so on will hinder the time schedules of the training. Here also different perspectives are out-reached among respondents also. Below figure illustrates the percentage of ways of conducting training by TVETs.

Item 2 in Table 10 stated that, respondents were also asked to identify whether the training provided to the MSE operators based on their interest or not. In this regard, 53 (79.1%) of the trainers said Yes and the rest 14 (20.9%) of trainers said No. From interview of TVETs deans and department heads, almost all described that, the training to operators meet the skill gaps in all aspects. The same result also found from interview of MSED officials on this particular question. From this, the researcher observed significant number of TVETs trainers are in opposing the training provision not matter or satisfy the operators’ gaps of skill.

Table 10: How need assessment is conducted before each training programs?

S/N	Item statements	Number of Respondents	Frequency of TVET trainers responds'	
1	How training was conducted by TVETs?		No.	%
	Based on MSEs	TVET Trainers	14	20.9
	Based on TVETs	TVET Trainers	52	77.6
	Based on MSED	TVET Trainers	1	1.5
	Total		67	100
2	Training will meet Operators skill gaps			
	Yes	TVET Trainers	53	79.1
	No	TVET Trainers	14	20.9
	Total		67	100
3	Is there need assessment conducted before training?			
	Yes	TVET Trainers	38	65.7
	No	TVET Trainers	29	43.3
	Total		67	100
4	Problem of organization not to conducted the need assessment			
	problem of MSED	TVET Trainers	5	7.5
	problem of TVET	TVET Trainers	10	14.9
	problem of government	TVET Trainers	3	4.5
	problem of MSED and TVET	TVET Trainers	2	3.0
	problem of TVET and government	TVET Trainers	4	6.0
	problem of MSED, TVET and government	TVET Trainers	6	9.0
	Total		30	44.8

In Table 10 item 3 revealed that, TVETs respondents were asked to see whether training needs assessment was conducted before providing training or not. In this respect 29 of TVETs trainers (43.3%) responded Yes and 38 (56.7%) of TVETs responded No. These results were also similar with previous study result by Aynabeba (2014). With similar question interviewees from TVETs dean and department heads believed need assessment will conduct before each training provisions. The same answer also stated from interviewees.

“Need assessment is conducted before any training and will conduct and identified it during industry extension support for enterprises. Each trainers assesses the operators skill gaps due attachment with filed support and operators fill their skill gaps and the need support on trainers’ checklist” (Interviewee 2; May 5, 2017).

From this, the researcher observed that a large number of the respondents from TVETs trainers stressed that the training needs assessment were not conducted. This indicated that there might be misunderstanding or misinterpretation on conduct of need assessment among TVETs dean and MSE officials. Without conducting training need assessment, empowering and developing the ability of doing enterprises business will become difficulty and any training provisions will also not achieve the needed target. The next figure illustrates the percentage of need assessment conduct before each training provisions of TVETs institutes.

Related with respondents their respond No as stated on item 4 Table 10, were asked to answer the reason why training needs assessment was not conducted. Accordingly, out of 30 trainers five of them attributed the problem of MSE office, ten of them answered as TVET institutes problem and three of them attributed the problem of government. Two of them of 30 TVET trainers attributed the problem of both MSE office and TVETs institutes. Four of them of 30 trainers attributed the problem of both TVET and government. Out of 30 respondents six of them attributed the problem of MSE office, TVETs and government in general. Concerning the above questions, the interviewees’ respondents also asked about the cooperation of TVET and MSEs in doing together. Based on the questions, the interviewees answered that, “there were continuous and but not fixed interacting between the TVET and MSE officials to discuss about the challenges and performance of MSEs now a days.”

4.5 Question related with successful TVETs towards sustainable development.

As cited by (J. Fien, R. Maclean, 2009) Technical and Vocational Education and Training (TVET) for the world of work has been identified by UNESCO Member States as a priority area within UNESCO's range of program activities. This is to be expected since there is overwhelming evidence to demonstrate that TVET can play an essential role in promoting economic growth and the socio-economic development of countries, with benefit for individuals, their families, local communities and society in general. Improving education for the world of work can help improve the incomes of poverty-stricken farmers, provide citizens with more choices in their lives, help alleviate poverty and help empower individuals who would otherwise be marginalized. Thus, TVET for the world of work also helps promote good citizenship (Lauglo and Maclean, 2005).

Unfortunately, in the past, TVET was often considered to be 'a second-class education' compared to university studies. However, today TVET is 'increasingly seen as the master key to poverty alleviation and social cohesion and a chance for countries to jump on the bandwagon of development and globalization' (UNESCO, 2005b, p.1).

As stated by (J. Fien, R. Maclean, 2009) TVET for sustainable development is a process of incorporating into TVET considerations that impact on the long-term future of the economy, ecology and society. Building the competencies and commitments needed for such future-oriented thinking is crucial. UNESCO-UNEVOC refers to this as TVET for sustainable development. Those are TVET and economic sustainability, TVET and environmental sustainability and TVET and social sustainability.

For this research paper, the researcher chooses some sort of items from each aspect to identify, to what extents TVETs institutes found in Gullele- sub- city successful on providing the skilled work force through economic, social and environment knowledge, skills and attitudes of sustainability concepts.

Table 11: TVETs on providing training towards knowledge's of sustainability concepts.

S/N	Items statements	Respon dents	Frequency of both TVETs trainers and MSEs operators responds' towards knowledge on sustainability concepts										Mean	St. D	T value	Df	Sig.(2- tailed)
			5 SA		4 AG		3 UD		2 DA		1SDA						
			No.	%	No.	%	No.	%	No.	%	No.	%					
1	Is sustainability taught as a separate topic?	TVETs	8	11.9	37	55.2	6	9	13	19.4	3	4.5	3.5	0.99	4.159	123	0.000
		MSEs	6	10.3	12	20.7	8	13.8	17	29.3	15	25.9	2.6	1.34			
2	Embedded on the courses you have taken?	TVETs	14	20.9	16	23.9	27	40.3	10	14.9	0	0	3.5	1.07	3.253	123	0.001
		MSEs	5	8.6	20	34.5	5	8.6	16	27.6	12	20.7	2.6	1.34			
3	Training provides with the needed knowledge on sustainable production and consumption?	TVETs	24	35.8	20	29.9	3	19.4	10	14.9	0	0	3.86	1.07	2.404	123	0.018
		MSEs	3	5.2	37	63.8	3	5.2	10	17.5	5	8.6	3.39	1.1			
4	Training provides with the needed knowledge on enterprise management?	TVETs	11	16.4	32	47.8	9	13.4	11	16.4	4	6	3.52	1.13	1.420	123	0.158
		MSEs	8	13.8	22	37.9	7	12.1	17	29.3	4	6.9	3.22	1.21			
5	Training provides with the needed knowledge on saving?	TVETs	10	14.9	33	49.3	12	17.9	6	9	6	9	3.52	1.13	1.111	123	0.269
		MSEs	12	20.7	19	32.8	7	12.1	13	22.4	7	12.1	3.27	1.34			
6	Training provides with the needed knowledge on gender equality?	TVETs	6	9	15	22.4	21	31.3	15	22.4	10	14.9	2.88	1.18	0.743	123	0.459
		MSEs	11	19	6	10.3	9	15.5	19	32.8	3	22.4	2.7	1.42			
7	Training provides with the needed knowledge on team work at work place?	TVETs	22	32.8	26	38.8	9	13.4	4	6	6	9	3.8	1.22	1.350	123	0.180
		MSEs	9	15.5	30	51.7	5	8.6	10	17.2	4	6.9	3.51	1.15			
8	Training provides with the needed knowledge on cultural diversity?	TVETs	3	4.5	14	20.9	20	29.9	21	31.3	9	13.4	2.71	1.08	-0.782	123	0.436
		MSEs	6	10.3	15	25.9	11	19	18	31	8	13.8	2.87	1.24			
9	Training provides with the needed knowledge on proper land use?	TVETs	11	16.4	30	44.8	8	11.9	10	14.9	8	11.9	3.38	1.26	-1.526	123	0.136
		MSEs	13	22.4	32	55.2	2	3.4	6	10.3	5	8.6	3.72	1.18			
10	Training provides with the needed knowledge on environment management system?	TVETs	3	4.5	31	46.3	16	23.9	14	20.9	3	4.5	3.25	0.99	1.187	123	0.237
		MSEs	9	15.5	17	29.3	8	13.8	13	22.4	11	19	3	1.38			
11	Training provides with the needed knowledge on 5 Rs: - reduce, reuse, renew, recycle and rethink?	TVETs	18	26.9	25	37.3	8	11.9	13	19.4	3	4.5	3.62	1.2	0.624	123	0.534
		MSEs	15	25.9	22	37.9	5	8.6	8	13.8	8	13.8	3.48	1.37			

Source: Field data (2017) key: SA= Strongly Agree, A= Agree, UD= Undecided, DA= disagree, SDA= strongly Disagree

* - significant at 0.05 level of significance

4.5.1 TVETs towards developing knowledge on economic sustainability concepts

The economic aspects of sustainability are very important, TVET systems, institutions and instructors need also to ensure that students and workers develop a different, wider set of economically-related knowledge, skills and attitudes. Four important selected areas for which integrating knowledge needs to be developed are; economic literacy, sustainable production, sustainable consumption, and small business management.

Economic literacy term is vast and the researcher chooses to identify trainers and operators perception in terms of knowledge on saving. And on points stated about examining perception rate of having training on knowledge of economic aspects, items like; taking courses on sustainability concepts are separated or embedded with other subject matters, knowledge on saving, knowledge on sustainable production and consumptions, knowledge on enterprises managements are treated as follows on Table 11.

On item 1 Table 11, respondents from TVETs trainers and MSEs operators put their perception of having training to trainees on sustainability taught as a separate topic. The survey data show that, respondents from trainers agreed with mean value rate 3.5 and standard deviation 0.99 score. Majority of them 37 (55.2%) of 67 respondents were fall on strongly agree. In contrary of it, operators respond were opposite of this, with mean value 2.6 which is less than the expected average value 3.0. Differently, majority of operators respondents fall on both disagree and strongly disagree with significant amount of 17 (29.3%) and 15 (25.9%) of 58 respectively. Similar with operators' perceptions, the interview result show that, many respondents from TVETs deans and department heads as well as MSED officials of all sorts believed that, "there is no training provision as a separate topic on sustainability concepts. Rather, the concepts of sustainability delivered through the reform of contents on OS (Occupational Standard) and OAC (Occupational Assessment and Certification)." The researcher also observed that, sustainability concepts were not delivered as a separate topic in each TVET institutes' curriculum.

Item 2 on Table 11 stat, the sustainability concepts training provision is embedded on the courses given to trainers. With regard to this item, the majority of TVETs respondents of 27 (40.3%) of 67 responds fall on undecided and amazingly no respondent say strongly disagree. The overall mean value of trainers is 3.5 which is similar score with the first item on table 5 (separate topic)

and their standard deviation is 1.07. The field survey result also show operators perception towards this item and their score is 2.6 mean value and standard deviation 1.34. More or less similar result occurred like the first item of Table 11. But significant amount of respondents of 20 (34.5%) of 58 agreed, the rest figures distributed in others levels of perceptions. The interview also confirm TVETs trainers result, “as provisions of training on sustainability concepts are more or less undergoes or embedded with other courses and training and support packages like; industry extension program.”

Sustainable production is an approach to the manufacturing and delivery of ‘goods and services in ways that respond to basic human needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle’ (Norwegian Ministry of the Environment, 1994).

Having in consideration of the above clarification on sustainable production and consumption, Table 11 item 3 stats, training provides with the needed knowledge on sustainable production and consumption to trainees or operators. Both category of respondents’ Agree with this statement of more or less similar score of mean value and standard deviation resulted. About 3.86 mean value and 1.07 standard deviation for trainers and 3.52 and 1.1 standard deviation for MSEs operators. The researcher observed of this results TVETs are working well on providing training in terms of concepts of knowledge on sustainability production and consumption. This will highly matter on the growth and development of enterprises particularly the manufacturers to the future. “Shifting to more sustainable patterns of consumption and production is an established commitment of the international community since the Earth Summit in 1992. Currently, member states are also considering the topic of sustainable consumption and production (SCP) for the post- 2015 agenda including a stand-alone Goal – Sustainable Development Goal 12 – and a range of targets that clearly embody the importance of a shift to SCP patterns”. Stated at Global Sustainable Development Report (2015).

Item 4 on Table 11 mention that, the training provides with the needed knowledge on enterprise management. Both groups of respondents respond Agree perspective with 3.52 mean values for TVETs and 3.22 for operators. Standard deviation was 1.13 and 1.21 TVETs and operators accordingly. The interview also confirmed this result; such enterprise management training is

mostly conducted by TVET institutes to strengthen operators' ability in business and membership management practices.

“At list one person from each enterprise (mostly the manager one) has the chance to get training on enterprise management knowledge and certify with it. Even now a day's TVETs have planned to certify all members of enterprises in terms of having knowledge on small scale enterprises management” (Interviewee 3; May 5, 2017).

With regard to training provides with the needed knowledge on saving as stated item 5 on Table 11, ten of them of 67 fall Strongly Agree and 33 (49.3%) of 67 fall on Agree. The mean value and standard deviation is 3.52 and 1.13 respectively. More or less similar result occurred by the other group (operators) with mean value and standard deviation 3.52 and 1.13 correspondingly. From such figure, the researcher stated that, having knowledge on saving aspect is greatly conceived among TVETs and operators and this will leads enterprises to strengthen the financial ability due have an access to easily borrow money from financial institutes in order to become more competent in local market.

4.5.2 Knowledge on societal aspects of sustainability concepts.

Having social sustainability in a given location attributes ensuring their fundamental needs of all people are satisfy regardless of their gender, ethnicity and locality, with the ability to develop and exercised their eminent potential in appropriate ways of media to enable them living happy, healthy and joyful life. Here, the researcher anticipation is only to observe some sorts of sustainability concepts of social aspects such as, having provisions of training on knowledge of gender equality, team work at business place and cultural diversity independently. Others knowledge aspects of social sustainability concepts are left due to vast to explore in this research.

Having in consideration of the above argument, item 6 on Table 11 stat that, training provides with the needed knowledge on gender equality, both categories of respondents Disagree with this item. They justified it with 2.88 mean value and 1.18 standard deviation for trainers and mean value 2.7 and 1.42 standard deviation for operators score. Both groups of respondents score mean value less than the arithmetic mean value 3.0. It is also very important to consider the equity issues with regard to minorities as well as gender. Other study also emphasized this issue

still not significantly addressed by TVETs. (See, Gu, Gomes and Brizuela, 2011). Yet according to the 2nd International Congress, in Seoul, the under-representation of women in TVET is of particular concern. There are some traditional perceptions about what are the appropriate roles for men and women in the workplace, and this should be challenged. TVET must offer gender-inclusive learning programs, including measures to attract women into previously male-dominated training and careers and vice-versa (ibid). Therefore, the researcher observed it, TVETs have still remained let on providing their operators or trainees towards gender equality aspects of training. Mainstreaming gender equality requested all parties' effort in order to increment TVETs role on the development such sustainable development ethos.

Item 7 on Table 11 illustrate, training provide with the needed knowledge on team work at work place. Majority of TVETs respondents were Strongly Agree of 22 (32.8%) of 67 and 26 (38.8%) of 67 also Agree on this particular item. Likewise of trainers, operators also strongly Agree and Agree with the rate of 9 (15.5%) and 30 (51.7%) of 58 respondents respectively. Their mean value is 3.8 for trainers and 3.51 for operators. The interview results also show that, majority of interviewers believed, "training is conducting on working together ability with others during the beginning of trainees program but constricted with orientation phase."

Many writers exhort TVET institutions at all levels to concentrate upon the training of knowledge workers, defined as those 'who use logical-abstract thinking to diagnose problems, research and apply knowledge to propose solutions, and design and implement those solutions, often as a member of a team' (Wilson, 2001, p.23). It is incumbent upon TVET institutions to foster the necessary climate and/or 'culture' of teamwork right from the initial entry of students and trainees into TVET institutions. It is also imperative that TVET teachers and instructors set a correct example by functioning as a team (J. Fien, R. Maclean, 2009). Since enterprises are operating their function with many members and employees, TVETs are practicing well on having for MSEs on knowledge of working together in work area is crucial for better production and productivity.

In terms of tracing item of training provides with the needed knowledge of cultural diversity as stated on item 8 Table 11. Both groups of respondents Disagree with this term of training. Their mean value is 2.71 for trainers and 2.87 for operators. Their standard deviation is 1.08 and 1.24 correspondently for trainers and operators as well. Here, no interviewers answered an item

clearly towards this outlook. Therefore, TVETs efforts also request to conduct training for enterprises and trainees on the respect of cultural diversity terminology, since enterprises invited all kinds of ethnicity, working together with other enterprises in under the same working premises and provide products considering the cultural values of their customers too.

4.5.3 Knowledge on environmental aspects sustainability concepts.

Using resources wisely and minimizing waste and pollution are central to ensuring that the natural environment will be able to continually supply business and industry with the natural resources and energy supply needed for economic development. There can be no long-term economic growth on a planet exhausted of natural resources, too infertile to support the production of the plant and animal products upon which people and industry depend, and too polluted for humans to enjoy a healthy and productive life. (UNEVOC Discussion paper series1, 2006).

Item 9 of Table 11 mentioned that, training provides with the needed knowledge on proper land use found remarkable positive results from both groups of respondents and their level of agreement fall on Agree. The field result show that, majority of 32 (55.2%) of 67 TVETs trainers respondents and of 31 (46.3%) of 58 respondents of MSEs Operators Agree on this particular item. This result also confirmed by interviewers of both organizations (TVETs and MSEs).

“Such provision of training on the knowledge of proper land use is continuously extended by their trainers to operators especially to the manufacturers due with industrial extension approach” (Interviewee 1; April 28, 2017).

Therefore, the researcher observed that, having training on proper land use management in work place is practiced by TVETs to their trainers and such training will also relate with proper utilization of working premises.

Environmental management system is coordinated approach to ensuring that all environmental issues are taken into account in the workplace and regularly monitored and improved to ensure compliance (UNEVOC Discussion paper series 1, 2006). Item 10 on Table 11 indicated the perception rate of respondents towards TVETs engagement on providing training with the needed knowledge of environmental management system. Here, respondents agreed with mean

value 3.25 and 3.0 and standard deviation 0.99 and 1.38 of TVETs trainers and MSEs Operators independently. This also similar with the study by Jayarani Ramawickrama (2011) “a very clean environment where it is easy to manage tools with tool racks and labeling the places where it is needed to store body parts of three-wheelers.”

The last but not the list, item 11 on Table 11 stat that, training provides with the needed knowledge on 5Rs (reduce, reuse, renew, recycle and rethink). Majority of TVETs responds agree with of 25 (37.3%) and strongly agree of 18 (26.9%) out of 67 respondents. The mean value is 3.62 and this is above the arithmetic mean value 3.0. Similar result also occurred due MSEs Operators on their perception with TVETs trainers too. The scored mean value is 3.48 and above this also above the average mean value score. Similar with this item, previous study Yodit (2015) also emphasized that, “entrepreneurs should also be aware of relevant environmental motives for efficient use of materials.” It show training provides knowledge on the issue of 5Rs are significantly conducted by TVETs for enterprises under the field study area. Therefore, the researcher observed it, environmental concepts of sustainability goes in appropriate ways which helps the trainers to implement the given knowledge on their business working premises and will assist them to mitigate their production and productivity in line with the current issue of environmental protection ethos.

Summarizing the existing TVETs towards developing knowledge for sustainability, statistically significant mean values difference occurred among TVETs trainers and MSEs Operators’ where $p < 0.05$ is significant level on sustainability were taken as a separate topic and sustainability taught embedded with other courses with correspondently (sig. 2- tailed= 0.00 and sig. 2- tailed= 0.01 respectively, when equal variance assumed). (See, Table 11). Economic aspects of sustainability like; knowledge on sustainable production and consumption, knowledge on small enterprise management and knowledge on saving were predominantly entertained by those TVETs in significant instance. These will capacitate their customers to have enough knowledge with economic literacy and to apply them in different scenarios. But, the researcher observed it, TVETs have still remained let on providing trainings to their operators or trainees towards gender equality aspects of training and cultural diversity, parts of societal sustainability concepts. Environmental sustainability concepts like, knowledge on proper land use, knowledge on environmental management system and 5 Rs approaches were well conserved and integrated

with TVETs training provisions which helps the trainees to implement the given knowledge on their business working premises and will assist them to mitigate their production and productivity in line with the current issue of environmental protection ethos.

4.5.4 TVETs towards developing skills on sustainability concepts

Teaching and learning processes in the context of general education address the responsibility of an individual as a consumer. In contrast to that, considering aspects of sustainability in an integrative way in the context of TVET requires that individuals take on producer responsibility in areas where they can act and make decisions. Producer responsibility aims at increasing resource and energy efficiency in manufacturing products and providing services as well as socially responsible living and working conditions alongside the entire value chain (including downstream processes). Since sustainable occupational actions are normally carried out in concrete situations within a company or organization, where other people, groups, institutions or departments are involved, communication and cooperation skills as well as the ability to participate in organizational and social dialogs about sustainability are required apart from expert skills. (NUN 2007, .6f) as cited by (BMZ TVET for A Green Economy, 2011).

Item 1 on Table 12 stat that, extent of training provisions by TVETs on enterprises leadership skill. The field survey result show that, both categories' of respondents' perception were high. Their mean value is above the expected average mean value 3.0. A 3.35 mean value and standard deviation 1.09 score by TVETs trainers whereas, 3.44 mean value and standard deviation 1.24 score by MSEs Operators. Whereas, majority of interviewers also confirmed that, "TVETs are conducting training not in a single training course but embedded with management development training competency." Other study with similar anticipation stated that such skill highly matters on the success of MSEs business. See (Mnenwa and Maliti, 2009). This shown that, TVETs are practicing such training execution on their training programs to have an individual or enterprises to implement kinds of skill development related with their augmented real business activities.

Working in coordination with others party inside and outside is mandatory for all business entities, whether small or large scale in order to keep the chain value of activities, management system and to make necessary correction when things go wrongly throughout its function.

Table 12: TVETs on training skills of sustainable development concepts.

S/N	Items statements	Respondents	Frequency of both TVETs trainers and MSEs operators responds'										Mean	St.D
			5 VH		4 H		3 M		2 L		1VL			
			No.	%	No.	%	No.	%	No.	%	No.	%		
1	extent of training on enterprise leadership skill	TVETs	8	11.9	27	40.3	18	2.9	9	13.4	5	7.5	3.35	1.09
		MSEs	9	15.5	29	50	6	10.3	7	12.1	7	12.1	3.44	1.24
2	extent of training on enterprise coordination skill	TVETs	15	22.4	21	31.3	15	22.4	11	16.4	5	7.5	3.44	1.22
		MSEs	12	20.7	25	43.1	6	10.3	8	13.8	7	12.1	3.46	1.3
3	extent of training on enterprise business skill	TVETs	16	23.9	26	38.8	10	14.9	10	14.9	5	7.5	3.56	1.22
		MSEs	15	25.9	20	34.5	7	12.1	8	13.8	8	13.8	3.44	1.37
4	extent of training on enterprise communication skill	TVETs	14	20.9	30	44.8	11	16.4	7	10.4	5	7.5	3.61	1.15
		MSEs	16	27.6	23	39.7	7	12.1	6	10.3	6	10.3	3.63	1.28
5	extent of training on innovation skill	TVETs	4	6	11	16.4	13	19.4	24	35.8	15	22.4	2.47	1.18
		MSEs	3	5.2	11	19	8	13.8	19	32.8	17	29.3	2.37	1.24

Source: Field survey (2017) Keys: VH= Very High, H= High, M= Moderate, L= Low and VL= Very Low

Regarding with it, item 2 on Table 12 illustrate that, the extent of having training on enterprise coordination skill to operators by TVETs under the study area were fall High depending the result of respondents responds. The majority of TVETs trainers respondents of 21 (31.3%) fall high and of 15 (22.4%) fall very high out of 67 correspondently. The perception rate of MSEs Operators also rated similarly with trainers. 25 of (43.1%) were fall high and 12 of (20.7%) were fall very high out of 58 respondents independently. Both respondents mean value were above the arithmetic mean value 3.0. Other study with similar anticipation also confirms the result. See (Mnenwa and Maliti, 2009).

In terms of having training on enterprise business skill as stated on item 3 on Table 12, both groups of respondents' decision fall on high rate under the study area. They score mean value 3.56 and 3.44 standard deviation 1.22 and 1.37 correspondently for TVETs trainers and MSEs Operators. The interview also confirmed the result.

With regard to item 4 on Table 12 states that, the extent of training on enterprises communication skill result both groups' perceptions were high towards it. Almost similar mean value and standard deviation existed among both respondents. 3.61 mean value and 3.63 mean values of TVETs and operators respectively with 1.15 and 1.28 standard deviation independently. Other study of Mnenwa and Malit (2006), however, point to the key to success in business being "the experience of the owner and management team, their organizational skills, their ability to build good relationships with customers and clients backed up by the quality of the product and service". As far as such result, TVETs are working to encompass their trainees to have gain better skill on enterprise communication. This will foster small enterprises particularly the manufacturers to expose their products to the local and global market as well as create business partnership due with others business entity.

Working with mitigation of the current development ethos (sustainable development) request tremendous effort on innovation trough research centers and TVETs are also expected to disclose it. Such will foster on working with low impact on the environment due maintain innovation as a manifest for the industrialization process with clear and sound mitigation to the natural environment and social sustainability ethos as well. With related this, the Table 12 item 5 state that, the extent of having training on innovation skill is predominantly unpracticed by TVETs on the expected level under the study area. Because, majority of both respondents' stat their

perceptions is low to this item. Mean value 2.47 and 2.37 were score and standard deviation 1.18 and 1.2 were score between respondents of TVETs trainers and MSEs Operators respectively. Whereas, the result found from interview contradict with it. All of TVETs deans and majority of department heads believed that, “TVETs are greatly involved with producing and incubated modern and adopted technology and transformed the outcomes to the community and enterprises as well.”

Summarizing that, TVETs are practicing such training execution to encompass their trainees to have gain better skill on enterprise leadership, enterprise coordination, enterprise communication and enterprises business skill. This will foster small enterprises particularly the manufacturers to manage their business and expose products to the local and global market as well as create business partnership due with others business entities. Contradictory result shown on the extent of having training on innovation skill is, predominantly unpracticed by TVETs on the expected level. But of TVETs deans and majority of department heads believed that, TVETs are greatly involved with producing and incubated modern and adopted technology and transformed the outcomes to the community and enterprises as well.

4.5.5 TVETs towards developing attitudes on sustainability concepts

Trainees also be aware on the local and global business system and mitigate their mind set up with related to this concepts due improving the natural resources utilization efficiency and effectiveness for the benefits of economy, social and environmental ethos of the society. Here the role of TVETs are not only provides training of the skills development which helps them to increase production and productivity, but also working or developing trainees in related concepts of attitudes matters on evolving enterprises products in line with society values.

Item 1 on Table 13 stats that, respondents perception’ on having training on self- discipline related concepts of sustainability under the study area and results shows Disagree. Both groups mean values are below the expected mean value 3.0. (2.65 rated by trainers and 2.5 rated by operators). This result also similar with previous studies conducted by Gebeyehu (2014) and (Gu, Gomes and Brizuela, 2011) of case study on SENAI and Green Skills Australia training centers.

Table 13: TVETs involvement of training on attitudes of sustainability concepts

S/N	Items statements	Respondents	Frequency of both TVETs trainers and MSEs operators responds'										Mean	St. D
			5 SA		4 AG		3 UD		2 DA		1SDA			
			No.	%	No.	%	No.	%	No.	%	No.	%		
1	TVETs involved in training on self-discipline	TVETs	5	7.5	14	20.9	13	19.4	23	34.3	12	17.9	2.65	1.21
		MSEs	6	10.3	10	17.2	8	13.8	17	29.3	17	29.3	2.5	1.35
2	TVETs involved in training on work with others in team	TVETs	19	28.4	29	43.3	13	19.4	6	9	0	0	3.91	0.91
		MSEs	15	25.9	28	48.3	7	12.1	3	5.2	5	8.6	3.77	1.15
3	TVETs involved in training on responsibility and honesty	TVETs	3	4.5	23	34.3	14	20.9	14	20.9	13	19.4	2.83	1.22
		MSEs	9	15.5	16	27.6	8	13.8	12	20.7	13	22.4	2.93	1.42
4	TVETs involved in training on work out solutions problems	TVETs	9	13.4	40	59.7	9	13.4	7	10.4	2	3	3.7	0.93
		MSEs	20	34.5	19	32.8	9	15.5	6	10.3	4	6.9	3.77	1.22
5	TVETs involved in training on work with quality product	TVETs	12	17.9	31	46.3	15	22.4	7	10.4	2	3	3.65	0.99
		MSEs	20	34.5	22	37.9	6	10.3	5	8.6	5	8.6	3.81	1.24
6	TVETs involved in training on peacefully resolved of conflict	TVETs	4	6	18	26.9	21	31.9	12	17.9	12	17.9	2.85	1.18
		MSEs	6	10.3	13	22.4	8	13.8	18	31	13	22.4	2.67	1.32

Source: Source: Field data (2017) key: SA= Strongly Agree, A= Agree, UD= Undecided, DA= disagree, SDA= strongly Disagree

With regard to item 2 on Table 13, TVETs involvement on training on work with others in team is both categories' of respondents Agree with an item. Majority of respondents of trainers 19 (28.4%) were fall strongly agree and 29 (43.3%) were fall agree. They score 3.91 mean values and 0.91 standard deviation. Similarly, respondents of operators agree with an item, among the 58 respondents respond 15 (25.9%) were fall strongly agree and 28 (48.3%) saying agree. They score 3.77 and 1.15 mean value and standard deviation respectively. The interviews also confirm this result. Out of this result, the researcher looks, TVETs are involved better on providing training on the issue of having working with others in team. This will leads enterprises members to utilize their efforts of common interest.

TVETs involved training on responsibility and honesty aspects for attitudinal change and development as stated on Table 13, item 3, both group of respondents' perceptions labeled with Disagree. Their mean value rate is 2.83 and 2.93 and standard deviation score 1.22 and 1.42 for each TVETs trainers and MSEs Operators correspondently. This result also similar with previous study conducted by (Gu, Gomes and Brizuela, 2011) of case study on SENAI and Green Skills Australia training centers.

Item 4 on Table 13 shows that, TVETs involving on providing training on work out solutions problems. Here, majority of both groups agree and strongly agree with an item. Nine of them were strongly agree and 40 (59.7%) of 67 respondents were agree. The mean value is 3.7 with standard deviation 0.99. 20 (34.5%) strongly agree and 19 (32.8%) agree out of 58 respondents of operators respondents. Their mean value is 3.77 with standard deviation rate 1.22.

Since the manufacturing enterprises engaged with the production of different out puts, working with quality products or inputs also requests them to use. Therefore, considering this aspects valuing on their strategy on working with quality of products as stated on item 5 on Table 13, majority of respondents perception rate fall on Agree. The mean value is 3.65 and 2.85 and also the standard deviation 0.99 and 1.24 of each trainers and operators rate respectively. Here, the score mean value above the arithmetic mean value score, the TVETs are considering they involved on providing training on this item at significant level.

Working together in a given place or with partners will raise some sort of conflict of interests or any kinds of conflict among individuals and groups as well. Just to resolve such ambiguity

between individuals and groups serious management of conflict with peaceful approach will request at different level and time before the problem become destructive. With related the above clarity, time 6 on Table 13 stats that, TVETs on providing training on peacefully resolve of conflict is labeled with Disagree by both groups of respondents. The mean value 2.67 and standard deviation 1.18 rated by TVETs trainers and mean value 2.67 and standard deviation 1.32 scored by MSEs operators. This result also similar with previous study conducted by (Gu, Gomes and Brizuela, 2011) of case study on SENAI and Green Skills Australia training centers.

Summarizing the existed TVETs With the issue of attitudinal aspects of integrated training, the study result revealed that, the extent of training were significantly rated on items like; on having training on work with others in team, on work out solutions problems and on work with quality products. These will augment trainees' anticipation to utilize their efforts of common interest and not only this, the manufacturer enterprises forced to work with quality products and inputs as well. But, TVETs institutes under the study area were still lots to do on trainings for self-discipline, on responsibility and honesty and on peacefully resolved of conflict. Because, working together in a given place or with partners will raise some sort of conflict of interests or any kinds of conflict among individuals and groups as well.

4.5.6 Successful TVETs practices

4.5.6.1 The pedagogical approach of training provisions by trainers

As cited by (Gitanjali Bedi and Susan Germein, 2016), Chappell (2004) and Smith and Blake (2005) observed changes in TVET teaching and learning, towards a more learner-centered, work-centered and attribute-focused pedagogy. They noted a focus on developing and transforming people, with teachers using multiple pedagogical strategies to serve the needs of learners and contexts. Within international concern for environmental sustainability, education has been seen as critical to changing the way individuals, the economy, and society function.

With related to item 1 on Table 14 on TVETs towards using learner- center training approach during training provisions, result shown from the field survey, majority of TVETs respondents 35 (52.%) of 67 respondents are saying Yes and 32 (47.8%) of 67 respondents saying No. Here, close proximity number of respondents rated among TVETs trainers. But, MSEs operators differ from such results.

Table 14: TVET institutes' pedagogical approach

S/N	Items statements	Respondent	Frequency of both TVETs trainers and MSEs operators responds'				
			Yes		No		Total
			No.	%	No.	%	
1	Learner center approach	TVETs	35	52.2	32	47.8	67
		MSEs	26	44.8	32	55.2	58
2	Teacher center approach	TVETs	31	46.3	36	53.7	67
		MSEs	7	12.1	51	87.9	58
3	Problem- based approach	TVETs	24	35.8	43	64.2	67
		MSEs	12	20.7	46	79.3	58
4	Empowerment based approach	TVETs	14	20.9	53	79.1	67
		MSEs	8	13.8	50	86.2	58
5	Constructivist approach	TVETs	28	41.8	39	58.2	67
		MSEs	30	51.7	28	48.3	58

Source: Field survey (2017)

Majority operators' 32 (55.2%) of 58 respondents responds were No and 26 (44.8%) of 58 saying Yes. From exclusive interviews conducted for TVETs groups of respondents, almost all respondents mentioned that "learner- center approach is the one and the most predominantly kinds of approach TVETs practices on training intervention. But, interviewers from MSEs officials don't have clue of enough knowledge about this approach implementation on training provisions of TVETs". The researcher also observed such training practices were more or less utilized by the TVET institutes found under the study area during his observation session.

Item 2 on Table 14 show that, TVETs training approach on the bases of Teacher- centered. 31 (46.3%) of 67 TVETs respondents respond were Yes and 36 (53.7%) of 67 respondents saying No. Here, 51 (87.9%) of 58 operators saying No and only 7 (13.4%) of 58 respondents saying Yes. Here, significant amount of difference occurred between TVETs and MSEs respondents. The interview result found from both groups of respondents stressed that, "Teacher- center pedagogical approach is mainly utilized by those TVETs found under the study area". The researcher also observed such training practices were more or less utilized by the TVET institutes found under the study area during his observation session. Looking the general results of respondents, the researcher obtained, teacher- center approach is still the predominantly practices methodology during the training provisions.

Problem-based learning is another respected method which involves the learner in responding to the totality of a situation and looking for clues. Students learn through doing, direct the learning experience themselves and pursue independent enquiry in order to learn. The student has to take into account the complex context of the problem when finding a solution (Savin-Baden, 2001; Boud and Feletti, 1997). Related with the above methodology, item 3 on Table 14 stated that, TVETs using problem- based approach on their training provisions. Almost both groups of respondents answered that; TVETs are not giving emphases to such approach than compared with others kinds. Of 67 TVETs respondents 24 (35.8%) are saying Yes and 43 (64.2%) are saying No. Similarly, 58 MSEs Operators respondents only 12 (20.7%) saying Yes and 48 (79.3%) saying No. The interview also confirmed this result too. This finding also similar with previous study by (Gu, Gomes and Brizuela, 2011) of case study on Green Skills Australia training centers, “No evidence of use of relevant pedagogical approaches. When asked which pedagogical approaches used in their program the response did not indicate clearly the use of any.” Whereas, the researcher observed such training practices were more or less utilized by the TVET institutes found under the study area during his observation session.

Empowerment - Empowering means enabling someone to act. It is essential as a result of any learning process, most particularly when referring to education for sustainable development. The recommendations report from the 2nd International Congress on Technical and Vocational Education (TVE), Seoul, affirm that “TVE must [...] encompass inclusiveness and wider access, a shift to human development needs and empowerment for effective participation in the world of work” (UNESCO, 1999). Concerning with the above article, item 4 on Table 14 says, TVETs on following empowerment- based approach as a training pedagogical approach. Majority of respondents respond were No, with 53 (79.1%) of 67 trainers and 50 (86.2%) of 58 operators respectively. Only 14 trainers (20.9%) out of 67 respondents and eight operators of 58 respondents respond were Yes. Non interviewer also mentioned with exclusive interviews, of this approach as an approach due implement on training interventions. This result also confirmed the previous study by (Gu, Gomes and Brizuela, 2011) of case study on SENAI and Green Skills Australia training centers.

Constructivist Approaches - “Learners construct knowledge with their own activities, building on what they already know. Teaching is not a matter of transmitting, but of engaging students in

active learning, building their knowledge in terms of what they already understand” (Biggs and Tang 2007, 21). Cited by (Gu, Gomes and Brizuela, 2011). Tilbury and Cooke (2005) argue that EfS pedagogy provides:

‘a critical theory/constructivist approach to examining root causes of problems, facilitating ongoing values clarification (rather than ‘teaching’ values), seeing people as agents of change rather than as the source of the problem, and moving from a continuous improvement model to an innovation model.(p.16)’.

With related constructivist approach as stated on item 5 on Table 14, 28 (41.8%) of 67 trainers responds were Yes and 30 (51.7%) of 58 operators responds were also the same. 39 (58.2%) of 67 trainers respondents and 28 (48.3%) of 58 operators respondents respond were No. Here, significant amount of respondents saying that, such kind of approach is implementing during the training programs. The interview result also show that, most of respondents believed that, constructivist approach is also implemented as an approach by those TVETs under the study area.

“We are mostly conducting a constructivist based of approach in our training provision while enhancing or encouraging trainers to exercise more and to capacitate our trainees’ efforts on the skill development intervention.”
(Interviewee 3; May 5, 2017).

Summarizing the existing pedagogical practices of TVETs, various pedagogical approaches are implemented by those TVETs institutes, but predominantly under taken with learner and teacher centered approaches and to somehow constructivist approach also used on training programs. Differently of this, problem- based and empowerment based approaches are still less implemented by TVETs institutes of comparing the respondents’ perception level. In addition, some respondents with the open ended questions are given comments to TVETs, shall also to follow other training approaches related with terminology (life- long learning and transformative). The researcher also observed that TVET institutes are using different pedagogical approach, mostly like teacher- centered, learner- centered and problem- based approach to some extent.

4.5.6.2 TVET institutes linkage with their stakeholders

TVET operates at the interface of different sectors of society, notably the education sector, the labor market, industry, MSE sectors, agriculture and rural development, and public administration. In order to serve and relate to all these sectors through high quality and demand-responsive instruments, the TVET system must be steered and implemented with the involvement of a wide stakeholder group. Different stakeholders will each contribute their own expertise, experience and capacities, in order that their combined efforts improve the relevance and effectiveness of the TVET system. Stated by, the 2nd edition of Ethiopian National TVET strategy (MoE, 2008).

On item 1 of Table 15 states that do TVETs have linkage with government bodies under the study area? Majority of both groups of respondents responds were Yes with ratio of 55 (82.1%) of 67 trainers and 50 (86.2%) of 58 operators correspondently. Only 12 trainers (17.9%) and 8 operators (13.8%) responds were No. The observation result also indicated that, all TVET institutes are working with government and have signed memorandum of understanding with the work of collaboration at different levels. All interviewers agreed by that, “Linkage between TVETs institutes and government bodies are strong in different forms of collaborations”. This result also similar with previous study by (Gu, Gomes and Brizuela, 2011) of case study on “Green Skill Australia training center, has partnerships with government, education department, environmental experts (writers and consultants) and the construction sector.”

Item 2 on Table 15 show that, TVETs linkage with NGOs. Majority of respondents from both groups said No towards this linkage. Somehow, 19 TVETs trainers of (28.4%) of 67 and eight operators of 58 respondents responds were Yes. Whereas, all TVETs respondents of the interview stated that, they do have linkage with NGOs especially with foreign owned parts. A dean of one of TVET said that,

“Our TVET have also working in collaboration in different forms with NGOs like, World Vision and others too.” (Interviewee 2; April 25, 2017

Table 15: TVET institutes linkage with key stakeholders

S/N	Items statements	Respondents	Frequency of both TVETs trainers and MSEs operators responds'				
			Yes		No		Total
			No.	%	No.	%	
1	Government	TVETs	55	82.1	12	17.9	67
		MSEs	50	86.2	8	13.8	58
2	NGOs	TVETs	19	28.4	48	71.6	67
		MSEs	8	13.8	50	86.2	58
3	Universities	TVETs	19	28.4	48	71.6	67
		MSEs	9	15.5	49	84.5	58
4	Other big industries	TVETs	38	56.7	29	43.3	67
		MSEs	7	12.1	51	87.9	58
5	Nation owned training centers	TVETs	24	35.8	43	64.2	67
		MSEs	3	5.2	55	94.8	58
6	Foreign owned training centers	TVETs	16	23.9	51	76.1	67
		MSEs	4	6.9	54	93.1	58
7	International companies	TVETs	16	23.9	51	76.1	67
		MSEs	8	13.8	50	86.2	58

Source: Field survey (2017)

Item 3 on Table 15 illustrated that, TVETs have linkage with universities. Almost, similar results registered by both groups of respondents of TVETs trainers and MSEs Operators with the item 2 of Table 15. The interview results also confirmed it. Other study by Gu, Gomes and Brizuela, (2011) on case study Green Skill Australia training center also confirmed such result and stated that, “No clear evidence of partnerships with other TVET organizations or education institutions to create collaboration. There is also no evidence of efforts to make programs more accessible for marginalized groups.”

With regard to TVETs linkage with big industries as stated by Table 15 of item 4, majority of trainers of 38 (56.7%) of 67 respondents responds were Yes and 29 (43.3%) of 67 respondents responds were No. Contradictory of this, MSEs Operators of 51 (87.9%) of 58 respondents responds were No and only 7 (12.1%) respondents responds were Yes. Interviews held with both TVETs and MSED representatives agree with the linkage by TVETs and big industries in the study area. The observation result also indicated that, all TVET institutes are working with big industries as their center of competencies and have signed memorandum of understanding with the work of collaboration at different levels. Previous study conducted by Gu, Gomes and

Brizuela, (2011) of case study on SENAI training center supports the result of trainers and stated such on an interview, “local industries usually indicate their demands so that they can shape the courses to skill their workforce to meet labor market needs.”

Item 5 on Table 15 shows that, TVETs linkage with nation owned training centers is predominantly saying No of both groups of respondents responds. Majority of 43 (64.2%) of 67 trainers responds were No and 24 (35.8%) responds Yes. With regard to operators, majority of 55 (94.8%) of 58 respondents responds were No and only three representatives’ responds were Yes. Other previous study by Gu, Gomes and Brizuela, (2011) on case study Green Skill Australia training center also confirmed such result.

With related to TVETs linkage with foreign owned training centers as stated on item 6 of Table 15, almost similar result scored as item 5 of Table 16 from questioners’ representatives of both groups. But the interview result is differ from this one, many TVETs representatives believed that, there are participation of foreign owned training centers with their TVETs, but they can’t supported their argument with memorandum of understanding. Meanwhile, they argued that the collaborations are existed on some sorts, like; building of infrastructures, and assist on providing new technology as well. During my observation, I realized that, a foreign owned training center like; Korean Veterans Juniors TVET Institute operating its services inside the compound of Entoto Polytechnic College.

Item 7 of table 15 stated that, do TVETs have linkage with international companies. Majority of both categories defined it by saying No with 51 (76.1%) of 67 TVETs representatives and 50 (86.2%) of 58 operators respondents responds. Only 16 (23.9%) of 67 trainers and 8 (13.8%) of 58 operators responds were Yes. The interview also confirmed this result too.

Summarizing the existing TVETs stakeholders’ aspect, TVETs under study area also have predominantly partnership with governmental bodies, and to some extent have linkage with NGOs, big industries and foreign owned training centers. It can be concluded that, TVETs have limitations on intensifying their linkages with most kinds of stakeholders. And these will hinder the contributions of TVETs to undertake activities of promoting, regional or local development through industry and community partnerships, and improving social equity and inclusiveness through helping trainees to exposes with different life path.

4.5.6.3 TVETs provides apparent ships with other industries or training centers

As stated by, the 2nd edition of Ethiopian National TVET strategy (MoE, 2008). The major advantage of apprenticeship training is its vicinity to the world of work. Trainees are systematically exposed to the world of work and learn the occupational practice in a real life situation. Experience shows that this leads to significantly better training outcomes, practical skills, work attitudes and theoretical comprehension of the occupational requirements.

Table 16: TVETs practices

S/N	Items statements	Total respondents	Frequency of responds'			
			Yes		No	
			No.	%	No.	%
1	TVETs practicing industry- linkage successfully based on Apparent ship	125	63	50.4	62	49.6
2	TVETs working great on innovation and transferring new technology	125	72	57.6	53	42.4
3	TVETs trainers skilled both in subject matters and sustainability concepts	125	93	74.4	32	25.6
4	TVETs working in producing skilled manpower to the labor market need	125	79	63.2	46	36.8

Source: Field survey (2017).

Pearson's correlation coefficient method was applied. It is a useful measurement to measure the relationship between two variables. The "r" value represents the correlation between the observed values and predicted values. Here it is considered whether there is any relationship between received support and owners' perceptions. According to the r values the level of the relations varies. If it keeps between 0.75-1.0, there is a very strong positive relationship. If the value keeps 0.5-0.75, there is a strong positive relationship. If it keeps 0 - 0.5 value, there is a weak positive relationship.

Based on the Table 16 item 1 stated above, TVETs involvement on practicing industry- linkage programs successfully based on apparent ships platform in order to gain trainees better experiences and exposures to the real world of work is related with, the development of skilled manpower especially for the manufacturing sectors. But, the field survey revealed that, almost

equal amount of respondents saying yes and no. Out of total representatives 125, 63 of (50.4%) responds were Yes and 62 (49.6%) responds were No embedded both groups of respondents. But, the interview result shows significant discrepancy with the result of questioners' representatives. Almost, all interviewers saying Yes with the above related issue. The Pearson correlation confirmed that statistically significant relationship is existed between TVETs on producing skilled manpower for the needs of labor market and TVETs practices industry-linkage for apparent ships ($r= 0.471$, $p= 0.00$). (See, Table 17).

4.6.4 TVETs were working great in innovation and transferring new technologies

TVETs institutes should be engage themselves on playing the leading role in their community with practicing and launching new technologies from their innovation center and transfer it for the advantages of the society. On Table 16 on item 2, the filed survey revealed that, considerable Yes results were answered by the total questioners' representatives. Of total respondents 72 (57.6%) of 125 responds Yes and 53 (42.4%) of 125 responds were No. Here, the interview results revealed that large discrepancy with the above responds. Almost all representatives saying Yes towards the TVETs role on innovation and transfer of new technology to the manufacturing sectors in particular. The observation result also indicated that, TVET institutes are working in different innovation, utilization of renewable materials to have green compound and having technology adaptation packages within both internal and external capacity particularly in manufacturing sectors. With regard to Pearson correlation coefficient, also confirmed that a significant relationship existed among the efforts of TVETs on producing skilled manpower to the sector and TVETs involvement on innovation and transfer of new technology ($r= 0.856$, $p= 0.00$). (See, Table 17).

4.5.6.5 TVETs trainers skilled in both their subject areas and sustainability concepts

If it is the case, instructors will need to be up-skilled in order for them to deliver skills for sustainability (COAG 2009). Up-skilling means that trainers will also need to be skilled in new teaching and delivering techniques, with different relevant pedagogical approaches.

Table 17: Pearson's Correlation

			TVET practices industry-linkage successfully?	TVET working great innovation and transferring new technology	Trainers are skilled both in subject matter and sustainability concepts?	TVET working in producing skilled manpower to the labor market need?
Pearson correlation	TVET practices industry-linkage successfully?	Correlation Coefficient	1.000	.541**	.298**	.471**
		Sig. (2-tailed)		.000	.001	.000
		N	125	125	125	125
	TVET working great on innovation and transferring new technology	Correlation Coefficient	.541**	1.000	.572**	.856**
		Sig. (2-tailed)	.000		.000	.000
		N	125	125	125	125
	Trainers are skilled both in subject matter and sustainability concepts?	Correlation Coefficient	.298**	.572**	1.000	.693**
		Sig. (2-tailed)	.001	.000		.000
		N	125	125	125	125
	TVET working in producing skilled manpower to the labor market need?	Correlation Coefficient	.471**	.856**	.693**	1.000
		Sig. (2-tailed)	.000	.000	.000	
		N	125	125	125	125

**, Correlation is significant at the 0.01 level (2-tailed).

Related with it, item 3 on Table 16 stated that, TVETs trainers' ability and skilled both in their subject matters and sustainability concepts are predominantly accepted by respondents. The filed survey show that, majority representatives from the questioners saying Yes of 93 (74.4%) of 125 and 32 (25.6%) of 125 saying No. Other study also denoted that, trainers being skilled in sustainability, the study in Mauritius (UNEVOC, 2010) showed that most of the interviewed trainers have an understanding of what sustainability is being able to grasp the meaning of the interconnectedness of the system in the areas of environment, social and economic. This denotes that teachers are skilled to deliver sustainability as well as their subject area contents.

Interview results also confirmed this one but, trainers did not hold any kinds of certificate of awards which related with sustainability concepts. Mean while, they do have knowledge on the issues of sustainability relate with professional career pathways. The Pearson correlation confirmed such result statistically significant relationship revealed between TVETs on producing skilled manpower to meet the labor market needs with the skills of TVETs trainers ($r= 0.693$, $p= 0.00$). (See, Table 17).

4.5.7 TVETs are working great in producing skilled manpower to the labor market needs

Analyzing the labor market needs are the main for TVETs success, and must be a continuous process in order to trace changes in the market and subsequently changes in the skills and qualification requirements at a stage early enough to allow the TVET system to react to it, i.e. to change training plans and curricula, to review occupational standards and to develop new standards, and to build appropriate teaching methodologies. The last item of Table 16 also stated that, TVETs working in producing skilled manpower to the labor market need particularly for the manufacturing industries. Out of 125 respondents, 79 (63.2%) responds were Yes and 46 (36.8%) responds were No. Almost all interviewers also responds Yes, but some are arguing that, still so much efforts expected from TVETs and their stakeholders by utilizing all sorts of their potential to generate more skilled manpower having the concepts of sustainability for the future development of industrialization mainly manufacturing sectors. The filed observation also indicated that, TVET institutes have some limitation on understanding the organizational strategies towards sustainability while observing their annual action plans. Even though, they are produce much labor force, their annual plan gave much focus on maximizing the producing rate

of students and trainees rather than capacitating them with sustainability skilled strictly. Other previous study conducted by Bayisa (2016) also confirmed this result and stated that, “Vocational Institutes found in the Asella Town have prepared sufficient numbers of skilled and competent manpower to satisfy the need of current labor market”.

Chapter 5: Summary, Conclusion and Recommendations

In this chapter, the major findings are summarized; conclusions are projected based on the findings and viable recommendations are forwarded for the concerned bodies to take corrective measures.

5.1 Summary

This study dealt with TVET institutes in Support of Small Scale Manufacturing Enterprises towards Sustainable Development the case of Gullele Sub- City in Addis Ababa. The research thus aimed at how TVET institutes found in Gullele sub- city support of manufacturing small scale enterprises and their successful practices. The specific objectives of the study are: (1) to identify the support and training provisions by TVETs to those small scale manufacturing enterprises in Gullele Sub- City. (2) To identify TVETs supports and trainings are in- line with the needs of Small scale manufacturing enterprises operators; and (3) To examine the key aspects of a successful TVETs on developing a workforce skilled for sustainability of small scale manufacturing. In the attempt to study the problems and in order to provide a sound basis for an objective assessment and correct understanding of the actual situation of the problem the following basic questions were raised. How TVETs are linked with small scale manufacturing enterprises? How TVETs supports and trainings related in need of the small scale manufacturing enterprises operators? How successful TVETs go on developing a workforce skilled for sustainability of small scale manufacturing?

In order to answer those research questions and address both general and specific objective of the research, the researcher employed mixed research methods and making reviews of related literatures, collecting relevant information through questionnaires, interviews, document analysis and observation in order to triangulate such results occurred from different sources.

To conduct this study the researcher selected 5 woredas in Gullele sub- city with simple random sampling technique and select three governmental TVET institutes. Here, from 70 trainers of the three TVETs 67 trainers are participated in the study and selected with census survey approach for questioner purpose. The researcher used purposive sampling techniques to collect data from the heterogeneous sub- groups of MSE operators of only small level manufacturing enterprises.

From 60 small scales manufacturing enterprises available, 58 enterprises are participated and the researcher took one representatives from each enterprises and this can be consider a census.

In the process of answering the basic questions, questionnaire was designed and conducted with three TVETs institutes' deans, with three department heads and an official of TVETs from sub-city too. Moreover, interviews also conducted with six MSEED officials only one from sub-city and the rest fives are woredas officials: with designed in closed ended and open ended questions in order to observed their perceptions on items and contrast with the result obtained of questioner ones. After the data has been collected, it was analyzed using simple statistical techniques (tables and percentages) and descriptive statistics are deployed to observe mean and standard deviation, T- test, and non- parametric correlation tested by SPSS version 22.

Therefore, based on the results of quantitative research, and the findings of the qualitative research; the researcher drew conclusions by putting them together in the light of the objectives of the research.

5.1.1 Respondents' Characteristics

In both TVETs trainers and MSEs operators, the majority of respondents were male. With sex ratio of the respondents TVETs composed of 48 (71.6%) male and 19 (28.4%) female whereas, MSEs operators composed of 49 (84.5%) male and nine female. Here in both respondents' cases the gender inequality was observed. In general respondents' cases, there is a clear indication that there is gap between the two genders that shall be closed in some way.

Related with educational background, about 40 (59.7%) TVETs trainers are diploma holders, 24(35.8%) are degree holders and 3 were masters' holders. In other case, three MSEs Operators are between 1-8 grade, 22 (37.9%) are grade 9th or 10th, 24 (41.4%) are stated between 10+1-10+4, 8 (13.8%) are degree holders and one is hold masters degree. Here, what observed is, TVET institutes are consisted with many diploma holders in their organization and this will have impact in learning and teaching process.

5.1.2 Characteristics of Enterprises'

With regard to characteristics of enterprises, textile and garment enterprise ownership is counted 11, which means 19% and five of them were leather and leather products from those 58 enterprises found in sample population. Equal amounts of enterprises are existed between metal and engineering sub- sectors and chemical product of sub- sectors which is three of total enterprises in sample population. Similarly, equal amount which is 18(31%) of 58 enterprises are also having business practices on food processing and beverage sub- sector and wood works and furniture sub- sector independently.

Related with age of enterprises, 58 (100%) are below 10 years of age and the majority 45 (77.6%), eight of them enterprises and five of them established is 2 to 5 years, less than 2 years and 6 to 10 years old respectively.

Related with enterprises' level of current status, majority 38 (65.5%) of 58 enterprises are small growing, 12 (20.7%) are at small start- up level and eight were small maturity level which are prospective graduates. Here, significant level of enterprises are having the ability to graduate and join the middle growing industry sector on the next few years if supports and enrichment actions continuous in better pattern.

Related with jobs creation, 54 (93.1%) of the sample enterprises were having between 6- 15 employees and only four of them from the selected sample was having employees between 16- 30.

5.2 Major Findings

5.2.1 TVETs in support of manufacturing small scale enterprises

Related on supports given to MSEs operators by TVET institutes, all TVETs trainers are agree with the items statements scored above the arithmetic mean value 3.0. Whereas, MSEs Operators agreed on items 3, 6, 7 and 8 only stated on valuing their average mean value greater than 3.0.

With regard to kaizen implementation support of TVET both groups were stands on agree position with having different mean value. The mean value 3.86 for TVETs trainers and 3.22 for MSEs operators.

Contradictory results also existed between both categories' of respondents about TVETs in rendering orientation to MSEs operators before starting the business. TVETs trainers believed that orientation is conducting for MSEs operators before starting their business with mean value 3.46 above the average mean value. Whereas, MSEs operators' mean value is 2.75.

Of getting skills on utilizing modern technology and application with the support of TVETs, the field survey reflected that, 27 (40.3%) of 67 trainers agree but the reciprocal amount of this, 26 (44.8%) of 58 operators disagree on it.

In general, the researcher found that there is statistically significant difference between the two groups of respondents which have 2- tailed significant (in terms of supports on adopted technology sig. 2- tailed= 0.00, certificate of assurance sig. 2- tailed= 0.03, machine maintenance and rent sig. 2-tailed= 0.00, orientation before business start sig. 2- tailed= 0.02 and utilization of modern technology sig. 2- tailed= 0.02). (See, Table 8).

5.2.2 TVETs supports are in-line with manufacturing small scale enterprises' needs

The field survey result revealed that, almost both groups of respondents' perception were high level except a difference on the issue of operators needs to have training on long- time courses from TVETs scored by MSEs operators with mean value 2.22 below the arithmetic mean.

Majority of 67 TVET trainers 52 (77.6%) answered that the training was provided to the MSE operators based on the choices of TVET institutes.

Related with training needs assessment was conducted before providing training or not, 29 of TVETs trainers (43.3%) responded Yes, and 38 (56.7%) of TVET responded No. TVETs dean and department heads believed need assessment will conduct before each training provisions. This result also similar with previous study result too.

Related with respondents those their respond were No, asked to answer the reason why were the needs assessment not conducted. Only six of 30 respondents attributed the problem of MSSED office, TVETs and government in general. Related with respondents those their respond were No, asked to answer the reason why training needs assessment was not conducted. Accordingly, out of 38 trainers five, ten and three those respondents attributed the problem of MSSED office, TVETs institutes and government. 2 (6.7%) of 30 TVETs trainers attributed the problem of both

MSED office and TVETs institutes. Four of 30 trainers attributed the problem of both TVETs and government. Six of 30 respondents attributed the problem of MSED office, TVETs and government.

In general the study revealed that, there are statistically significant mean values difference occurred among TVETs trainers and MSEs Operators' where $p < 0.05$ is significant level on financial training and long- terms courses with (sig. 2- tailed= 0.00 and sig. 2- tailed= 0.00 respectively, when equal variance assumed). (See, Table 10).

5.3 Successful TVETs towards sustainable development

5.3.1 TVETs towards developing knowledge on economic sustainability concepts

TVETs are working well on providing training in terms of concepts of knowledge on sustainability production and consumption. This will highly matter on the growth and development of enterprises particularly the manufacturers to the future.

The training provides with the needed knowledge on enterprise management related issue, both groups of respondents respond Agree perspective with 3.52 mean values for TVETs and 3.22 for operators. Interview result also confirmed it.

With regard to training provides with the needed knowledge on saving majority of respondents of trainers of 10 (14.9%) of 67 fall Strongly Agree and 33 (49.3%) of 67 fall on Agree. The mean value and standard deviation is 3.52 and 1.13 respectively. More or less similar result occurred by the other group (operators) with mean value and standard deviation 3.52 and 1.13 correspondingly.

In general, knowledge on having economical aspects are significantly delivered by TVETs to MSEs operators', but the contradictory responds of MSEs operators on the sustainability taught as separate topics and/or embedded on each courses have significant mean values differences with TVETs trainers. The conducted t- test illustrated that, statistically significant on mean values in both items sig. 2- tailed ($p=0.00$ and $p=0.01$ respectively, when equal variance assumed). (See, Table 11).

5.3.2 Knowledge on societal aspects of sustainability concepts.

On training provides with the needed knowledge on gender equality, both categories of respondents Disagree with this item.

On training provide with the needed knowledge on team work at work place. Majority of TVETs respondents were Strongly Agree of 22 (32.8%) of 67 and 26 (38.8%) of 67 also Agree on this particular item. Likewise of trainers, operators also strongly Agree and Agree with the rate of 9 (15.5%) and 30 (51.7%) of 58 respondents respectively.

In terms of training provides with the needed knowledge of cultural diversity, both groups of respondents Disagree with this term of training. Their mean value is 2.71 for trainers and 2.87 for operators.

In general, having Knowledge on societal aspects of sustainability concepts were clearly indicate TVET institutes are backed related provision of such courses during with their training programs.

5.3.3 Knowledge on environmental aspects of sustainability concepts.

On training provides with the needed knowledge on proper land use found remarkable positive results from both groups of respondents and their level of agreement fall on Agree.

Responds towards TVETs engagement on providing training with the needed knowledge of environmental management system, both groups were Agree with mean value 3.25 and 3.0 of TVETs trainers and MSEs Operators independently.

With related to training provides with the needed knowledge on 5Rs (reduce, reuse, renew, recycle and rethink). Majority of TVETs responds agree with of 25 (37.3%) and strongly agree of 18 (26.9%) out of 67 respondents. Similar result also occurred due MSEs Operators on their perception with TVETs trainers too.

In general, working with and providing training in terms of environmental sustainability concepts were more or less implemented in significant means during on training programs.

5.3.4 TVETs towards developing skills on sustainability concepts

On extent of training provisions of TVETs on enterprises leadership skill, coordination, business skill, and communication skill, both categories' of respondents' perception were high. Their mean value is above the expected arithmetic mean. In contrast, both groups' of respondents' perception were low on the provision of training related with innovation skill.

5.3.5 TVETs towards developing attitudes on sustainability concepts

The study revealed that, respondents are agree with TVETs involving on providing training on work in team, work out solutions problems and working with quality of products both groups' of respondent were Agree, with significantly greater mean value that scored above the average mean value 3.0.

The study revealed that, respondents are disagree with TVETs involving on providing training on self- discipline, responsibility and peacefully resolve of conflict related concepts of sustainability under the study area was Disagree. Both groups mean values are below the expected mean value 3.0.

In general, TVETs were also less implemented on providing training on having sustainability attitudinal concepts in terms of meaningful instance to trainees to capacitate their ability and exposure for external environment and society which will also help on maximizing their business activities.

5.3.6 The pedagogical approach of training provisions

TVETs towards using learner- center training approach during training provisions, resulted Yes by majority of TVETs respondents 35 (52.%) of 67 respondents and 32 (47.8%) of 67 respondents saying No. But, MSEs operators differ from such results. Majority operators' 32 (55.2%) of 58 respondents responds were No and 26 (44.8%) of 58 saying Yes.

TVETs training approach on the bases of Teacher- centered, the interview result found from both groups of respondents stressed that, Teacher- center pedagogical approach is mainly utilized by those TVETs found under the study area.

Both groups' of respondents believed that, TVETs are not giving emphases using problem- based approach than compared with others. Of 67 TVETs respondents 24 (35.8%) were saying Yes and 43 (64.2%) were saying No. This finding also similar with previous study by (Gu, Gomes and Brizuela, 2011) of case study on Green Skills Australia training centers

TVETs on following empowerment- based approach as a training pedagogy, 53 (79.1%) of 67 trainers and 50 (86.2%) of 58 operators are saying No respectively. Only 14 trainers (20.9%) and eight operators were responding Yes.

With related constructivist approach, 28 (41.8%) of 67 trainers responds were Yes and 30 (51.7%) of 58 operators responds were also the same. 39 (58.2%) of 67 trainers respondents and 28 (48.3%) of 58 operators respondents respond were No. Here, significant amount of respondents saying that, such kind of approach is implementing during the training programs.

5.3.7 TVET institutes linkage with their stakeholders

Towards TVETs linkage with government bodies, majority of both groups of respondents responds were Yes with ratio of 55 (82.1%) of 67 trainers and 50 (86.2%) of 58 operators correspondently. All interviewers agree by that linkage between TVETs institutes and government bodies are strong in different forms of collaborations. Whereas, TVETs linkages with NGOs and universities related items, majority of respondents responds were No.

With regard to TVETs linkage with big industries, majority of trainers of responds were Yes and In contrary with this, majority of MSEs Operators responds were No.

TVETs in terms of linkages with nation owned, foreign owned training centers and international companies, majority of respondents of both sides predominantly saying No. whereas, the interview result about linkage with foreign owned training centers differ from TVETs trainers' and MSEs Operators' responds. Many TVETs representatives in interviews believed that, there are participation of foreign owned training centers with their TVETs, but they can't supported their argument with memorandum of understanding.

5.3.8 TVETs provides apprenticeships with other industries or training centers

Towards to TVETs on practicing industry- linkage programs successfully based on apprenticeships platform.

5.3.9 TVETs working on innovation

Related with TVETs role on working innovation and transferring new technology, the filed survey revealed that, considerable Yes results were answered by the total questioners' representatives.

5.3.10 TVETs trainers' ability and skilled

The Pearson correlation indicated that a significant relationship reveal between TVETs on producing skilled manpower to meet the labor market needs with TVETs trainers' skills ($r=0.693$, $p=0.00$).

5.3.11 TVETs working in producing skilled manpower

Out of 125 respondents, 79 (63.2%) responds were Yes and 46 (36.8%) responds were No. Almost all interviewers also respond Yes.

Even though, some limitations were observed by on successful practices of TVET, the filed survey revealed that, successful practices are more or less observed and implemented by those TVET institutes found in Gullele sub- city.

5.3 Conclusion

1. The study and analysis generally revealed that, there are some discrepancies counted among TVETs trainers and MSEs operators on items related with on getting adopted technology, getting certificates of assurance, having machine maintenance services and equipments rent, having orientations before starting business and on getting skills on utilization and modern technologies. Most trainers believed that, the aforementioned supports and trainings are delivering in significant manners to their trainees. But enterprises operators not satisfied with such supports acknowledged by trainers. Whereas, TVETs supports on; kaizen implementation at working premises, having entrepreneurship training, marketing training and costumer services training were significantly providing to operators, and both groups of respondents are confirmed them.

These imply that, TVET institutes found in Gullele sub-city still less on supporting adopted technology, getting certificates of assurance, having machine maintenance services and equipments rent, and on getting skills on utilization and modern technologies to their customers (MSEs). This will have an impact on the development of MSE sectors especially on the manufacturing sectors which ultimately utilizing different sorts of human and natural capital and the process to the advantages of local and national development in various aspects.

2. The research conducted clearly delineate that, MSEs under the study area, are interested at high level towards having training on entrepreneurship, technical skill development, short- term courses, matters with sustainability development concepts and desired to obtain adopted technology, but do not have interest to attend long- term courses in general. TVET institutes training practices are also dissimilar with the needs of operators' which can create dissatisfaction among operators with the process of training programs. The study also comes out with significant figures on identification of gaps and assessments were not conducted before each training provisions launch and the problem is attached mostly with problem of TVET institutes.

These imply that, TVETs found in Gullele sub- city shave some discrepancy counted on training and support between MSEs operators to meet their needs and satisfaction. This will have an impact on the needed supports of MSEs in order to boost their production and productivity level to contribute more also for the local development.

3. The task for TVET for sustainable development is primarily that of helping a sufficient number of people to understand the transition to a sustainable society is necessary, to attain the skills to work towards it and, more importantly, to believe that the alternative will bring sustainable human development for all. TVETs in the study area have still remained let on providing trainings to their trainees towards gender equality aspects of training and cultural diversity. The study also revealed that, having separated courses on sustainability topics are not developed in TVETs curriculum and not conduct trainings separately, still less on training provisions for self- discipline, on responsibility and honesty and on peacefully resolved of conflict. The role of TVETs are not only provides training of the skills development which helps them to increase production and productivity, meanwhile working or developing trainees in related concepts of attitudes matters on evolving enterprises products in line with society values. With related issue of attitudinal aspects of integrated training, the study result revealed that,

TVET institutes under the study area were still less on training provisions for self- discipline, on responsibility and honesty and on peacefully resolved of conflict, practices of training methodologies are predominantly by learner and teacher centered and to somehow constructivist approach, have predominantly partnership with governmental bodies, and to some extent have linkage with NGOs, big industries and foreign owned training centers and have good efficiency on practices of industry- linkages, working on innovation and transformation of technologies.

Overall, this will be future challenge in all dimensions of development; economical, social and ecological must be clearly integrated with sustainable development aspects of knowledge, skills and attitudes and impacts on MSEs Operators' attitudinal aspects on working together in a given place and conflict management ability within the society. MSEs can't benefit more by the utilization of different training methods due with their knowledge, skills and attitudes development process. Such will have impact on TVETs on undertaken activities in the interests of promoting regional or local development through industry and community partnerships, and improving social equity and inclusiveness through helping trainees to exposes with different life path. And these will have impacts on the development of skilled workforce to the labor market needs especially for manufacturing sector development.

5.4 Recommendations

Based on those findings of the research and conclusions drawn from them, the researcher suggests the following possible and plausible recommendations for action to be undertaken by each stakeholder at different levels.

1. The manufacturing industries are highly involved with the practice of technology due with the working nature. These technologies might be innovated or adopted from outside sources. Therefore, TVET institutes found in Gullele sub- city should develop their capacity on supporting MSEs to implement with adopted technologies and provide services in all the way through, machine maintenance services and rent equipments as well.
2. Quality in product will not come simply without working on it. Therefore, TVET institutes found in Gullele sub- city should ultimately provide skill development on the application and utilization of modern technology due with their interventions, and acknowledge it by certificate of assurance for their MSEs.

3. The quality and productivity improvements of products are the means to growth and developments of enterprises in large. Therefore, TVET institutes found in Gullele sub- city should engage much on enhancing the physical and technical supports to small manufacturers on the bases of enterprises types of business with continuously prolonged training on entrepreneurship skill, technical skill development, financial skill, technology adaptation, and related matters of sustainability development concepts particularly with short- term courses.

4. On the study findings, still many respondents are not satisfied with the implementation of need assessment conduct before each training provisions. If it is so, TVETs and MSSED offices should have to work together to give emphasis towards concrete identification of the labor market needs and small scale manufacturers' skill gaps.

5. TVETs for sustainability development revealed that, transferring and integrity knowledge, skill and attitudes to trainees with separated courses or embedded in other courses. TVETs, government and education policy makers should emphasize more to implement sustainability in TVETs in terms of providing skills acquisitions on economic, social and environmental ethos of sustainable development and clearly state the concepts of sustainability terms and terminologies with full-fledged curriculum.

6. Particularly, in developing countries the role of culture needs to be taken into account, especially if sustainable development is to be an ongoing and successful process. Cultural values and attitudes influence enterprises or trainees because of their exposures to various languages, religion, cultural histories and established socio-cultural mores and traditions. Therefore, TVETs in Gullele sub- city have to integrate their trainings with gender equality and cultural diversity with others partners in order to mainstreaming gender equality and valuing the culture of the society.

7. In additions, TVETs in Gullele sub- city also should be increase their efforts while practicing and transferring knowledge to trainees with integrating environmental concepts of sustainability in their business working premises in order to mitigate their production in line with environmental protection ethos by industry extension program.

8. Even though, more training conduct well in different courses embedded with management development, still TVETs in Gullele sub- city and their stakeholders have to work much on the

engagement of innovation which has high impact on the development of local industrialization process.

9. Working together in a given place or with partners will raise some sort of conflict of interests or any kinds of conflicts among individuals and group members around. To tackle this problem TVET institutes under the study area were still lots to do on trainings for self- discipline, on responsibility and honesty and on peacefully resolved of conflict.

10. TVETs for sustainability development requests implementation of various types of pedagogical approach. Therefore, TVETs under the study area have to follow varieties of approaches and including life- long learning and transformative approaches with others practices in order to be able to build a workforce skilled for sustainability.

11. Partnership with more collaborative approach is needed in order to enable TVET sector to be a key player in local sustainable development and these will foster the development of small manufacturers out-of such synergy in particular. Therefore, TVETs in Gullele sub- city should strengthen the collaboration with key organizations like; (NGOs, universities, training centers, big industries and international companies).

References

- Assefa, B., Zerfu, A. and Tekle, B. (2014). *Identifying key success factors and constraints in Ethiopia's MSE Development: an exploratory research*, Ethiopia Development Research Institute, Addis Ababa.
- Aynabeba Zewdei. (2014). *Assessment of Challenges and opportunities of Industry Extension Service Program Implementation*. Addis Ababa University. Unpublished a Master thesis.
- Bayisa Mosisa. (2016). The Influence of Technical and Vocational Education and Training on Entrepreneurial and Job Opportunities in Asella Town. *Global Educational Research Journal*: ISSN-2360-7963, Vol. 4(1): pp 424-453.
- Belay File. (2012). *Determinants of micro enterprise success in the urban informal sector of Addis Ababa: a multidimensional analysis*, PhD thesis, Erasmus University, the Netherlands
- Berehanu Tadesse. (2014). *Practices and challenges of Kaizen implementation at Entoto Polytechnic Cluster College: the case of woreda three enterprises of Gullele sub- city in Addis Ababa City Administration*. A Master Thesis. Addis Ababa University.
- BMZ (Ed.) (2011). *TVET for a Green Economy*. BMZ Information Brochure. Bonn. www.bmz.de/en/publications/type_of_publication/information_flyer/information_brochures/Materialie208_Information_Brochure_03_2011.pdf [Accessed 31.1.2017]
- Bruhn, M., Karlan, D. S., & Schoar, A. (2013). The impact of consulting services on small and medium enterprises: Evidence from a randomized trial in Mexico (Policy Research Working Paper 6508). Washington, DC: World Bank.
- Buculescu, M. M. (2013). Harmonization process in defining small and medium – sized enterprises, arguments for a quantitative definition versus a qualitative one, *Theoretical and Applied Economics*, Vol. 20, No.9

- Bureau of Finance and Economic Development (BoFED) (2013). Socio-Economic Profile of Addis Ababa for the Year 2004 E.C/2011/12G.C, Policy Study and Analysis Sub Process, Addis Ababa, Ethiopia
- Caroline Reeg. (2015). *Micro and Small Enterprises as Drivers for Job Creation and decent Work*. Discussion Paper, ISSN 1860-0441, Bonn, Germany.
- Chappell, C. (2004). *Contemporary vocational learning - changing pedagogy*. AVETRA Conference 2004. Canberra: AVETRA
- Chen., Gu, T., Gomes & V., Brizuela. (2011). *Technical and Vocational Education and Training in Support of Strategic Sustainable Development*. Blekinge Institute of Technology, Sweden. Unpublished a Master Thesis.
- Cho, Y., & Honorati, M. (2014). Entrepreneurship programs in developing countries: A meta regression analysis. *Labour Economics*, 28, 110-130.
- Creswell, J. (2009). *Research design, qualitative, quantitative and mixed method Approaches*, 3rd edition, Los Angeles, London, New Delhi, Singapore: Sage
- Demeke, M., Guta, F. and Ferede, T. (2006). To-wards a more employment – intensive and pro-poor economic growth in Ethiopia: Issues and Policies, *Issues in Employment and poverty discussion paper*, Employment strategy department, International labor office, Geneva.
- FeDRE. (2013). *Survey on micro and small enterprises in selected major cities of Ethiopia*, Ministry of urban development and construction, Ethiopia.
- Frankel, J. & Wallen, N. (2003). *How to design and evaluate research in education*. New York: NY: Mc Graw - Hill publishing.
- G., Bedi & S., Germein. (2016). Simply Good Teaching: Supporting Transformation and Change through Education for Sustainability: *Australian Journal of Environmental Education*, vol. 32(1), 124–133

- Gebeyehu Tuji. (2014). *The Contribution of Public TVET Institutions to Strengthen Micro and Small Enterprises in Addis Ketema Sub- City*. Addis Ababa University. Unpublished a Master Thesis.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. 11.0 update (4th Ed.). Boston: Allyn & Bacon.
- Grimm, M., & Paffhausen, A. L. (2014). Do interventions targeted at micro-entrepreneurs and small and medium-sized firms create jobs? A systematic review of the evidence for low and middle income countries (IZA Discussion Paper N. 8193). Retrieved from <http://ssrn.com/abstract=2441489>.
- Hampel-Milagrosa, A., Loewe, M., & Reeg, C. (2015). Which factors determine the upgrading of micro, small and medium-sized enterprises? Evidence from Egypt, India and the Philippines. *World Development* 66(2), 118-130.
- Harmut, B. (1999). *Indicators for Sustainable Development: theory, Method, Application*. A Report for International Institute for Sustainable Development. Winnipeg, Canada.
- ILO. (2002). *Study on Generating Employment through Micro and Small Enterprise and Cooperative Development in Lao PDR*, Geneva, Switzerland.
- ILO/CEDEFOP (Ed.) (2011). *Skills for Green Jobs. A Global View*. Genf. Synthesis Report based on 21 Country Studies, Geneva. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/-publ/documents/publication/wcms_159585.pdf[Accessed 31.1.2017]
- Jamieson, S. (2004). 'Likert scales: how to (ab) use them', *Medical Education*, vol. 38, pp.1212-1218.
- Jayarani Ramawickrama. (2011). *Can Small and Medium Enterprises have a Role in Achieving Sustainable Development in the Southern Province of Sri Lanka? Special Reference to the SMEs of Automobile Service Sector in the Matara District*. University of Agder, Norway.
- John B., Wendy H., and Sadie W., (2004). *The Development of Management and Leadership Capability and its Contribution to Performance: The evidence, the prospects and the*

research need. (Research Report RR560). Lancaster University, Department for Education and skills.

Karen Langer (Ed.) (2013). *Technical and Vocational Skills Development in the Informal Sector: Contributions to the 4th Bonn Conference on Adult Education and Development (BoCAED)*, [Accessed 25.1.2017].

Kibrom Assefa. (2014). *The Nexuses of Technical Vocational Education Training and Micro and Small Scale Enterprise on Training and Technology Transfer: The Case of Addis Ababa in Addis Ketema Sub City*. Ethiopian Civil Service University. Addis Ababa.

Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*, 2nd edition, published by Delhi, India: New Age International.

MoE. (2006). *National Technical and vocational education and training (TVET) Strategy*, Addis Ababa, ecbp

MoE. (2008). *National Technical and Vocational Education and Training Strategy*, Addis Ababa: Federal Ministry of Education.

MoE, (2015). *Education Sector Development Program V (ESDP V), 2015/16-2019/20- Program action plan*, Addis Ababa, Federal Ministry of Education.

MoFED. (2010). *FDRE Growth and Transformation Plan 2010/11-2014/15*, Addis Ababa Ethiopia.

MoHWC. (2013). *Survey on Micro and Small Enterprises (MSEs) in Selected Major Cities of Ethiopia*, Addis Ababa, Ethiopia.

OECD (Ed.) (2004). *Promoting entrepreneurship and innovative SMEs in a global economy: towards a more responsible and inclusive globalization*, second OECD conference ministries report, OECD publications, France.

OECD (Ed.) (2008). *More than Just Jobs: Workforce Development in a Skills- Based Economy*

- Punch, F. (2005). *Introduction to social research: Quantitative and qualitative approaches*. London: Saga Publications.
- Parisa, S., Jerry, C. and Raveendranath, R. N. (2013). Sustainability in Small and Medium Sized Enterprises in Regional Australia: A Framework of Analysis, *University of Ballarat article*, Australia
- Raymond Mnenwa and Emmanuel Maliti.(2009). *'Tanzania, poverty reduction, macroeconomic, institutional framework, regulation enforcement, economic reforms, growth, development, micro and small enterprises'*. Research Report 08.6, Dar es Salaam, REPOA
- Robèrt, Karl-Henrik, et al. (2002). Strategic Sustainable Development: Selection, Design & Synergies of Applied Tools. *Journal of Cleaner Production* 10: no. 3: 197-214.
- Somech, B. and Lewin, C.(2005). *Research Method in Social Sciences*. London. Thousand Oaks, New Delhi: Sage Publication.
- S., MacDonald, C., Nink, and S., Duggan. (2010). *Principles and Strategies of a Successful TVET Program*, Cambridge: Management and Training Corporation (MTC).
- Taddese Molla, (2010). An assessment of the linkages between public Technical and Vocational Education and Training and Micro and Small Business enterprise sector in Addis Ababa. Unpublished a Master Thesis
- Tigistu Awelu. (2012). *Perception of Leadership in Effectiveness of school Improvement program: The case of selected high schools in Addis Ababa City Administration*
- UNDP. (2012). Case studies of sustainable development in practice: triple wins for sustainable development, Design and production by Kimberly Koserowski, First Kiss Creative LLC
- UNESCO. (2002). Technical and Vocational Education and Training in the Twenty-First Century, *New Roles and Challenges for Guidance and Counseling*, Paris.

- UNESCO (Ed.) (2009). Bonn Declaration of the UNESCO World Conference on Education for Sustainable Development March 31 – April 2 2009 in Bonn. www.esd-world-conference-2009.org/fileadmin/download/ESD2009_BonnDeclarationDE.pdf[Accessed 25.12.2016])
- UNESCO. (2010). *Education for sustainable development (ESD)*. <http://www.unesco.org/en/esd/> [Accessed 25.1.2017]
- UNESCO-UNEVOC. (2005). Learning for Work, Citizenship and Sustainability Final Report. www.unevoc.unesco.org/sustainable [Accessed 23.12.2016]
- UNESCO-UNEVOC (Ed.) (2006). *Orienting Technical and Vocational Education and Training for Sustainable Development*. A discussion paper. Bonn, Germany. www.unevoc.unesco.org/publications/ [Accessed 23.12.2016]
- UNESCO-UNEVOC. (2013). *Revisiting global trends in TVET: Reflections on theory and practice*. International Centre for Technical and Vocational Education and Training, Bonn, Germany
- Yekunoamlak Alemu. (2000). *A comparative analysis of vocational training and employment opportunities in government and non-government schools/training centers in Ethiopia*. A Master Thesis. Addis Ababa University
- Yodit Gebreyohannes. (2015). *Assessment of the Challenges of Micro and Small Scale Enterprises to Contribute to Sustainable Development: the case of Manufacturing Enterprises in Addis Ababa, Ethiopia*. Addis Ababa University. Unpublished a Master Thesis.
- World Bank. (2013): World development report 2013: jobs. Washington, DC: International Bank for Reconstruction and Development/World Bank.

Photographs for Selected Workshops (Entoto Poly Technique College)



Food processing and beverage



Wood works

Garment



Metal and Engineering

Leather and leather product



Chemical processing



Metal and Engineering (Shiromeda TVET)



woods and Woods products (Shiromeda TVET)



woods and Woods products (Shiromeda TVET)



Leather and leather products (Gullele TVET)



Garment (Gullele TVET)



Textile (Gullele TVET)

APPENDICES

Appendix – A

Addis Ababa University

School of Graduate Studies

College of Education and Behavioral Studies

Department of Educational Planning and Management

Questionnaire Designed for MSE Operators

I am a student at the University of Addis Ababa currently researching for my Master Thesis in Educational Leadership and Management. This questionnaire is part of a study to investigate, the success of TVET institutes on supporting small scale manufacturing MSEs towards sustainable development in Gullele Sub- city of Addis Ababa. The purpose of this questionnaire is to gather primary data in order to assess the believes of MSEs operators on the support given by TVETs from start up to maturity level of their business. And to collect relevant and appropriate data on the topic and to provide some possible recommendations on problems encountered, if there are any. So, the success and completeness of this study is determined by your genuine, honest, frank and timely response. Your help in completing this questionnaire is greatly appreciated. All answers will be treated anonymously and with strict confidential. I assure you that the research is not conducted for any commercial purpose. Lastly, the researcher is grateful to the respondents for letting their precious time in completing this questionnaire.

Note:

- No need of writing your name
- Please read each question carefully and indicate your response by putting“√” in the corresponding box and by giving short response where necessary.
- Write brief as possible by giving in responding the open-ended question.

Many thanks for completing this questionnaire.

For further information please contact Tel. +251-913716746 / +251-911430966

dereassayewa@gmail.com

1. Sex Male Female

2. Age below 25 26-35
 36-45 Above 45

3. Educational Background:

 Non formal education Grade 1-8
 Grade 9-10 10+1 -10+4
 Degree above Degree

In Gullele Sub- City In other sub-city of Addis Ababa

Out of Addis Ababa Abroad of Ethiopia

Student

Unemployed

Daily labor

Other _____

Government Employee

Private Business

Owned Private Business

Textile and garment

Metal and engineering

Leather and leather products

Wood works and furniture

Food processing and beverages

2. What is the enterprise form of ownership?

Sole proprietorship

Cooperative

Partnership

Share Company

Private limited company

3. Enterprise established years: Less than 2 years

2-5 years

6-10 years

above 10 years

4. Your enterprise level? Small start up

Small maturity

Small Growing

Growing Middle

5. Jobs created within your enterprise including enterprises members?

From 6- 15 employees

From 16-30 employees

Above 30 employees

Section Three: Issues related with the supports given by the TVET institutes to MSEs Operators

Direction: - The following are the supports given by the TVET institutes for manufacturing small scale enterprises operators. Then you have to evaluate the degree of supports given to your business and put tick mark (√) on the given choices. (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree)

Please respond to the following statements (Tick one box only for each statement)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	I have got adopted technology base on my business	☐	☐	☐	☐	☐
2	I have got certificate of assurance based on my business	☐	☐	☐	☐	☐
3	I have got kaizen implementation at my business place	☐	☐	☐	☐	☐
4	I have got machine maintenance service and machine rent	☐	☐	☐	☐	☐
5	I have got orientation before starting my business	☐	☐	☐	☐	☐
6	I have got entrepreneurship training from TVET institutes	☐	☐	☐	☐	☐
7	I have got marketing training from TVET institutes	☐	☐	☐	☐	☐
8	I got customer service training from TVET institutes	☐	☐	☐	☐	☐
9	I have got the skills of utilizing modern technology application from TVET institutes	☐	☐	☐	☐	☐

10. If there are any kinds of supports you have got from TVETs, please list them on the space provided below.

Section Four: Question related with TVET Supports in line with MSEs' Operators needs.

Direction: - The following are the how TVETs supports are linked with the needs of MSEs operators. Then you have to evaluate the degree of supports given to your business and put tick mark (✓) on the given choices. (Very High, High, Moderate, Low and Very Low).

Please respond to the following statements (Tick one box only for each statement)

		Very high	High	Moderate	Low	Very Low
1	Are you interested to have training on Entrepreneurship?	☐	☐	☐	☐	☐
2	Are you interested to have training on technical skill development?	☐	☐	☐	☐	☐
3	Are you interested to have training on financial?	☐	☐	☐	☐	☐
4	Are you interested to have training on short- term courses?	☐	☐	☐	☐	☐
5	Are you interested to have training on long- term courses?	☐	☐	☐	☐	☐
6	Are you interested to have training on sustainability concepts?	☐	☐	☐	☐	☐
7	Are you interested to have a support on adopted technology?	☐	☐	☐	☐	☐

8. Please list them below, if any supports you desired to take from TVETs nearby both in terms of technical and physical kinds.

Section Five: Question related with Successful TVETs towards sustainable development

Part one: TVETs towards developing knowledge on sustainability concepts.

Direction: - The followings are how successful TVETs are engaged in transferring sustainability knowledge concepts for trainers. Then you have put your perception degree on supports given by TVET and put tick mark (✓) on the given choices. (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree).

Please respond to the following statements (Tick one box only for each statement)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	Is sustainability taught as a separate topic?	☐	☐	☐	☐	☐
2	Or embedded on the courses you have taken?	☐	☐	☐	☐	☐
3	Do you believe that training provides you with the needed knowledge on sustainable production and consumption?	☐	☐	☐	☐	☐
4	Do you believe that training provides you with the needed knowledge on enterprise management?	☐	☐	☐	☐	☐
5	Do you believe that training provides you with the needed knowledge on saving?	☐	☐	☐	☐	☐
6	Do you believe that training provides you with the needed knowledge on gender equality?	☐	☐	☐	☐	☐
7	Do you believe that training provides you with the needed knowledge on team work at work place?	☐	☐	☐	☐	☐
8	Do you believe that training provides you with the needed knowledge on cultural diversity?	☐	☐	☐	☐	☐
9	Do you believe that training provides you with the needed knowledge on proper land use?	☐	☐	☐	☐	☐
10	Do you believe that training provides you with the needed knowledge on environment management system?	☐	☐	☐	☐	☐
11	Do you believed that training provides you with the needed knowledge on 5 Rs: - reduce, reuse, renew, recycle and rethink?	☐	☐	☐	☐	☐

12. What is your perception further more on TVETs role towards to the development of sustainability knowledge concepts?

Part Two: TVETs towards developing skills on sustainability concepts.

Direction: - The followings are how successful TVETs are engaged in transferring skills on sustainability concepts for trainers. Then you have put your perception degree on supports given by TVET and put tick mark (✓) on the given choices. (Very High, High, Moderate, Low and Very Low).

Please respond to the following statements (Tick one box only for each statement)

		Very high	High	Moderate	Low	Very Low
1	To what extent you got enterprise leadership skill?	☐	☐	☐	☐	☐
2	To what extent you got enterprise coordination skill?	☐	☐	☐	☐	☐
3	To what extent you got enterprise business skill?	☐	☐	☐	☐	☐
4	To what extent you got enterprise communication skill?	☐	☐	☐	☐	☐
5	To what extent your enterprise got innovation skill?	☐	☐	☐	☐	☐

6. What is your perception further more about TVETs' role in developing skills on sustainability concepts?

Part Three: TVETs towards developing attitudes on sustainability concepts.

Direction: - The followings are how successful TVETs are engaged in transferring sustainability attitudes concepts for trainers. Then you have put your perception degree on supports given by TVET and put tick mark (✓) on the given choices. (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree).

Please respond to the following statements (Tick one box only for each statement)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	Have you got training on self- discipline?	☐	☐	☐	☐	☐
2	Have you got training on work with others in team?	☐	☐	☐	☐	☐
3	Have you got training on responsibility and honesty?	☐	☐	☐	☐	☐
4	Have you got training on work out solutions problems?	☐	☐	☐	☐	☐
5	Have you got training on work with quality product?	☐	☐	☐	☐	☐
6	Have you got training on peacefully resolve of conflict?	☐	☐	☐	☐	☐

7. Have you benefited more on attitude development after all? If yes; how?

Part Four: Questions related with successful TVETs practices?

1. How do you have the pedagogical approach of training provisions by trainers? You can tick more than one box if needed.

Learner center ☐ Teacher Centered ☐

Problem- based Approach ☐

Empowerment based Approach ☐ Constructivist Approach ☐

2. With which stakeholders do TVETs have linkages? You can Tick more than one box.

Government ☐ NGOs ☐ Universities ☐

Other big Industries ☐ Nation owned training centers ☐

Foreign owned training centers ☐ International Companies ☐

3. Have you had to practices apparent ships with other industries or training centers with the help of TVETs? Yes No

4. Do you believe that the TVETs were working great in innovation and transferring new technologies to MSEs and other business industries?

Yes No

5. Do you think trainers are skilled in both their subject areas and sustainability concepts?

Yes No

6. Do you believe that TVETs are working great in producing skilled manpower to the labor market needs?

Yes No

7. What do you suggest for TVETs to produce more skilled work force for manufacturing industries?_____

Appendix – B

Addis Ababa University

School of Graduate Studies

College of Education and Behavioral Studies

Department of Educational Planning and Management

Questionnaire Designed for TVET Trainers

I am a student at the University of Addis Ababa currently researching for my Master Thesis in Educational Leadership and Management. This questionnaire is part of a study to investigate, the success of TVETs institutes on supporting small scale manufacturing MSEs towards sustainable development in Gullele Sub- city of Addis Ababa. The purpose of this questionnaire is to gather primary data in order to assess the believes of TVETs Trainers on the support given by TVETs for MSEs operators from start up to maturity level of their business. And to collect relevant and appropriate data on the topic and to provide some possible recommendations on problems encountered, if there are any. So, the success and completeness of this study is determined by your genuine, honest, frank and timely response. Your help in completing this questionnaire is greatly appreciated. All answers will be treated anonymously and with strict confidential. I assure you that the research is not conducted for any commercial purpose. Lastly, the researcher is grateful to the respondents for letting their precious time in completing this questionnaire.

Note:

- No need of writing your name
- Please read each question carefully and indicate your response by putting“√” in the corresponding box and by giving short response where necessary.
- Write brief as possible by giving in responding the open-ended question.

Many thanks for completing this questionnaire.

For further information please contact Tel. +251-913716746 / +251-911430966

dereassayewa@gmail.com

1. Sex Male Female

2. Age below 25 26-35
36-45 Above 45

3. Educational Background: Diploma Degree
Masters PhD and above

4. Name of your TVET institute -----

5. Year of services. Less than two years 2-5 years
5-10 years More than 10 years

Direction: The following are the supports given by the TVET institutes for manufacturing small scale enterprises operators. Then you have to evaluate the degree of supports given to your business and put tick mark (✓) on the given choices. (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	Have they got adopted technology base on their business?	☐	☐	☐	☐	☐
2	Have they got certificate of assurance based on their business?	☐	☐	☐	☐	☐
3	Have they got kaizen implementation at their business place?	☐	☐	☐	☐	☐
4	Have they got machine maintenance service and rent equipments?	☐	☐	☐	☐	☐
5	Have they got orientation before starting their business?	☐	☐	☐	☐	☐
6	Have they got entrepreneurship training from TVET institutes?	☐	☐	☐	☐	☐

7	Have they got marketing training from TVET institutes?	☐	☐	☐	☐	☐
8	Have they got the way of planning and financial report preparation training from the TVET institutes?	☐	☐	☐	☐	☐
9	Have they got customer service training from TVET institutes?	☐	☐	☐	☐	☐
10	Have they got the skills of utilizing modern technology application from TVET institutes?	☐	☐	☐	☐	☐

11. If there are any kinds of supports by TVETs to MSEs operators, please list them on the space provided below.

Section Three: Question related with TVET Supports in line with MSEs' Operators needs

Direction: - The following are how TVETs supports are linked with the needs of MSEs operators. Then you have to evaluate the degree of supports given by TVETs for those Operators and put tick mark (✓) on the given choices. (Very High, High, Moderate, Low and Very Low).

Please respond to the following statements (Tick one box only for each statement)

		Very high	High	Moderate	Low	Very Low
1	Are TVETs providing training on Entrepreneurship?	☐	☐	☐	☐	☐
2	Are TVETs providing training on technical skill development?	☐	☐	☐	☐	☐
3	Are TVETs providing training on financial?	☐	☐	☐	☐	☐
4	Are TVETs providing training on short- term courses?	☐	☐	☐	☐	☐
5	Are TVETs providing training on long- term courses?	☐	☐	☐	☐	☐
6	Are TVETs providing training on sustainability concepts?	☐	☐	☐	☐	☐
7	Are TVETs providing a support on adopted technology?	☐	☐	☐	☐	☐

8. What kinds of supports did TVETs providing to operators for strengthen their business?

9. How training was conducted by the TVETs institutes?

Based on the choices of MSEs operators ☐

Based on the choices of TVETs ☐

Based on the choices of MSED ☐

10. Do you believe that the training will meet their skill gaps? Yes ☐ No ☐

11. Is their Need Assessment conducted before training? Yes ☐ No ☐

12. If your answer for No. 11 is “No”, what are the major reasons? You can tick more than one box if needed.

Problem of MSEs Offices ☐

Problem of TVETs ☐

Problem of Government ☐

Others_____

Section Four: Question related with Successful TVETs towards sustainable development

Part one: TVETs towards developing knowledge on sustainability concepts.

Direction: - The followings are how successful TVETs are engaged in transferring sustainability knowledge concepts for trainers. Then you have put your perception level on supports given by TVET and put tick mark (✓) on the given choices. (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree).

Please respond to the following statements (Tick one box only for each statement)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	Is sustainability taught as a separate topic?	☐	☐	☐	☐	☐
2	Or embedded on the courses you have taken?	☐	☐	☐	☐	☐
3	Are TVETs providing training on the needed knowledge on sustainable production and consumption?	☐	☐	☐	☐	☐
4	Are TVETs providing training on the needed knowledge on enterprise management?	☐	☐	☐	☐	☐
5	Are TVETs providing training on the needed knowledge on saving?	☐	☐	☐	☐	☐
6	Are TVETs providing training on the needed knowledge on gender equality?	☐	☐	☐	☐	☐
7	Are TVETs providing training on the needed knowledge on team work at work place?	☐	☐	☐	☐	☐
8	Are TVETs providing training on the needed knowledge on cultural diversity?	☐	☐	☐	☐	☐
9	Are TVETs providing training on the needed knowledge on proper land use?	☐	☐	☐	☐	☐
10	Are TVETs providing training on the needed knowledge on environment management system?	☐	☐	☐	☐	☐
11	Are TVETs providing training on the needed knowledge on 5 Rs: - reduce, reuse, renew, recycle and rethink?	☐	☐	☐	☐	☐

12. What is your perception further more on TVETs role towards to the development of sustainability knowledge concepts?

Part Two: TVETs towards developing skills on sustainability concepts.

Direction: - The followings are how successful TVETs are engaged in transferring skills on sustainability concepts for trainers. Then you have put your perception degree on supports given by TVET and put tick mark (✓) on the given choices. (Very High, High, Moderate, Low and Very Low).

Please respond to the following statements (Tick one box only for each statement)

		Very high	High	Moderate	Low	Very Low
1	TVET on providing enterprise leadership skill?	☐	☐	☐	☐	☐
2	TVET on providing enterprise coordination skill?	☐	☐	☐	☐	☐
3	TVET on providing enterprise business skill?	☐	☐	☐	☐	☐
4	TVET on providing enterprise communication skill?	☐	☐	☐	☐	☐
5	TVET on providing enterprise innovation skill?	☐	☐	☐	☐	☐

6. What is your perception further more about TVETs' role in developing skills on sustainability concepts?

Part Three: TVETs towards developing attitudes on sustainability concepts.

Direction: - The followings are how successful TVETs are engaged in developing attitudes on sustainability concepts for trainers. Then you have put your perception degree on supports given by TVET and put tick mark (✓) on the given choices. (Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree).

Please respond to the following statements (Tick one box only for each statement)

		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	Are TVETs involved in training on self- discipline?	☐	☐	☐	☐	☐
2	Are TVETs involved in training on work with others in team?	☐	☐	☐	☐	☐
3	Are TVETs involved in training on responsibility and honesty?	☐	☐	☐	☐	☐
4	Are TVETs involved in training on work out solutions problems?	☐	☐	☐	☐	☐
5	Are TVETs involved in training on work with quality product?	☐	☐	☐	☐	☐
6	Are TVETs involved in training on peacefully resolved of conflict?	☐	☐	☐	☐	☐

7. What practices are further provided for those enterprises in terms of developing attitudinal changes towards sustainable development?

Part Four: Questions related with successful TVETs practices?

1. How do you have the pedagogical approach of training provisions by trainers? You can tick more than one box if needed.

Learner center ☐ Teacher Centered ☐ Empowerment based Approach ☐
Problem- based Approach ☐ Constructivist Approach ☐

2. With which stakeholders do TVETs have linkages? You can Tick more than one box.

Government ☐

NGOs ☐

Universities ☐

Other big Industries ☐

National owned training centers ☐

Foreign owned training centers ☐

International Companies ☐

3. Do you believe that TVETs practices industry- linkage successfully?

Yes ☐

No ☐

4. Do you believe that the TVETs were working great in innovation and transferring new technologies to MSEs and other business industries?

Yes ☐

No ☐

5. Do you think trainers are skilled in both their subject areas and sustainability concepts?

Yes ☐

No ☐

6. Do you believe that TVETs are working great in producing skilled manpower to the labor market needs?

Yes ☐

No ☐

7. What do you suggest for TVETs to produce more skilled work force for manufacturing industries?.....

.....

.....

Appendix – C

Addis Ababa University

School of Graduate Studies

College of Education and Behavioral Studies

Department of Educational Planning and Management

Interview Questions with TVTE and MSED heads at sub-city and MSED heads at woreda levels

The participation in this interview is entirely voluntary and responses will be treated with strict confidence and data will not be shared with any third parties or used for commercial purposes.

Date of the interview:
Place:
Interviewee:
Educational Background:
Organization:
Position:

1. How did you see the linkage of TVETs with MSE operators?

- In terms of both physical and technical supports

2. How do you observe that the support and training provisions for MSEs operators in line with their needs and skill gaps?

- In terms of skill development
- In terms of training periods

3. How do you evaluate that interest of MSEs operators needs?

- In terms of need assessment and gap identification

4. Do you believe that TVETs are successful on producing skilled work force to sustainability? If yes, in what aspect?

- In terms of sustainable concept
- In terms of providing knowledge, skill and attitude on sustainability concepts.

5. To what extent those TVETs are conducting different pedagogical approach towards training for MSEs operators?

6. To what extent those TVETs have linkage with your organization?

7. To what extent those TVETs are engaged as main technology innovation and adaptation centers and play their role on local sustainable development?

8. To what extent those TVETs are producing skilled manpower on the needs of labor market? How?

9. What do you suggest to those TVETs to contribute more towards sustainable development?

Appendix – D

Addis Ababa University

School of Graduate Studies

College of Education and Behavioral Studies

Department of Educational Planning and Management

Interviews Questions for TVET Deans and Manufacturing Department Heads

The participation in this interview is entirely voluntary and responses will be treated with strict confidence and data will not be shared with any third parties or used for commercial purposes.

Date of the interview:
Place:
Interviewee:
Educational Background:
Organization:
Position:

1. How did you see the linkage of TVETs with MSE operators?

- In terms of both physical and technical supports

2. How do you observe that the support and training provisions for MSEs operators in line with their needs and skill gaps?

- In terms of skill development
- In terms of training periods

3. How do you evaluate that interest of MSEs operators needs?

- In terms of need assessment and gap identification

4. Do you believe that TVETs are successful on producing skilled work force to sustainability? If yes, in what aspect?

- In terms of sustainable concept
- In terms of providing knowledge, skill and attitude on sustainability concepts

5. Is sustainability taught as a separate topic or embedded in each course?

6. What pedagogical approaches are TVETs used during training provisions?

7. Is TVETs involve in collaboration with other stakeholders (like: - government and non-government bodies, industries, universities, national and international training centers, etc...)?

8. Do you believe that TVETs are playing the leading role towards sustainable development? If yes, mention some of them?

9. Are TVETs engaged in any actions to reduce negative sustainability impacts around the community? If yes, mention some?

10. Do you believe that TVETs are producing skilled manpower on the needs of labor market? How?

11. What do you suggest for TVETs to contribute more on producing skilled workforce for manufacturing sectors?

Appendix- E

Observation Checklist

1. Adequacy of machines and equipments in the work shops
2. Technology up- to- datedness of the machines and equipments
3. Adopted and innovated technology
4. Availability of enough practical training time.
5. Curriculum related having sustainability concepts
6. Organizational strategies towards sustainability
7. Cooperation with different stakeholders and memorandum of understanding
8. Utilization of renewable materials and having green compound

Appendix- F

አዲስ አበባ ዩንቨርሲቲ

የትምህርት እና ባሕሪ ጥናት ኮሌጅ

ትምህርት ዕቅድና ማናጅመንት ዲፓርትመንት

ለጥቃቅንና አነስተኛ ለተደራጁ ኢንተርፕራይዞች የቀረበ መጠይቅ

እኔ በአዲስ አበባ ዩንቨርሲቲ የትምህርት አመራር እና ማናጅመንት የሁለተኛ ዲግሪ ተማሪ ስሆን በአሁን ወቅት የመመረቂያ ጥናታዊ ጽሁፍ በመስራት ላይ እገኛለሁ። ይህ መጠይቅ የተዘጋጀው “የቴክኒክ እና ሙያ ተቋማት ድጋፍ በማምረቻ ላይ ለተሰማሩ ጥቃቅንና አነስተኛ ኢንተርፕራይዞች ልማት እና ለዘርፉ ዘላቂ ልማት ስኬት በጉለሌ ክ/ከተማ አዲስ አበባ አስተዳደር” በሚል ርዕስ ላይ ሲሆን፤ የመጠይቁ ዋና አላማ የተለያዩ ጠቃሚ እና ከርእሱ ጋር ተዛማጅነት ያላቸውን መረጃዎችን በማሰባሰብ እና በመተንተን የተገኘውን ውጤት ማሳየት እና በችግሮቹ ላይ የመፍትሄ አቅጣጫዎችን አስቀምጦ ማሳየት ነው። የሚሞሉት መጠይቅ ለሌላ አላማ ወይም ለገንዘብ ማስገኛ የማይውል መሆኑን እየገለጽኩ የዚህ ጥናት ስኬታማነት እና ውጤታማነት፤ በእርሶ በጎፈቃድ፤ ቅንነትና ጊዜ ሰጥተው ለመጠይቁ ምልሽ በመስጠት ላይ የተወሰነ በመሆኑ ይህን ተረድተው በጊዜ መጠይቁን ሞልተው እንዲመልሱልኝ እጠይቃለሁ።

መግለጫ:

- ስሞን መፃፍ አይጠበቅብኝም፤
- እባክ ሁሉንም መጠይቆች በቅድም ተከተል በማንበብ በተሰጠው ሳጥን ውስጥ መልሶ የሆነው ላይ “✓” ምልክት ያስቀምጡ እንዲሁም አጭር ምላሽ በሚያሻበት ቦታ ግልጽና አጭር ምላሽዎ ስጡ።

ለትብብር ከወዲሁ አመሰግናለሁ!

ተጨማሪ መረጃ ካሎት የምገኝበት ስልክ ቁጥር +251-913716746/+251-911430966

dereassayewa@gmail.com

ክፍል አንድ: የመላሹ ጥሬ ሃቅ (እባኩን በቀረቡት ሳጥኖች ዕርሶን የገልፀውን ብቻ የሂ/ምልክት ያድረጉ)

1. ጾታ ወንድ ሴት
2. ዕድሜ ከ25 ዓመት በታች ከ26-35 ዓመት
ከ36-45 ዓመት ከ45 ዓመት በላይ
3. የትምህርት ደረጃ መሰረተ ትምህርት ከ1-8ኛ
ከ9-10ኛ 10+1- 10+4
ዲግሪ ከዲግሪ በላይ

4. ይህን የጥ/አ/አ ኢንተርፕራይዝ ቢዝነስ ከመጀመርዎ በፊት የት ይኖሩ ነበር?

- በጉ/ክ/ከተማ በአዲስ አበባ ሌላ ክፍለ ከተማ
ከአዲስ አበባ ውጭ ከኢትዮጵያ ውጭ

5. ይህን የጥ/አ/አ ኢንተርፕራይዝ ስራ ከመጀመርዎ በፊት ሁኔታ ላይ ነበር?

- በትምህርት ላይ አጥ በመንግስት ስራ ተቀጥሬ
በቀን ስራ በግለሰብ ድርጅት ተቀጥሬ ሌላ ከሆነ ቢገልፁ-----

ክፍል ሁለት: የኢንተርፕራይዙ ጥሬ ሃቅ

1. የዕርሶ ኢንተርፕራይዝ በምን አይነት አምራች ዘርፍ ላይ የተሰማራ ነው?

- በጨርቃ-ጨርቅና አልባሳት ምርት በብረታብረት እና ኢንጂነሪንግ
በቆዳና የቆዳ ምርት በእንጨት ምርት
በምግብ እና መጠጦች ምርት በኬሚካል ምርት

2. የኢንተርፕራይዙ ህጋዊ- ሰውነት ምንድን ነው?

- ግለሰብ ነጋዴ ህብረት ሽርክና ኃ/የተ/የግል ማህበር ህብረት ስራ
አክሲዮን ማኅበር

3. ኢንተርፕራይዙ ከተመሰረተ ምን ያህል ዓመት ይሆነዋል?

ከ2 ዓመት በታች ከ2-5 ዓመት ከ5-10 ዓመት ከ10 ዓመት በላይ

4. የኢንተርፕራይዙ የዕድገት ደረጃ +ምን ላይ ነው ያለው?

አነስተኛ ጀማሪ አነስተኛ ታዳጊ አነስተኛ መብቃት ታዳጊ መካከለኛ

5. ኢንተርፕራይዙ አባላቱን ጨምሮ በስሩ የፈጠራቸው የስራ ዕድሎች ብዛት ስንት ነው?

ከ6- 15 የስራ ዕድል ከ16- 30 የስራ ዕድል ከ30 በላይ የስራ ዕድል

ክፍል ሶስት፡ በጥ/አ/ኢንተርፕራይዝ ለተደራጁ አንቀሳቃሾች የቴ/ሙያ ተቋማት እያደረጉ ያሉትን የድጋፍ ማዕቀፎች ለመለካት የቀረበ መጠይቅ፡፡

እታች ከቀረበው ሰንጠረዥ ውስጥ የሚስማሙበትን አንድ ጊዜ ብቻ የህ ምልክት ያድረጉ

		በጣም እስማማለሁ	እስማማለሁ	መውሰን አልቻልኩም	አልስማማም	በጣም አልስማማም
1	በምሰራው ስራ የተሻሻሉ ቴክኖሎጂዎች ድጋፍ አግኝቻለሁ	☐	☐	☐	☐	☐
2	ለማመርተው ምርት የብቃት ማረጋገጫ እንዳገኝ ድጋፍ ተደርጎልኛል	☐	☐	☐	☐	☐
3	በማምረቻ ቦታዬ የካይዘን ፍልስፍና አገልግሎት ደርጎልኛል	☐	☐	☐	☐	☐
4	የማሸን ጥገና እና ኪራይ ድጋፍ ተደርጎልኛል	☐	☐	☐	☐	☐
5	ስራ ከመጀመሪያ በፊት በቂ ግንዛቤ እንዲኖረኝ ግንዛቤ ተፈጥሮልኛል	☐	☐	☐	☐	☐
6	የኢንተርፕረንሲፒ (የስራ ፈጠራ) ስልጠና አግኝቻለሁ	☐	☐	☐	☐	☐
7	የገበያ ክህሎት ስልጠና ማግኘት ችያለሁ	☐	☐	☐	☐	☐
8	የደንበኞች አያያዝ ስልጠና መውሰድ ችያለሁ	☐	☐	☐	☐	☐
9	በምሰራው የማምረቻ ዘርፍ አዲስ ቴክኖሎጂ የመላመድ ስልጠና መውሰድ ችያለሁ	☐	☐	☐	☐	☐

10. የቴ/ሙያ ተቋማት በጥ/አ/ ለተደራጁ ኢንተርፕራይዞች እየሰጡ ያሉትን የሙያ እና የተግባር ድጋፍ ተጨማሪ ያገኙትን ድጋፎች ቢጠቅሱ

ክፍል አራት፡ የቴ/ሙያ ተቋማት ድጋፍ ከኢንተርፕራይዞች ፍላጎት ጋር የተጣጣመ መሆኑን ለመለየት የቀረበ መጠይቅ፡፡

እታች ከቀረበው ሰንጠረዥ ውስጥ የሚስማሙበትን አንድ ጊዜ ብቻ የ✓ ምልክት ያድረጉ

		በጣም ከፍተኛ	ከፍተኛ	መካከለኛ	ዝቅተኛ	በጣም ዝቅተኛ
1	የተሻሻሉ ቴክኖሎጂዎች ድጋፍ ማግኘት ይፈልጉ ነበር?	☐	☐	☐	☐	☐
2	የሙያ ክህሎት ስልጠና መውሰድ ይፈልጉ ነበር?	☐	☐	☐	☐	☐
3	የሂሳብ አያያዝ ስልጠና መውሰድ ይፈልጉ ነበር?	☐	☐	☐	☐	☐
4	የስልጠና ወቅት የአጭር ጊዜ ስልጠና እንዲሆን ይፈልጋሉ? ማለትም ከ6 ወራት በታች	☐	☐	☐	☐	☐
5	የስልጠናው ወቅት የረጅም ጊዜ እንዲሆን ይፈልጋሉ? ማለትም ከ6 ወራት በላይ?	☐	☐	☐	☐	☐
6	በዘላቂ ልማት ጽንሰ ሃሳብ ምንነት የተሻለ ስልጠና መውሰድ ይፈልጋሉ?	☐	☐	☐	☐	☐
7	የተሻሻሉ ቴክኖሎጂ ድጋፍ እንዲደረግሎት ይፈልጋሉ?	☐	☐	☐	☐	☐

8. እባኩን የቴ/ሙያ ተቋማት ለኢንተርፕራይዞች ልማት የሚያደርጉት ድጋፍ የተሻለ እንዲሆን የድጋፍ አግባብ ምን ቢጨመርበት ብለው ያምናሉ፡፡

ክፍል አምስት፡ የቴ/ሙያ ተቋማት የአምራች ኢንዱስትሪውን በዘላቂ ልማት ጽንሰ ሃሳብ እንዲመራ እያደረጉ የሚገኙበትን ስኬት ለመገንዘብ የቀረበ መጠይቅ፡፡

ምዕራፍ አንድ፡ ቴ/ሙያ ተቋማት የዘላቂ ልማት ጽንሰ ሃሳብ ዕውቀትን ከመፍጠር አኳያ መሰረት ባደረጉ የተሰጡ ስልጠናዎችን ለማየት የተዘጋጀ መጠይቅ፡፡

እታች ከቀረበው ሰንጠረዥ ውስጥ የሚስማሙበትን አንድ ጊዜ ብቻ የ✓ ምልክት ያድረጉ

		በጣም እስማማለሁ	እስማማለሁ	መውሰን አልችልም	አልስማማም	በጣም አልስማማም
1	የዘላቂ ልማትን ጽንሰ ሃሳብ የሚያስረዳ ትምህርት ብቻውን ችሎ ወስደዋል?	☐	☐	☐	☐	☐
2	የዘላቂ ልማት አስተሳሰብ ከሌላ የትምህርት አይነት ጋር በተቀላቀለ መልኩ ወስደዋል?	☐	☐	☐	☐	☐
3	በወሰዱት ስልጠና የምርት አመራረት እና አጠቃቀም ዕውቀት አግኝተውበታል ?	☐	☐	☐	☐	☐
4	በወሰዱት ስልጠና የኢንተርፕራይዝ ማናጅመንት ዕውቀት አግኝተውበታል?	☐	☐	☐	☐	☐
5	በወሰዱት ስልጠና የምጣኔ ሀብት ዕውቀት(ቁጠባን) አግኝተውበታል?	☐	☐	☐	☐	☐
6	በወሰዱት ስልጠና የስርዓተ- ጾታ ዕውቀት አግኝተውበታል?	☐	☐	☐	☐	☐
7	በወሰዱት ስልጠና በስራ ቦታ በጋራ የመስራት ዕውቀት አግኝተውበታል?	☐	☐	☐	☐	☐
8	በወሰዱት ስልጠና የባህል ልዩነትን ማክበር ዕውቀት አግኝተውበታል?	☐	☐	☐	☐	☐
9	በወሰዱት ስልጠና ቦታን የስራ ቦታዎችን በአግባቡ የመጠቀም ዕውቀት አግኝተውበታል?	☐	☐	☐	☐	☐
10	በወሰዱት ስልጠና አካባቢ ደህንነትን የማረጋገጥ ዕውቀት አግኝተውበታል?	☐	☐	☐	☐	☐
11	በወሰዱት ስልጠና አምስቱን ማዎች(5R) ማጣራት፣ ማደራጀት፣ ማፅዳት፣ ማላመድ እና ማዝለቅዕውቀት አግኝተውበታል?	☐	☐	☐	☐	☐

12. ቴ/ሙያ ተቋማት የአምራች ዘርፉ የዘላቂ ልማት አስተሳሰብ ጽንሰ- ሃሳብ ዕቅዶችን እንዲያጎለብት ቢያደርጉ የተሻለ ይሆናል የሚሉትን ተጨማሪ ቢጠቅሱ?

ምዕራፍ ሁለት፡ የዘላቂ ልማት ጽንሰ ሃሳብ ክህሎትን ከመገንባትን አኳያ መሰረት ባደረጉ የተሰጡ ስልጠናዎችን ለማየት የተዘጋጀ መጠይቅ፡፡

		በጣም እስማማለሁ	እስማማለሁ	መወሰን አልችልም	አልስማማም	በጣም አልስማማም
1	ኢንተርፕራይዝ የመምራት ክህሎት አግኝተዋል?	☐	☐	☐	☐	☐
2	ስራን የማስተባበር ክህሎት አግኝተዋል?	☐	☐	☐	☐	☐
3	ቢዝነስ የማስተዳደር ክህሎት አግኝተዋል?	☐	☐	☐	☐	☐
4	ከደንበኞች ጋር የመግባባት ክህሎት አግኝተዋል?	☐	☐	☐	☐	☐
5	አዲስ ፈጠራ የማበርከት ክህሎት አግኝተዋል?	☐	☐	☐	☐	☐

6. ቴ/ሙያ ተቋማት ለዘላቂ ልማት ብቁ ክህሎት ያለው አምራች ሃይል እንዲፈጠር ቢያደርጉት ውጤታማ ይሆናል ብለው ያመኑትን ቢገልጹ?

ምዕራፍ ሶስት፡ የዘላቂ ልማት ጽንሰ ሃሳብ ባህሪ ከማነጽ አኳያ መሰረት ባደረጉ የተሰጡ ስልጠናዎችን ለማየት የተዘጋጀ መጠይቅ፡፡

		በጣም እስማማለሁ	እስማማለሁ	መወሰን አልችልም	አልስማማም	በጣም አልስማማም
1	በስልጠናው ራስን የመግዛት ባህሪ አዳብረዋል?	☐	☐	☐	☐	☐
2	ስልጠናው በስራ ቦታ ከሌሎች አካላት ጋር በጋራ የመስራት ባህሪ እንዲኖረት አስችሎታል?	☐	☐	☐	☐	☐
3	ስልጠናው ስራዎን በኃላፊነት ስሜት እንዲያከናውኑ አስችሏል?	☐	☐	☐	☐	☐
4	ለሚፈጠሩ ችግሮች መፍትሄ ፈላጊ እንዲሆኑ የማስቻል ባህሪ እንዲኖረት አስችሏል?	☐	☐	☐	☐	☐
5	ጥራት ያለው ምርት ብቻ ለገበያ እንዲያቀርቡ አስችሏል?	☐	☐	☐	☐	☐
6	ግጭቶችን በሰላማዊ መንገድ ብቻ እንዲፈቱ የማመን እና የማስቻል ባህሪያት እንዲላበሱ አስችሏል?	☐	☐	☐	☐	☐

7. የዘላቂ ልማት አስተሳሰብ ባህሪ ግንባታ የተላበሱ ከሆነ ተጨማሪ ቢያስቀምጡ?

ምዕራፍ አራት፡ ስኬታማ የቴ/ሙያ ተቋማት ተግባራት ለማት የተዘጋጀ መጠይቅ

1. የቴ/ሙያ ተቋማት የተለያዩ ስልጠናዎችን በሚሰጡበት ወቅት ከቀረቡት ምርጫዎች የቱን የዘዴ ስጠቀሙ አስተዋሉ? ከአንድ በላይ መልስ መመለስም ይችላሉ፡፡

ሰልጣኝ ተኮር ☐ የስልጠና ዘዴ ☐ አሰልፋ ተኮር የስልጠና ዘዴ ☐

የታዩ ችግሮች የመፍታት ዘዴ ☐ የውስጥ አቅምን የማሳደግ ዘዴ ☐

ሁሉንም የስልጠና ዘዴዎች ያካተተ ዘዴ ☐

2. በአቅራቢያዎ ያለው የቴ/ሙያ ተቋም ከየትኛው ባለድርሻ አካል ጋር በቅርበት እየሰራ ነው ትላለህ/ትያለሽ? ከአንድ በላይ መልስ መመለስም ይችላሉ፡፡

ከመንግስት ☐ መንግስታዊ ካልሆኑ ለጋሽ አካላት(NGOs) ☐ ኢንዱስትሪዎች ☐

ከሃገር በቀል የምርምር ማዕከላት ☐ ከውጭ ከሚገኙ የምርምር ☐ የንብርስቲዎች ☐

ከሃገር በቀል ድርጅቶች ☐ ከአለም አቀፍ ድርጅቶች ☐

3. በቅርብ ከሚገኘው የቴ/ሙያ ተቋም አማካኝነት ከኢንዱስትሪዎች ወይም ከሌላ የስልጠና ማዕከላት የትብብር ማዕቀፍ ስልጠና/ተሞክሮ እንዲቀስሙ ድጋፍ አግኝተዋል?

አዎ ☐ አይደለም ☐

4. በቅርቡ የሚገኘው የቴ/ሙያ ተቋም አዲስ ቴክኖሎጂ ማላመድ ላይ በስፋት እጠሰራ ነው ብለው ያምናሉ? አዎ ☐ አይደለም ☐

5. የቴ/ሙያ ተቋሙ አሰልጣኞች በሚያሰለጥኑትም ሙያ ሆነ በዘላቂ የልማት ጽንሰ ሃሳብ በቂ ዕውቀት ያላቸው ናቸው ብለው ያምናሉ? አዎ ☐ አይደለም ☐

6. በቅርቡ የሚገኘው የቴ/ሙያ ተቋም የአምራች ዘርፉን የሰው ሃይል ፍላጎት መሰረተ ባደረገ መልኩ ብቁ የሰው ሃይል እያመረተ ነው ብለው ያምናሉ? አዎ ☐ አይደለም ☐

7. አምራች ዘርፉ ዘላቂ ልማትን ለማረጋገጥ የሚጠበቅበትን ሚና እንዲወጣ የቴ/ሙያ ተቋማት የተሻለ አስተዋጽኦ እንዲኖራቸው ምን ቢያደርጉ የተሻለ ነው ይላሉ?

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