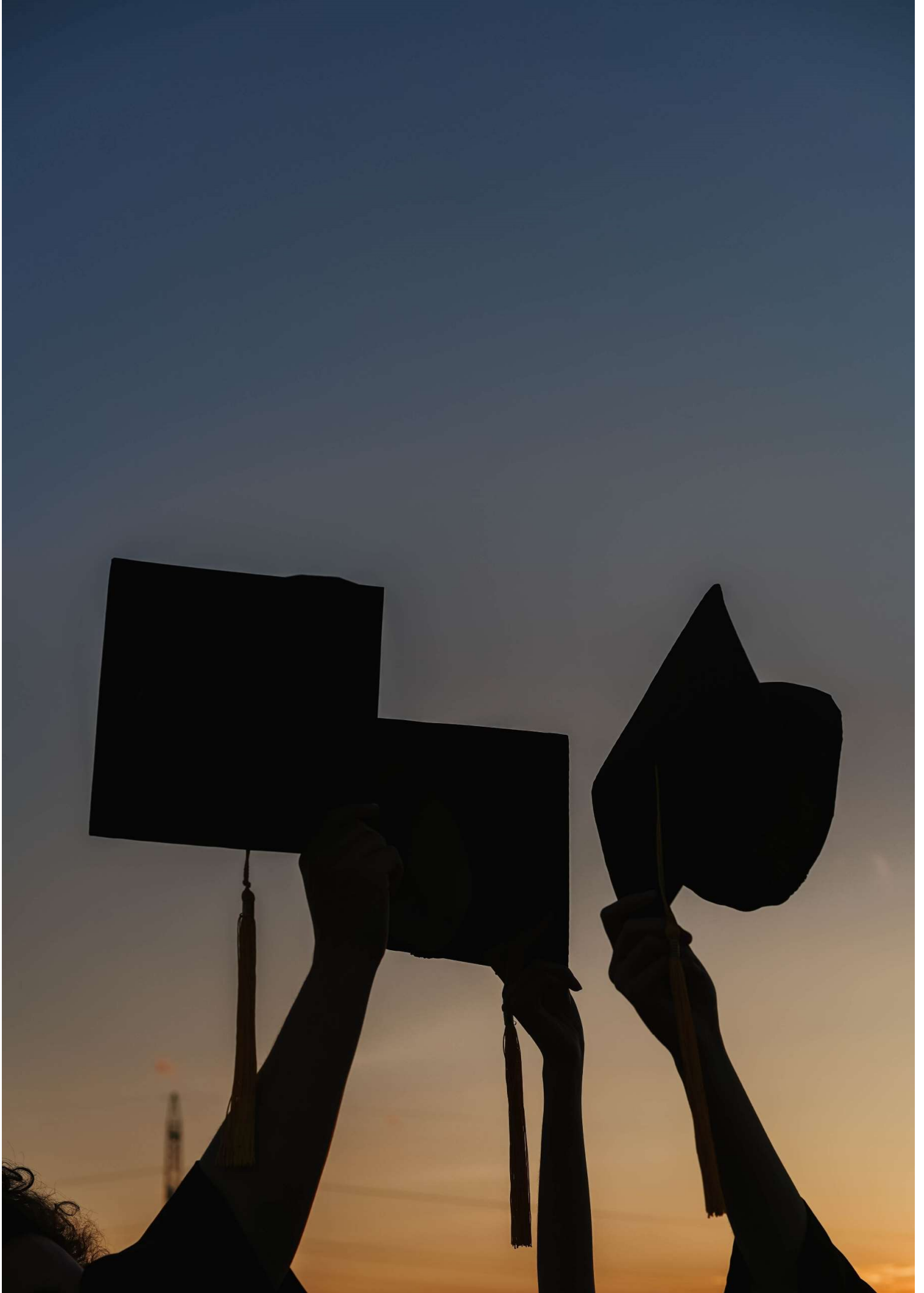
A group of graduates in silhouette stands on a hill at sunset, throwing their caps into the air. The caps are scattered across the sky, creating a celebratory scene.

A Tracer Study For 2009 E.C.  
Graduates of Holeta  
Polytechnic College

**Final Report**

July 2022



# List of Abbreviations

CBET	Competence-Based Education and training
CIPP	Context, Input, Process and Product
HPC	Holeta Polytechnic College
LMIS	Labor Market Information System
MoE	Ministry of Education
MoSHE	Ministry of Science and Higher Education
OS	Occupational Standard
TVET	Technical and Vocational Education and Training

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## Abstract

The purpose of this study was to assess the contribution of the training programs for its graduates, the relevance of the training delivered to job markets, the employment status of graduates, and the effectiveness of the college focusing on the employment situation of Holeta Polytechnic College 2009 E. C. graduates. To that effect, objectives that targeted the following issues were specified: tracking and monitoring graduates' employment and income status; mapping the enterprise start-up of the graduates and identifying the challenges faced; assessing the views and satisfaction levels of employers on graduates' competence and performance; investigating the socio-economic impact of the training on graduates and their families; identifying the socio-economic enablers and barriers faced in securing graduate employment; exploring the gaps of programs to meet industry requirements; examining the efficiency, relevance and quality of the programs delivered; assessing graduates' current work conditions; and providing reliable recommendations. These specific objectives were integrated into four research questions based on their thematic symmetry to analyze and discuss the data. The study employed the concurrent mixed design of the mixed approach and involved 127 and 12 participants in the survey study and in the key informant interviews, respectively. Data were analyzed using descriptive statistics, together with a thematic analysis of the qualitative data, and discussed accordingly.

In the end, among others, the following major results were identified: employment opportunity among the graduates was very low because only 36.2% have got job opportunity so far (for the past five years), with males with better opportunities than females; occupations related to animal production and animal health are more employable than other occupations; with the exception of an individual self-employment, employment trend is completely reliant on wage employment; it took most graduates one to three years to secure a job, which by itself is reportedly affected by networks of favoritism, nepotism and corruption; among those who have got employment opportunities most (58.7%) earn between 3001 and 6000 ETB ( 57.5 and 115.5 USD) per month (calculated with the current market exchange rate), which implies the existence of underemployment. Employers felt that the majority of graduates have moderate or low job performance and there are many with skill gaps and performance problems among them; while the potential for the expansion of agro-industry is an opportunity, lack of market demand and market informality or employers' preference of untrained cheap labor over graduates are the barriers the sector faced. The relevance of the occupations delivered was not good enough in all sorts of indicators set to measure occupational relevance, not to mention that 63.8% of the graduates are unemployed and 56.5% of the graduates employed felt their jobs have a little or no relation to the occupations. Besides, the quality of the training was found poor because graduates reported that the material input supply, the competence and commitment of trainers, and the training methods employed, including cooperative training, were poor. Based on its 2009 graduates, accordingly, one can conclude that Holeta Polytechnic College unsuccessful to effectively meet the needs of its graduates and thereby its own aspiration. Hence, the college shall give adequate emphasis to the effective functioning of the labor market information system and deliver market-based, relevant, and good-quality training to optimize graduate employability and institutional prestige.

**Keywords:** HPC, agro-industry, employment opportunity, occupation, animal production, advanced animal health service, crop production



## 1. INTRODUCTION

### 1.1. Background

Technical and Vocational Education and Training (TVET) is the acquisition of knowledge and skills in an occupation to enable one to earn a living. Its prime role is to produce skilled labor force that can adapt to the requirements of the labor market and enhance the socio-economic development of society. Worldwide TVET is acknowledged as a means for equipping with, transforming and empowering the youths with essential competences that enable them to become productive members of the society (Alhasan & Tyabo, 2013). Other different sources of literatures (e.g., Adams, 2007, 2009, 2012; McGrath et al., 2006, 2012) explain TVET as playing three pivotal roles. One, it facilitates the employability of citizens and improves their livelihood. Two, it has a key contribution in meeting the human power needs of the market. Three, it paves the way for and encourages the youth for further education and training. Accordingly, many other sources (e.g., Badawi, 2013; Gaskov, 2000; International Labor Office, 2008; UNESCO, 2012) describe TVET as one of the major instruments that governments across the globe have introduced as a tool for human resource development and livelihood improvement since long ago.

In recognition of its fundamental role of building intellectual capital, the World Bank also has a firm stand in favor of enhancing TVET and highly recommends it for developing nations (World Bank, 2011). In its recent education and training policy, for instance, it declared that the occupational route to skills development is a far better way for employment than general education (Ngcwangu, 2015). Its rationale



behind this assertion is that skills development among people provides a better employment opportunity in the labor market and to provides sustainable solutions to mitigate challenges of development (Ayonmike & Okeke, 2016; World Bank, 2011).

Cognizant of this, it has been a long time since Ethiopia has provided much attention for TVET as one of the vital components of poverty reduction and national development. The current TVET strategy (Ministry of Science and Higher Education [MoSHE], 2020), for instance, stipulates that TVET is a tool that cultivates the overall personality of citizens, including their "...moral, cognitive, social, spiritual, physical, psychological, and vocational attributes" (p. 15). It considers TVET as an essential means to produce the necessary workforce for the industry, to enhance the employability of citizens, and to contribute for the expansion of technology in the work processes of the various sectors of the economy.

Nonetheless, TVET that does not contribute for the improvement of graduates in comparison with the national average employment rate of the same age, sex, and level of qualification is not effective and efficient enough (Gasskov, 2000). In other words, the percentage of graduates who found employment opportunities is one of the key performance indicators of TVET. Hence, the effectiveness of TVET is the function of the satisfaction by both the graduates and their employers. Accordingly, to provide both students and employers with relevant and valuable labor market information on the factors that affect occupational choice, employment opportunity, and wastage issues of education and training must be duly assessed (Psacharopoulos & Woodhall, 1985).

To that effect, and according to Psacharopoulos and Woodhall (1985) and Ministry of Education [MoE] (2010a), labor market orientation is indispensably important to verify the relevance and validity of TVET, which by itself requires supplementing the provision with a tracer study. Both these sources argue that tracer study is highly crucial to inform subsequent career and employment trends of graduates because the

success of TVET institutions is a function of the employability of their graduates. If repeated periodically, they also emphasize, tracer studies undoubtedly deliver authentic and up-to-date information regarding the labor market and the status of graduates. MoE has also endorsed this whole idea into its TVET system (MoE, 2008; 2010a; MoSHE, 2020). In general, a TVET delivery process that is not backed by continuous tracer study is nonresponsive to the needs of both graduates and the labor market, implying that its relevance and employability is a function of a tracer study (African Union, 2007; MoE, 2010a).

A tracer study is a form of program evaluation that measures a TVET output in a wholistic view based on the interacting elements in its environment. Tracer studies play indispensable roles in evaluating the employability of graduates, the perceptions of graduates on their learning experience and competence, to understand graduates' preparedness and success (Burke, 2005). Besides gauging the success of TVET institutions in preparing their trainees for the labor market, the contribution of tracer studies in the entire socio-economic development in general and in human resource development in particular is multidimensional (Gasskov, 2000; Psacharopoulos & Woodhall, 1985). It informs the way how youths join a specific occupation and why they enter them. It also informs about the extent to which institutions help their graduates in looking for and finding job or advise them about [acquiring] more competence. As well, it examines how quickly graduates find their first work, whether they are competent enough to workplace requirements and their competence gaps, what sort of work graduates prefer and expect, as well as the sort of work they enter and how that work is related to what they get, and if they are prepared for the level of their earning. In addition, it tells us the reasons why some graduates do not enter jobs for which they are trained and whether such graduates have no work because none is available or because they are waiting for a particular job or level of earnings, the obstacles faced against self-employment.

A Tracer study is the wheel of Labor Market Information System (LMIS) that helps to view the TVET sector as a whole in interaction with its environment (MoE, 2010a; Woltermann, 2004). By examining the employability of TVET in view of interrelationships within its parts (interactions in the entire training delivery process) and its interactions with its environment (job seekers and employers), LMIS portrays how the systems theory functions as a means of addressing employability in TVET (Woltermann, 2004). It incorporates different components working independently and together to achieve a common goal, produce employable graduates with gainful earnings. It is the activity of looking for, collecting, evaluating, analyzing, and delivering LMI to both the supply and demand sides of the labor market. If people lack information on job opportunities, for instance, they remain unemployed and if people face deficits about occupations, they may join occupations that the labor market does not demand. LMIS, therefore, is important to reduce information shortages in the labor market and enable the labor market system to operate better.

Since TVET is better understood only when the interrelationships among the different elements focusing on inputs, processes, outputs, and outcomes (Gasskov, 2000), a tracer study employs the systems approach into practice are understood, an analysis of its system without taking the way its parts interact and function into consideration is insufficient (Hanna & Ryan, 2012; Schermerhorn et al., 2002). Accordingly, scholars of organizational management (such as Bush, 2003; Cameron & Green, 2007; Muller-Christ, 2011) recognize such a dynamic interaction of elements in view of systems theory (Ahrweiler, 2011; Lunenburg, 2010; Scott, 2008). They categorize the systems approach into closed or open depending on the relationship of the organization with its environment. Organizations such as TVET colleges that are characterized by frequent interactions with their environment (with two-way relationships) are categorized as open systems, as naturally interactive beings. That is because TVET colleges continuously draw material, financial, and human inputs from the environment, transform trainees into competent

and employable workforces and discharge them to the external environment.

According to Schermerhorn et al. (2002), open systems such as TVET colleges are influenced by the steadily changing customer expectations and rapidly moving external environment. The open systems perspective is, therefore, highly essential for understanding the internal and external environment of TVET colleges. That is because, according to Bush (2003), Cameron and Green (2007) as well as Schermerhorn et al. (2002), characteristically, education and training institutions are social systems that rely on interchanges with the external environment and, at the same time, seek support to address their objectives across their highly permeable boundary. In general, open systems encompass inputs and other factors from the external environment, the transformation process, the communication system, outputs, and the feedback as a way of reenergizing the system. In view of open systems perspective, thus, effective institutions are in an uninterrupted interaction with their environment for constant adjustment and change to meet the demands of customers and stakeholders in the environment (Bush, 2003). Accordingly, the main constructs identified from the literature focusing on quality and relevance of education and training and that of the systems theory of organizations are combined together to draw the conceptual framework for the current study.

Notwithstanding the different theoretical definitions reviewed by different authorities, according to the systems theory, the context-input-process-product (CIPP) model is an overarching model that is not only a widely employed model but also the most complete model that better explains the conceptual foundation to explore the current study (Aziz et al., 2018; Stufflebeam, 2000, 2015; Warju, 2016). According to these sources, the choice of this model is so appropriate because it helps to measure the whole aspect of TVET from beginning to ending because it evaluates the context, the input, the process and output from every angle. The framework demonstrates the various factors related to a

range of quality factors that indicates the relationship among trainees, trainers, and materials, all of which lie at the heart of TVET quality. Accordingly, Figure 1.1 demonstrates the conceptual framework or model of the current study in view of the interacting elements in the TVET environment, mentioned in the theory above. According to the model, the output, i.e., competence and employability of graduates, is directly or indirectly the function of the context set from the outset, the resource supply, and the training process.

**Figure 1.1: The CIPP Training Evaluation Model**



## 1.2. Rationale of the Study

Despite the upsurge of TVET institutions and a steady growth of enrolment rates and graduate turnout, the issues of demand-supply mismatch, alike many countries across the globe (Korka, 2010; Bloom et al., 2006; Mulder, 2017), poor competence and unemployment or underemployment of graduates have posed severe challenges in the Ethiopian TVET system (Adula & Tacconi, 2017; Melaku, 2019; MoSHE, 2020). Although TVET has been contributing a lot in equipping the youths with valuable competences that paved their way for better livelihood, it has been long since the competence and employability of graduates has been dwindling through time and become a point of debate among different stakeholders. Many people, both inside and outside the TVET system, who know the practice on the ground well are skeptical about the realization of MoSHE's (2020) vision that "aspires to create competent and self-reliant citizens and improve the livelihoods of all Ethiopians by 2030" (p. 17).

Particularly, many employers here and there in every sort of locality complain about the competence and productivity of TVET graduates so

much so that they do not to deploy TVET graduates to an operation without retraining them. Graduates themselves have reservations about the quality of training they have received in TVET institutions. The recently introduced TVET strategy by MoSHE (2020) itself confirmed that the achievements of the TVET system in the country was insignificant. MoSHE was keen to criticize the mismatch between the training programs and the needs of the industry by pinpointing the dearth of competence in graduates at workplaces and the consequent vulnerability for widespread unemployment. MoSHE attributes that factors such as deficiencies in the quality assurance system, scarcity and obsolescence of machinery and equipment, poor competence, and lack of industry experience by trainers, weak and outdated infrastructure have crippled TVET from playing its roles effectively.

Hence, the accomplishment of any TVET institution relies on the competence and employability of its graduates, among other things. Consequently, it is imperative to conduct a tracer study by TVET institutions at some time intervals to ascertain the relevance of the training they deliver, the employability of their graduates, their effectiveness and efficiency or the utility of the TVET they provide in general. That is why Holeta Polytechnic College (HPC) has decided to undertake a tracer study by an external body, to which Frontieri consult PLC has been commissioned. The tracer study is expected to alleviate the disparity between the trainings provided and the employability of graduates underscored by MoSHE to ultimately identify to what extent the concern of MoSHE has surfaced in HPC. The study was conducted to know the whereabouts of graduates, obtain feedback to improve the study program, and measure the relevance of the occupations provided for the labor market. It also assessed how effective and efficient HPC is in meeting its objectives of creating competent and relevant labor force for the market.

Deficiency in the knowledge about the whereabouts of earlier graduates has a spillover effect on the future training needs and to meet the

changing needs of the labor market. The results of this tracer study, therefore, inform not only about the destination of earlier graduates but also becomes a basis for generating information necessary for improving future training deliveries, updating occupational standards (OSs) and curriculum so that training delivered in the future is more relevant to the labor market to enhance the competence and employability of graduates as well as the utility of HPC and its services as well.

In general, the purpose of this study is to assess the contribution of the training programs for the graduates and their relevance to job markets, the employment status of the graduates, and the effectiveness of HPC with respect to the graduates in 2009 E. C. The latter, in other words, is meant to trace the number of graduates who have been either employed or self-employed in their occupation, who are unemployed so far and the reasons behind, as well as to assess the skill gaps of graduates and the relevance of the OSs training that had been provided at HPC in the years specified. To that effect, the study was guided by the following research questions:

1. How is the employment opportunity and satisfaction of HPC graduates (2009 E. C.) with the utility of their occupation?
2. How is the perception of graduates and employers about the match between the overall competence of graduates and workplace requirements?
3. Is there a significant difference between the perceptions of employers and graduates regarding the competence of HPC graduates relative to workplace requirements?
4. How do graduates gauge the training inputs supplied, the training process they passed through?

### **1.3. Objective of the study**

By exploring the changes of the trainees in their professional career and livelihood after graduation the general objective of this study was to



undertake a tracer study for 2009 E. C. graduates of HPC. This general objective is disaggregated into the following specific objectives:

- Track and monitor graduates' employment and income status of HPC graduates
- Map the job history/enterprise start-up of HPC graduates and identify the challenges for sustainability in their job
- Assess the views and satisfaction levels of employers on skills, aptitudes and attitudes of HPC graduates
- Assess the socio-economic impact of the HPC training on graduates and their families
- Identify the social and economic enablers and barriers facing graduates in securing valued employment
- Explore the gaps of HPC programs vis-a-vis industry requirements
- Identify the efficiency, relevance and quality of the HPC programs
- Assess graduates current work conditions from decent work perspectives
- Provide reliable recommendations to improve the effectiveness of the training programs in terms of training models, occupation in focus and post training services.

#### **1.4. Limitations**

The data for this study was collected along with the data for the 2010 E. C. tracer study, and from the same employers and college management bodies, and trainers, and as a result, these groups of participants may find it difficult to judge the two batches of graduates meticulously. It may be due to this that most of the data collected about the two batches informed congruent trends and experiences. In addition, lack of accessing the graduates reduced the number of participants who could have been involved and delivered valuable information. The absence of those participants may have its own effect on the findings and the conclusion we arrived at.



## 2. RELATED LITERATURE

Needless to say, Ethiopia has witnessed the effects of globalization characterized by pervasive and unprecedented competition where everything changes very rapidly and continuously (Nakkeeran et al., 2018). In such an environment the choice of resource investment must rest to a great extent on an evaluation of the costs and benefits associated with it (Afiouni, 2013; Psacharopoulos & Woodhall, 1985). The education and training system is not outside this framework. To survive in the environment, education and training institutions require an analysis of effectiveness and efficiency more than any other sector else because they focus on the most important resource, the human resource (Afiouni, 2013; Checchi, 2005; Dustman et al., 2008; Johanson & Adams, 2004). Accordingly, effectiveness and cost-effectiveness factors need be considered in planning and resource allocation decisions. Above all, according to Psacharopoulos and Woodhall (1985), internal and external efficiency must be at a maximum level if securing the best utility of TVET is sought.

In this respect the analysis and utilization of the LMIS is the key instrument that helps significantly (MoE, 2010a). According to MoE, it helps TVET institutions to make informed decisions regarding the type and levels of occupations they want to provide training in. That is because LMI is essential for collecting broad-based data on labor market demand, employment opportunities, monitoring training

outcomes (employment rates and wage of graduates) and disseminating findings for TVET institutions (MoE, 2010a). An effective LMI is the one that paid adequate attention for three types of data sources: industry signals, demand of potential trainees, and demand of special needs groups (Gasskov, 2000). Industry signals have four different forms of information for the labor market demands. First, it monitors employment growth and job vacancies for each occupation in terms of qualification level. Secondly, it emphasizes skills' deficiencies among employees, which helps enterprises to identify demands for training and upgrading. Third, it informs about wages and real income across sectors, occupations and qualifications, indirectly signaling demand for certain skills. Fourth, the reaction of the labor market to TVET graduates provides very important information.

Hence, the effectiveness and efficiency of TVET is a function of an effective management of LMIS. In general, LMIS has three-dimensional functions that bridge three interacting bodies in the market environment (Elkins et al., 2012; King & Palmer, 2010; Krahn et al., 2002; Woltermann, 2004). Firstly, by accelerating the creation of possible access for enrolment on employable skills and job placement, it benefits job seekers in deciding both their short and long-term career developments. Secondly, it is useful for employers because it enables them to get feedback for the decisions on their business expansion as well as on recruiting, relocation, skill development, and compensation of their employees. Thirdly, TVET institutions benefit for future planning, implementation, and evaluation of their training programs, curricula, and career guidance. Besides TVET institutions, government officials at any level who formulate policies and strategies on TVET also benefit highly from the information because LMI enables them to process, evaluate and filter relevant information required for the formulation of effective TVET policies.

The agenda of effective and relevant (or employable) TVET delivery approach has, however, been a debatable issue among educators and

economists in the planning of education and training. Consequently, these days, there are three distinct models of TVET provision known worldwide (Dustmann & Schonberg, 2012; Eichhorst et al., 2012; Kyobe, 2017): the liberal market-based model that is dictated by the market signals; the state regulated bureaucratic model where government agencies define standards, deliver and finance TVET, and the dual or cooperative TVET model where there is strong public-private partnership, the former financing the theoretical training in colleges and the latter (private enterprises) finance the apprenticeship they deliver.

The dual model has been attempted to be practiced in the Ethiopian TVET system for the last a decade and half (MoE, 2010a). It was opted for its attribution of creating a strong public-private collaboration in TVET financing as well as for its contribution to resolve different problems inherent in TVET (Dustmann & Schonberg, 2012; Eichhorst et al., 2012; Kyobe, 2017; Mulder, 2017). One, besides minimizing the supply and demand mismatch problems or the problems of employment opportunities among graduates, enterprises or companies that provide training can timely adjust and adapt training curricula to the changing demands of the labor market. By creating motivation and engagement among trainees, secondly, it is more beneficial in providing a suitable environment for both learning and working. Three, by paving the way for an early contact with the enterprises and getting an opportunity of working experience, the approach enrolls graduates faster into the labor market, besides creating a better opportunity of understanding about the types of jobs and occupations that they prefer for their future career. In general, the dual approach is considered as the means that improves the competence and relevance of TVET (Alet & Bonnal, 2011; Eichhorst et al., 2012; Horn, 2013).

Accordingly, various notable sources (e.g., Bauer & Gessler, 2017; Quintini & Manfredi, 2009; Quintini et al., 2007) notify those countries who maintained a substantial dual system have addressed the problems of unemployment better than those who did not. Other sources (e.g., Alet &

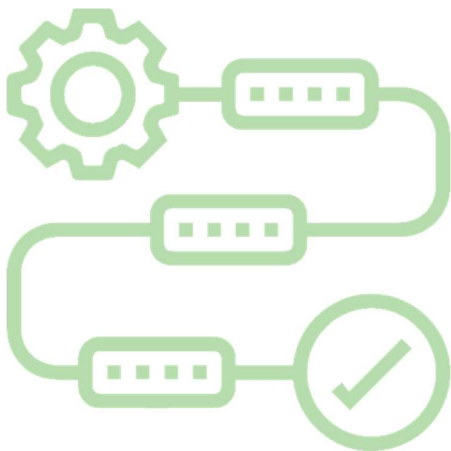
Bonnal, 2011; Eichhorst et al., 2012; Horn, 2013), similarly, claim that the dual approach has better relevance and employability than the school-based one. According to these sources, in addition, competence and employability of graduates is better addressed by countries that introduced cooperative training than those who practice only school-based delivery because, besides creating a faster and more structured integration of the youth into the labor market, the cooperative scheme has pivotal roles in improving early labor market attachments.

On the other hand, there are arguments that refute the benefits often cited as peculiar to the dual system. In relation to the role of creating better job opportunities, Plug and Groot (1998, p.1) found that “there are hardly any differences in earnings, earnings growth and employment opportunities between workers with an apprenticeship and those who went to a vocational school.” Moreover, Eichhorst et al. (2012) showed experiences where attempts of the dual system have failed. They contend that benefits incurred early by creating better employment opportunities fade away eventually. Dustmann and Schonberg (2012) also complemented that mainstreaming the dual TVET system has essential preconditions that cannot be easily replicated and effectively practiced in many countries. Among others, these included a strong sense of cooperation between the government and employers, commitment of the enterprises to participate in planning, labor market assessment, tracer studies, development of OSs and curricula, training delivery, occupational competence assessment and certification, financing of training as well as commitment of government to introduce incentive mechanisms to motivate the enterprises. Besides the need for determination to the responsibility of delivering training as per the requirements of the standards among stakeholders, the same sources argue, government commitment and rigor in managing the dual TVET system should be encouraging for both the TVET schools and the companies to carry out their tasks accordingly.

In principle, the dual TVET is demand-driven and industry-led (Kyobe, 2017). Characteristically, it relies on another employability factor known as competency-based education and training (CBET) (Fan, 2017; Hauuanga, 2017). CBET is an approach whereupon the quality of the training provided is measured by the competence achieved in a given period by the trainee (Nakkeeran et al., 2018; Panth & Caoli-Rodriguez, 2017). According to these sources, CBET is a highly useful methodology that focuses on the performance of trainees (the outcome) in accordance with qualification standards set by the work place. These days it is strongly advocated across the globe (Nakkeeran et al., 2018) and hence has been introduced to the Ethiopian TVET system since a decade and half ago (MoE, 2010a). Consistently, many notable sources (e.g., Billett, 2017; Cairns & Malloch, 2017; Day, 2017; Hyland, 2017; King & Palmer, 2010; Mulder & Winterton, 2017) advocate that CBET is highly essential for stimulating the development and integration of competence and for bridging the economic needs of trainees. Unlike the traditional (supply driven) approach, CBET enables every student to get equipped with what is expected of him/her, implying its significant contribution for the employability of graduates (Day, 2017; Gessler, 2017; Hyland, 2017; Lassnigg, 2017; Mulder, 2017). That is because it is dictated by carefully pre-defined workplace requirements or standards that are used to deliver training and measure trainee performance (Cairns & Malloch, 2017; Jessup, 2005; Viet, 2017).

Accordingly, the effectiveness of TVET institutions is gauged by whether they are market-oriented and can equip graduates with necessary competences and enhance their employability or earning (Howell, 2005; MoE, 2010a; Osidipe, 2019; UNESCO, 2012). This requires the presence of appropriate and up-to-date training materials, competent trainers, and market for graduate placement (Choy et al., 2008; Mulder, 2018). In this respect, AU (2007) complements that absence of competent trainer and obsolete training equipment, and machinery are the challenges entangled against the utility of TVET in Africa. AU also alerts that organizing appropriate workshops equipped with adequate equipment

and training materials, coupled with trainers who can operate workshops properly, are very essential to practice CBET properly and produce competitive and productive graduates.



## 3. METHODOLOGY

### 3.1. Study Design

This study combined both quantitative and qualitative approaches to provide a more complete understanding of the research problem. Since any single method has inherent limitations, mixed methods can harmonize the shortfalls of the exclusive single method by triangulating or complementing one set of result with another to enhance validity of inferences (Creswell, 2014; Creswell & Plano Clark, 2018). To that effect, convergent or concurrent mixed design that enables to collect both quantitative and qualitative data simultaneously will be employed because it helps one form data to offset the weaknesses of the other form and to have a more complete understanding of the problem from collecting both quantitative and qualitative data (Creswell, 2014).

### 3.2. Data Sources

The data sources for this study were both primary and secondary. Primary data were collected through questionnaires and interviews from graduates, employers found within 100 kms radius of the college, as well as from teachers and leaders of HPC. All these are the target population of the study.

### 3.3. Population and sampling

This tracer study garnered data from different target groups described above. In this respect, care was taken to incorporate representative sample size to arrive at a sound conclusion that paves the way to



prescribe appropriate remedies. To that effect, the sample size for the study was determined using the formula developed by Yamane (1967) because it is a simplified and a more appropriate formula to determine the sample size easily for a population environment not hierarchically structured and may not nest any segments of the population unnecessarily (Schofield, 2006).

$$n = \frac{N}{1 + N(e)^2}$$

**Where  $n$  = the sample size,  $N$  = the population size, and  $e$  = the level of precision.**

Using this formula with a precision level of 0.05 and confidence interval of 95 %, about 127 graduates were selected among randomly selected occupations to fill in the questionnaire. After identifying occupations of graduation, simple random sampling method was applied to participants drawn from each occupation and year independently. In addition, since the proportion of the sample to be taken from each occupation needed to be proportional as in the population, the proportionate stratified random sampling method (Bethlehem, 2009; Pandey & Verma, 2008) was applied:

$$n_k = \frac{n}{N} N_k$$

**Where  $n_k$  = the sample size for  $k^{\text{th}}$  strata;  $n$  = the total sample size;  $N$  = the total population size; and  $N_k$  = the population size of the  $k^{\text{th}}$  strata.**

The intention was to look for and find out those identified samples through a sort of snowballing after the names of participants are drawn through systematic random sampling technique. Nonetheless, it had been hardly possible to identify each graduate as sought and maintain occupational proportionality of participants, as a result of which those

recruited as participants were replaced by others whom data collectors could identify and access to collect data.

The same procedure was employed to select those employers who filled in the questionnaire. Primarily, all the enterprises and companies – small, medium, and large enterprises as well as government offices – found in the catchment area of HPC were identified. Then a total of 30 employers were selected and included in the study based on their having the 2009 graduates of HPC employed in.

With respect to qualitative data, HPC trainers and leaders were involved in different interview sessions selected through purposive sampling. Key informant interviews were conducted with 12 participants (one vice dean, five department heads and six trainers) from occupations that used to enroll the majority trainees in the college. As much as possible, more outgoing, articulate, and assertive participants were selected for the interviews. Interview sessions were conducted in Afaan Oromo and Amharic, depending on the interest of each interviewee, and later transcribed into English.

### **3.4. Data Gathering Instruments**

#### **3.4.1. Questionnaires**

questionnaires Questionnaires were administered only for graduates and employers. For both groups they were adapted from standardized questionnaires that were developed by INCHER (International Centre for Higher Education Research) of the University of Kassel, Germany. The questionnaire for graduates contained close-ended questions and encompassed different thematic areas that covered experiences of graduates both before and after graduation: respondents' profile; employment status of graduates; relevance of graduates' profession; the training methods they used to attend; institutional capacity of HPC they experienced; trainer competence and commitment; and competence (knowledge, skill and attitude) and performance of

graduates. On the other hand, the questionnaire for employers incorporated both close- and open-ended items that cover the following thematic areas: participant profile; competence of employees graduated from HPC; involvement of the enterprise/company in TVET; employee recruitment; satisfaction on HPC graduates; and employee recruitment method.

### **3.4.2. Key Informant Interviews**

With respect to interview data, key informant guideline was employed with all participant groups. This was because, according to Patton (2002), semi-structured interview "... provides topics or subject areas within which the interviewer is free to explore, probe and ask questions that will elucidate and illuminate that particular subject" (p. 343). It thus helped to share the perceptions, feelings, and beliefs of participants more completely and conspicuously than could have been through the structured interview method. More specifically, key informant interviewees were utilized to collect data from the dean, department heads and trainers of HPC.

## **3.5. Methods of Data analysis**

This study employed both quantitative and qualitative methods. The quantitative data were analyzed through SPSS statistical analysis program. SPSS version 26 was employed for data screening as well as for univariate and bivariate data analyses. Both descriptive and inferential statistical techniques were employed in this respect. The means, standard deviations, frequencies and percentages were the descriptive statistics employed to analyze the data obtained from the questionnaires. Independent samples t-test was the inferential statistics applied to compare and contrast the perceptions of employers and graduates about the latter's competence (Creswell, 2014; Gay et al., 2012). With respect to the analysis of qualitative data, narrative analysis was preferred. Primarily, the major categories of information from qualitative data were obtained through narrative analysis. This

information was participants' perceptions about the graduates and different opinions on the antecedents of the TVET quality graduates earned. To that effect, an interactive model of Field (2009) and Gay et al. (2012) that incorporates data collection, data coding (reduction), data display and drawing conclusions or verifications served as a guide while analyzing the interview data. That is, data analysis began by transcribing and translating data into English, followed by coding in line with the research questions formulated. In the meantime, the quantitative and qualitative data were compared and contrasted in terms of type and source and then interpreted in integration.



## 4. DATA ANALYSIS AND DISCUSSION

### 4.1. Employment Opportunity and Occupational Satisfaction of Graduates

This tracer study has focused on the 2009 E. C. graduates of HPC. The sectors/occupations described below were the targets of the study that were specified by running probability sampling. As can be seen in Table 4.1 the aggregate population size was 338, from which participants have been drawn using Yamane's (1967) formula portrayed in the methodology section. On this basis, as demonstrated by the table, the study involved five sectors and /or occupations ranging from levels II to IV.

**Table 4.1: Target Population of the Study by Year of Graduation**

Sector/Occupation	Male	Female	Total
Animal Production	11	10	21
Advance Animal Health Services	17	9	26
Crop Production	61	84	145
Natural Resource	30	16	46
Hard-Ware and Network Service	22	78	100
TOTAL	141	197	338

**Source:** HPC Strategic Plan (2013-2017).

Based on Yamane's formula, about 183 participants were planned to take in the survey study. Out of the 338 graduates, however, HPC could avail only the address of 227, which does have its own effect in limiting the chance to get the targeted participants. In addition, accessing the

graduates to garner data was a difficult task for data collectors. Despite our best endeavors, consequently, we could not involve all the targeted (183) participants, and it was possible to involve a total of 127 (69.4%) participants to obtain data effectively in the study. This is, of course, a good return rate because, as a rule of thumb, as low as a 50% response rate is tolerable for survey (tracer) studies to be able to generalize about the population from which samples have been drawn (Cohn et al., 2018; Creswell, 2014; Gay et al., 2012). As can be seen from Table 4.2., graduates of level IV dominated the proportion of graduates, Crop Production and Marketing Management, and Natural Resources and Marketing Management occupations taking the highest proportion in terms of occupation type. This is because it was not that easy to access all graduates as we wished and those accessed were characterized with occupations and qualification levels described in Table 4.2.

**Table 4.2: Study Participants in Terms of Occupation and Level of Qualification**

Occupation	Qualification level			
	II	III	IV	Total
Animal Production	0	2	13	15
Advanced Animal Health Service	0	0	7	7
Crop Production	4	8	49	61
Natural resources	0	5	38	43
Hardware and Network Service	0	0	1	1
Total	4	15	108	127

#### 4.1.1. Employment opportunity

With respect to the employment status of the graduates, data were manipulated from different directions (see Table 4.3). To begin with, data manipulated in terms of occupation and/or sector about the employment opportunity of graduates demonstrated that employment opportunity of graduates was only 36.2%. This implies a severe efficiency problem in the TVET system of HPC, according to Alhasan and Tyabo (2013), because a TVET that cannot empower and equip graduates with essential competences to enable them to become productive members of the society and transform their livelihood is a futile exercise and a wastage for the nation. By the same token, the current finding diverges

from Gasskov (2000) who evidently argued that TVET that does not contribute for the improvement of graduates is useless. In other words, the percentage of graduates who found employment opportunities is one of the key performance indicators of TVET.

**Table 4.3: Employment Status of Participants in Terms of Occupation**

Occupation	Employed		Unemployed		Total
	Number	Percentage	Number	Percentage	
Animal Production	7	46.7	8	53.3	15
Advanced Animal Health Service	3	42.9	4	57.1	7
Crop Production	24	39.3	37	61.7	61
Natural resources	12	27.9	31	72.1	43
Hardware and Network Service	0	0	1	100	1
Total	46	36.2	81	63.8	127

Consistently, an interviewee among the college top management members complemented the problem of unemployment as follows: “...there is employment opportunity problem. ... [on the other hand, graduates do not] want to do [their] own job. There is also financial problem [for self-employment]. They also can’t get employment in government office as it is saturated”. When this participant was requested to remark on the key issue by the end of the interview session, he emphasized, “the key point to be taken into consideration is involvement of graduates in a job”. All the interview participants perceive that the root cause behind graduate unemployment is a mismatch between the demand for and supply of trained labor force. Such a high unemployment rate after four to five years is an alerting effect on HPC to enforce it devise mechanisms that rescue the rising trend of graduate unemployment and its consequences. In fact, occupations related to animal production and animal health are relatively more employable than the other occupations considered in the study. In general, despite most interview participants’ (except a few) claim that they admit trainees based on a regular tracer study (reportedly conducted every two years) graduate unemployment is not only higher than employment but is also growing significantly. This implies that, the current findings

contradict the principles advocated by different scholars in the field (such as Adams, 2012; McGrath et al., 2012) who warn not to waste resources with TVET that lacks not only to facilitate the employability and livelihood of graduates but also to address the human power needs of the labor market. The current findings also contradict the ideals of Psacharopoulos and Woodhall (1985) who argued that a tracer study that cannot provide both students and employers with relevant and valuable labor market information and help in occupational choice, competencies, and employment opportunity is just wastage.

Besides the type of occupation, level of qualification determined the trend of graduate employment opportunity in HPC. In this respect, Table 4.4 displays that Level II occupations were better employable than others, followed by Levels IV and III. This finding counters with views of some of the interview participants who replied that level II is the most vulnerable qualification levels for unemployment, although most interviewees boldly argued that unemployment problem among the graduates of HPC is severe across all qualification levels. Anyway, the findings imply the need for effective attention for labor market orientation as one of the indispensable pillars of TVET to ultimately ensure the relevance and validity of TVET in line with MoE (2010a) and Psacharopoulos and Woodhall (1985).

**Table 4.4: Employment Status of Participants in Terms of Qualification Level**

Qualification level	Employed		Unemployed		Total	
	#	%	#	#	%	#
Level II	2	50.0	2	50.0	4	100
Level III	5	33.3	10	66.7	15	100
Level IV	39	36.1	69	63.9	108	100
Total	46	36.2	81	63.8	127	100

With respect to sex, as can be seen in Table 4.5, more males are employed than their female counterparts. When this is contrasted with the figures in Table 3.1 where 197 (58.3%) of 338 graduates are females, it makes the unemployment problem of females more critical than that



of their male counterparts. This coincided with some earlier findings by Anker as well as Fawcett and Howden, both as cited in Melaku (2018), who argued that entry into the labor market and career development are challenging for females no matter they have acquired necessary competencies in the market because females are not valued as are males in the labor market.

**Table 4.5: Employment Status of Participants in Terms of Sex**

Sex	Employed		Unemployed		Total
	#	%	#	%	
Male	28	40.6	41	59.4	69
Female	18	31.0	40	69.0	58
Total	46	36.2	81	63.8	127

As can be seen in Table 4.6, among the few who have got employment opportunities, most have got job opportunities in private enterprises, followed by the public sector and government development enterprises. Self-employment, an employment modality that has been given special emphasis since decades ago by the government (MoE, 2008), accommodated only the lowest proportion of the graduates. In line with MoSHE (2020) that criticized the achievements of the TVET system for being insignificant, the current finding does have its own far-reaching consequences in the utility of TVET in generating employment opportunities for graduates and its ultimate fate. HPC should also beware that low involvement in self-employment might have held back its graduates from alleviating unemployment and generate gainful income, in favor of which different scholars (e.g., Haan, 2006; Mead & Liedholm, 1998; Millán, Congregado, & Román, 2010) have argued emphatically.

**Table 4.6: Graduates' Employment Destination in Terms of Occupation**

Occupation/Sector	Employer					Total
	Government enterprise	Private enterprise	Public sector	NGO	Self-employment	
Animal Production	1	3	2	0	1	7
Advanced animal health service	0	0	2	1	0	3
Crop production	7	12	4	1	0	24
Natural resources	2	7	2	1	0	12
Hardware and Network Service	0	0	0	0	0	0
Total	10	22	10	3	1	46

Regarding self-employment, one interviewee shared his observation with disappointment as follows, which others not only backed during different interview sessions but also remarked on its damaging effects:



*"In my view attitude is the main factor. Most of the graduates want to be government employee and they don't want to start their own job. Even those who have interest to start their own business have shortage of budget. In addition, the government bureaucracy that is tied up with intricate problems of corruption and nepotism is another factor contributing for reluctance of graduates to self-employment and exposure for severe unemployment for years."*

Among the graduates who have got employment opportunity, most of them (41 or 89.1%) were employed in full-time basis. The remaining insignificant proportion of them were employed either temporarily or on a part-time basis (see Table 4.7). This means, the majority of the employees have maintained job sustainability, despite the smallest proportion of the graduates they are. Hence, although many have got competencies and job opportunities that otherwise could not have been achieved, in contrast to MoE (2020) and Psacharopoulos and Woodhall (1985), the socio-economic impact of HPC on graduates and their families is not satisfactory enough.

**Table 4.7: Employment Modalities the Participant is Current Engaged**

and/or Sector	Fulltime employed	Temporarily employed	Total
Animal production	7	0	7
Occupation Advanced animal health service	3	0	3
Crop production	19	5	24
Natural resources	12	0	12
Hardware and Network Service	0	0	0
Total	41	5	46

When we observe the time it takes to get job opportunity in terms of occupation and/or sector, the trend portrays that most got employed within three years. The years between one and three are the high times that most graduates secured their job opportunities among those employed. Table 4.8 depicts the job opportunities secured in less than a year, between one year and three years, and greater than three years.

**Table 4.8: Time Taken to Get the First Job by Graduates in Terms of Occupation**

Occupation and/or sector	< 1 year	1-3 years	> 3 years	Total
Animal Production	3	4	0	7
Advanced animal health service	2	0	1	3
Crop production	2	16	6	24
Natural resources	4	7	1	12
Hardware and Network Service	0	0	0	0
Total	11	27	8	46

Besides type of occupation, sex also discriminated the pace of employment opportunity among HPC graduates. The figures in Table 4.9 reveal that males get job opportunities faster than their female counterparts because the number of male graduates who secured jobs within less than one year is proportionally higher than females, and in contrast, those females who secured their jobs after three years are higher in number than their male counterparts. The years between one to three are where employment opportunities are higher than both from earlier and later years.

**Table 4.9: Time Taken to Get the First Job by Graduates in Terms of Sex**

Sex	< 1 year	1-3 years	> 3 years	Total
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Male	10	17	1	28
Female	1	10	7	18
Total	11	27	8	46

Apparently, the employment opportunity of people is significantly determined by the methods they apply to search jobs. Accordingly, as the data in the table displays, graduates mostly watch noticeboards, followed by utilizing personal relationships to look for and obtain jobs. With respect to male-female discrepancies in job search, it can be learnt from the table that males utilized noticeboards than do females. Regarding the utilization of personal relationships, the second most used method as a means of securing jobs, males practice it more than their female counterparts do among HPC graduates. Table 4.10 demonstrates the most frequently employed job search methods participants were inquired to rate.

**Table 4.10: Job Searching Method Participants Employed to Get Their Current Job**

Sex	Methods					Total
	Media Advertisements	Watching noticeboards	Through apprenticeship contacts	Through personal relationship	Others	
Male	2	15	1	9	1	28
Female	1	6	0	7	4	18
Total	3	21	1	16	5	46

Regarding employee recruitment mechanisms that employers often employ, the latter have a different report from those of employees. As can be seen in Table 4.11 most employers reported that they use media advertisement from whom to select their employees. Surprisingly, neither private enterprises nor government organizations did consider noticeboards as alternatives for vacancy announcement for potential employees. On the other hand, only three out of 46 graduates have reported that they have got employment opportunities through media advertisement. This inconsistent report or the discrepancy between employers and employees needs further refinement to know the right

recruitment approach applied. As reported by the interview participants, a widespread nepotism, favoritism and corruption in the labor market are also among the formidable challenges entangled against the employment opportunity of graduates, which they could have secured through merit.

**Table 4.11: Employers' Response about Their Employee Recruitment Methods**

Type of enterprise or company	Recruitment method applied			Total
	Media Advertisements	Individual recommendation	Recruitment Agencies	
Government	13	0	4	17
Private	7	2	1	10
NGO	2	1	0	3
Total	22	3	5	30

As can be seen from the data described so far, the employment opportunity of HPC graduates is low in proportion. The major bottlenecks of the problem were presented for participants to rate. Thus, they pinned down lack of making TVET supply market-based, nepotism and corruption in the market environment, each attributed 37.0% of graduates' unemployment (see Table 4.12). The finding implies a disregard by HPC of the merits of LMIS that takes the whole interactions in the environment, interactions in the entire training delivery process, and interactions with job seekers and employers (MoE, 2010a; Woltermann, 2004).

**Table 4.12: Major Bottlenecks that Kept Most HPC Graduates Unemployed**

Factor	Yes		No		Total
	Number	Percentage	Number	Percentage	
Lack of market demand for the occupation	47	37.0	34	26.8	81
Lack of winning in the market competition	13	10.2	68	53.5	81
Market informality	5	3.9	76	59.8	81
A huge investment demand by the profession	0	0.0	81	63.8	81
Dislike of self-employment by the graduates	0	0.0	81	63.8	81
Lack of attractiveness of salaries offered	0	0.0	81	63.8	81
Nepotism and corruption affected employment opportunities	47	37.0	34	26.8	81

#### 4.1.2. Occupational satisfaction of graduates

Occupational satisfaction here refers to the extent how much HPC graduates are gratified by the occupations they have been equipped with. From the outset, according to data collected through interview, the method of trainee placement into different occupations plays significant roles in the occupational satisfaction of trainees. That is, since the occupational choice of newly enrolled trainees is based on their secondary school leaving examination scores, according to the interview participants, it is more likely that most trainees admitted do not get their first-choice occupation. In other words, relatively, the one with the best secondary school achievement enjoys getting his/her first priority. For instance, if an occupation has a capacity of 30 candidates and if 100 potential trainees apply for it, probably not more than 30% of them get their first choice fulfilled. In this way, a candidate may end up joining an occupation that is not completely his/her choice. Consequently, the first occupational dissatisfaction and loss of hope in TVET often starts at this juncture. Participants also criticized that, to make things worse, the vocational guidance and counseling service is limited to arbitrating disciplinary issues, grading complaints, and gender issues instead of paving the way for better career utility. This contrasts with the advocacies of diverse sources of literature (e.g., Borgen & Hiebert, 2002;

Gasskov, 2000; ILO, 2012; Kagaari, 2007; Van Esbroeck, 2002; Watts, 2013) in favor of vigorous and continuous endeavors of vocational counseling that matches skills supply with the demand requires, although bridging the gap between TVET and the labor market demand is not that easy due to the fact that the interests of the potential trainees and the needs of the labor market may not match.

In this study, participants were requested to rate the degree to which their occupations helped them in their livelihoods. As can be seen in Tables 4.13, somewhat contradictory findings were observed. That is, while the first majority of participants (19 or 41.3% of graduates) rated their occupation as highly helpful, the next majority (13 or 28.3% of graduates) rated it as not being helpful at all, followed by the third majority, who rated their occupation as somewhat helpful for their livelihood. This is basically due to the discrepancies between the utility of the occupations and the views of participants. For instance, participants from crop production have divergent feelings as they reported that their occupation is not helpful at all which calls for a further in-depth study. This finding contrasts with the suggestions of Bhanugopan and Fish (2009) and Keating (2007) where TVET leaders need to examine and understand both the existing and the future demands of the labor market before they decide and get on what occupations to provide in TVET.

**Table 4.13: The Utility of Occupations for Employed Graduates**

Occupation and/or sector	Highly helpful	Somehow helpful	A little helpful	Not helpful at all	Total
Animal production	3	3	0	1	7
Advanced animal health service	3	0	0	0	3
Crop production	7	4	4	9	24
Natural resources	6	2	1	3	12
Hardware and Network Service	0	0	0	0	0
Total	19	9	5	13	46

Understanding the satisfaction level of graduates with the job they secured is required because of the need to gauge the effectiveness of the program they attained. In relation to this, as the data in Table 4.14 portrays, proportionally more graduates have got satisfaction with their job. In relation to this, the data in the table informs that 28 (60.9%) of them are satisfied with their current job among the graduates who have got job opportunities. Majority of graduates are unemployed and dissatisfied with their occupation. On top of this, absence of occupational satisfaction among 18 (39.1%) of graduates who are satisfied with jobs secured may gradually erode the importance of the occupations among young school leavers, and a worsening unemployment problem may result in as a consequence. When the figures are viewed in terms of sex, male and female job satisfaction were 19 (67.9%) and 9 (50%) have differences (see Table 4.14a). This implies that the market environment is more inconvenient for females than males. This finding matches with other sources of literature (e.g., African Union, 2007; Anker, 1998; Ethiopian Society of Population Studies, 2008) that analyzed gender-based occupational segregation as if there is women's work or men's work, which is the result of gender patterns of socialization and gender roles, no matter it is practiced consciously or unconsciously.



**Table 4.14: Employed Graduates' Satisfaction with their Job**

a) In Terms of Sex

Sex	Satisfied	Not satisfied	Total
Male	19	9	28
Female	9	9	18
Total	28	18	46

As can be observed from Table 3.14b, the same trend held true regarding job satisfaction by employed graduates in terms of levels of qualification. Level of job satisfaction was 80% for level III and 61.5% for level IV occupations, and totally no satisfaction was observed among level II graduates. In terms of types of occupation, similarly, the job satisfaction among the employed graduates extends from 57.1% for animal production to 100% for advanced animal health service, both extremes referring to animal-related occupations (see Table 4.14c). Given the majority of graduates are unemployed, the low (57.1%) level of satisfaction with their jobs needs attention, together with the fate of the occupations and TVET at large, not to mention the overall consequences of graduate unemployment problem that may result. This finding is inconsistent with various sources of literature (e.g., Badawi, 2013; Gasskov, 2000; ILO, 2008; UNESCO, 2012) that strongly attribute TVET effectiveness to the instrumental role TVET plays in addressing the demands of citizens for employable occupations that provide a living and create satisfaction among TVET graduates.

b) In terms of qualification level

Variable	Response	Qualification level			
		II	III	IV	Total
Satisfaction with their current job	Yes	0	4	24	28
	No	2	1	15	18
	Total	2	5	39	46

c) In terms of occupation

Occupation and/or sector	Whether employed		
	Yes	No	Total
Animal Production	4	3	7
Advanced animal health service	3	0	3
Crop production	14	10	24
Natural resources	7	5	12
Total	28	18	46

In this study participants were also requested about their income with the intention to track and gauge how much reasonable and satisfactory income they earn. According to data in Table 4.15a, most of the graduates earn a monthly income of between 3001 and 6000 ETB, which is relatively low when compared with the livelihood requirements in the country these days. Hence, unlike the recommendations by scholars in the field (such as Adams, 2011; King & Palmer, 2010; Kingombe, 2012) the income that graduates of HPC earn lacks to meet the contexts of today's globalized and competitive socio-economic system due to its nonconformity to create effectively employable graduates who can generate the required income and maintain their livelihoods.

**Table 4.15: Employed graduates' income and their level of qualification**

a) Gross monthly income

Income in ETB	Employed graduates	
	Percentage	Percentage
600-1000	4	8.7
1001-2000	7	15.2
2001-3000	3	6.5
3001-4000	11	23.9
4001-5000	8	17.4
5001-6000	9	19.6
6001-7000	1	2.2
7001-8000	3	6.5
Total	46	100

Moreover, the earnings of employed graduates were compared and contrasted with their level of qualifications to see whether better qualifications offered better pay and measure how fair and rational pay there is in the market system. In this respect, as can be seen below in Table 4.15b, there is no pattern in this, and graduates' pay is somewhat haphazard. To fine tune this situation more in a more scientific way, the Pearson Correlation method was conducted between the income employed graduates earn and their level of qualification. The correlation coefficient operated to gauge the association showed no significant relationship between the two variables ( $r = .153$  at  $p > .05$ ). This means the market is just led haphazardly than based on merit factors, which by itself becomes a source of dissatisfaction with their job among employed graduates. Regarding this mismatch, literature (Tikly, 2013; Vegas & Petrow, 2008; World Bank, 2011) maintains that utilizing the instrumental role of TVET to enhance an all-round development of people to effectively access the opportunities of TVET alone could not reduce the problems of unemployment, income inequalities, and poverty.

b) Relationship between income and qualification level of employed graduates

Qualification level	Gross monthly income								Total
	600-1000	1001-2000	2001-3000	3001-4000	4001-5000	5001-6000	6001-7000	7001-8000	
Level II	1	0	0	0	1	0	0	0	2
Level III	1	1	1	0	0	1	1	0	5
Level IV	2	6	2	11	7	7	1	3	39
Total	4	7	3	11	8	8	2	3	46

Understanding the extent of graduates' satisfaction with the occupations they acquired also demands gauging the relationship between their competencies and the jobs they are engaged in. In this respect, Table 4.16 demonstrates that the match between the occupations HPC graduates had been certified for before their employment and the jobs they secured. As can be seen from the table, there are two contradictory findings. While the highest proportion (23%) of employed graduates have reported that their jobs have no relation to the occupations they are certified in, the next highest proportion (14 %) of employees' occupation has a high relationship with their job. The feeling of the rest of participants lies in between. These findings are consistent with the findings regarding the utility of the occupations that graduates have been certified in (refer to Table 4.13). Data presented in both tables imply the need to depend on market needs when HPC enrolls trainees. This finding rightly coincides with findings of other notable authors (e.g., Elkins et al., 2012; Cavanagh et al., 2013; Bhanugopan & Fish, 2009; Johanson & Adams, 2004; Keating, 2007) who strongly argued that public TVET systems in developing countries have often limitations to properly evaluate their relevance, effectiveness and efficiency because TVET institutions have been equipping trainees with competences that do not fit the market requirements. Those sources also added that in those regions TVET is suffering from lack of relevance to the labor market and creating employment opportunities for graduates and is hence subjected to mere wastage of scarce resources, particularly of very poor economies, instead of rendering adequate benefits to improve the livelihood of graduates and society.

**Table 4.16: Relationship between Participants' Job and their Occupation**

Occupation and/or sector	To a high extent	More or less related	To a low extent	No relation at all	Total
Animal production	1	1	1	4	7
Advanced animal health service	3	0	0	0	3
Crop production	5	3	0	16	24
Natural resources	5	2	2	3	12
Hardware and Network Service	0	0	0	0	0
Total	14	6	3	23	46

#### 4.2. Graduate Competence and Workplace Requirements

Competence in TVET refers to the knowledge, skills, and attitude acquired by graduates. The indicators presented in Table 4.17 describe the major constructs widely taken into consideration to describe competencies required in the labor market. The data in the table inform the retrospective perception of the graduates about their competence. According to the data, graduates claimed that they are equipped with more than average ( $M = 3.00$ ) level of competence in all sorts of indicators. As well, competencies in their self-confidence ( $M = 4.07$ ), work ethics ( $M = 4.19$ ), and professional passion ( $M = 4.08$ ) are relatively better than the other elements of competencies.

**Table 4.17: Perception of Graduates of their Competence (N = 127)**

Competence indicator	Mean	Std. Dev.	Competence indicator	Mean	Std. Dev.
Entrepreneurial skill	3.03	.881	Work ethics	4.19	.614
Problem-solving capability	3.37	.834	Professional passion	4.08	.665
Team spirit	3.59	.770	Project management skill	3.57	.730
Communication skill	3.63	.711	Time management skill	3.61	.631
Planning and programming capability	3.68	.700	Endurance	3.74	.657
Information technology	3.15	.798	Creative thinking	3.65	.637
Critical thinking	3.77	.669	Strategic thinking	3.48	.700
Learning new skills and adaptability	3.49	.733	Ability to work independently	3.95	.575
Organizing and leadership capability	3.59	.659	Negotiating skill	4.05	.665
Decision-making skill	3.77	.645	Ability to work under pressure	3.69	.751
Self-confidence	4.07	.607	Risk-taking and risk analysis skills	3.74	.633

Besides graduates' self-evaluation, employers were requested to share their views about the competence of graduates to triangulate data acquired in terms of data source and identify the more reliable status of graduates' competence. As can be seen in Table 4.18, the report by the employers is not that far different from that of the graduates because mean scores ranged from 3.00 to 3.90. Nonetheless, since we are in an environment of globalization that is characterized by pervasive and unprecedented competition and continuous rapid changes, HPC shall be alerted that it did not meet the requirements stated by notable scholars of the field (Afiouni, 2013; Checchi, 2005; Dustman et al., 2008; Johanson & Adams, 2004; Nakkeeran et al., 2018) who suggested that competence levels should go far beyond average to optimize internal and external efficiency and survive in the highly competitive environment.

**Table 4.18: Perception of Employers on the Competence of HPC Graduates (n = 30)**

Competence indicator	Mean	Std. Dev.	Competence indicator	Mean	Std. Dev.
Occupational knowledge	3.27	.785	Decision-making skill	3.37	.669
Occupational skill	3.40	.563	Self-confidence	3.57	.568
Entrepreneurial skill	3.13	.507	Work Ethics	3.90	.662
Problem-solving capability	3.37	.765	Professional passion	3.63	.890
Team spirit	3.67	.661	Project management skill	3.17	.699
Communication skill	3.47	.681	Time management skill	3.27	.583
Planning and programming capability	3.17	.461	Endurance	3.23	.568
Information technology	3.10	.607	Creative thinking	3.00	.695
Critical thinking	3.47	.507	Strategic thinking	3.17	.531
Learning new skills and adaptability	3.30	.702	Ability to work independently	3.47	.776
Organizing and leadership capability	3.20	.664	Negotiating skill	3.80	.610

Further scrutiny was also conducted by running an independent samples t-test for a better understanding of the competence of graduates. In this respect, the finding showed (displayed in Table 4.19) varying outputs: some demonstrating the existence of significant differences and others with no significant differences in the views of graduates and employers on the competence of the former. For instance, the two have significant mean differences in their percept of planning and programming capability, organizing and leadership capability, self-confidence project management skill, time management skill, endurance, creative thinking, strategic thinking, ability to work independently, risk-taking, and risk analysis skill of graduates (all t-values with  $p < 0.05$ ). At the same time, they did not have significant differences regarding entrepreneurial skills, problem-solving capability, team spirit, communication, information technology, learning new skills and adaptability, negotiation skills, and the ability to work under pressure. Irrespective of the existence of significant differences between the two groups, the competence of the graduates is not that much strong enough.

**Table 4.19: Independent Samples t-test between graduates and Employers on Graduates' Competence**

Competence indicator	t	p	Competence indicator	t	p
Entrepreneurial skill	0.8400	0.4036	Work Ethics	-2.2849	0.0237
Problem-solving capability	-0.0205	0.9837	Professional passion	-2.5793	0.0140
Team spirit	0.4994	0.6182	Project management skill	-2.7218	0.0072
Communication skill	-1.1405	0.2558	Time management skill	-2.8887	0.0059
Planning and programming capability	-4.8790	0.0000	Endurance	-3.8918	0.0001
Information technology	-0.3771	0.7076	Creative thinking	-4.9096	0.0000
Critical thinking	-2.3410	0.0205	Strategic thinking	-2.7255	0.0086
Learning new skills and adaptability	-1.2743	0.2045	Ability to work independently	-3.2275	0.0026
Organizing and leadership capability	-2.9153	0.0041	Negotiating skill	-1.8593	0.0649
Decision-making skill	-3.0727	0.0025	Ability to work under pressure	-1.4920	0.1377
Self-confidence	-4.3134	0.0001	Risk-taking and risk analysis skills	-2.3939	0.0179

The job performance of graduates and their skill gaps were also examined in this tracer study, and the findings revealed the existence of mixed feelings among employers (Table 4.20). While part of the employers felt that graduates demonstrated high and very high job performance, an equal proportion of them reported having moderate and low performance, which requires a further examination at a wider level. With respect to skill gaps, the majority of employers do not think that graduates of HPC have skill gaps. These two data forms imply that there are employees with adequate competencies but are poor in their workplace performance for reasons that need further scrutiny.

**Table 4.20: Employers' Perception of the Workplace performance and skill gaps of graduates**

Type of organization	Workplace performance of graduates					Whether there are skill gaps among graduates		
	Very high	High	Moderate	Low	Total	Yes	No	Total
Government	1	9	6	1	17	5	12	17
Private	1	4	5	0	10	3	7	10
NGO	0	0	2	1	3	2	1	3
Total	2	13	13	2	30	10	20	30

Regarding performance and skill gaps, this study also tried to examine data in view of the workplace experiences of employers (see Table 4.21). Accordingly, not much discrepancy was observed among employers in



gauging both the performance and skill gaps of HPC graduates in terms of participants' service years. Nonetheless, the number of graduates whose performance does not satisfy their employers and those who do have skill gaps cannot be underestimated. Since one of the major prerequisites for an effective workplace performance is a skill or competence in general, it is commendable that the finding of the current tracer study needs to cite notable authorities (such as Billett, 2017; Cairns & Malloch, 2017; Day, 2017; Hyland, 2017; King & Palmer, 2010; Mulder & Winterton, 2017) who advocate the CBET strategy as an essential remedy for enhancing performance by filling skill gaps during training following the footsteps of each trainee.

**Table 4.21: Workplace performance and skill gaps of HPC graduates in view of employers across work experience**

Employers' experience in the organization	Workplace performance graduates					Whether there are skill gaps among graduates		
	Very high	High	Moderate	Low	Total	Yes	No	Total
1-5	2	11	8	0	21	5	16	21
6-10	0	1	3	1	5	2	3	5
11-15	0	1	1	0	2	1	1	2
≥ 16	0	0	1	1	2	2	0	2
Total	2	13	13	2	30	10	20	30

### 4.3. Retrospective Evaluation of the Training by Graduates

#### 4.3.1. Input supply

The magnitude and quality of input supply is the first steps in evaluating the utility of TVET skills. Accordingly, the first factor the current tracer study sought to examine was the relevance of occupations on which training had been delivered. In this respect, as Table 4.22a reveals, the relevance of the occupations under study was below average in all of the indicators set to measure occupational relevance. In addition, a data presentation that emphasized every relevance indicator in terms of occupation revealed that those differences were observed in the patterns of graduates' retrospective responses although the majority of them felt in most cases relevancies were either inadequate, somewhat adequate, or adequate. That is, the majority of the graduates felt that

the relevance of their occupations for workplace requirements are somewhat adequate, followed by inadequate, and adequate, respectively (see Annex A). This is somewhat inconsistent with the suggestions of different scholars in the field (e.g., Ajibola & Jumoke, 2012; Badawi, 2013; Bhanugopan & Fish, 2009; Elkins, Krzeminski & Nink, 2012) who strongly insist that a three-way communication or three-tiered interaction among three actors (interactions among the TVET institutions, labour market, and potential trainees) is very essential to maintain the relevance of TVET.

**Table 4.22: A Retrospective Evaluation of the Training by the Graduates Under Study**

a) Relevance of occupation for the market demand

Occupational relevance	Employment status	No.	Mean	Std. Deviation
Relevance of occupation to the job market	Employed	46	2.04	.868
	Unemployed	81	2.09	.925
The theoretical content of the OS	Employed	46	2.48	.691
	Unemployed	81	2.14	.703
Emphasis on international standards and best practices	Employed	46	2.48	.623
	Unemployed	81	2.17	.703
Fitness to workplace dynamics	Employed	46	2.28	.779
	Unemployed	81	2.16	.798
Fitness to the local industry (market)	Employed	46	2.33	.732
	Unemployed	81	2.30	.941
Reliance on counseling and career guidance service	Employed	46	2.57	.620
	Unemployed	81	2.58	.722

The next major resource issue examined incorporated facilities, infrastructure and other material resources. As displayed below in Table 4.22b the mean scores regarding the supply of facilities, machinery, and other material resources was found to be below average (average mean score is 3.00) in view of the graduates. Data in Tables 4.22c and 4.23 reveals that the industrial attachment or cooperative training practice had been below average in view of both employed and unemployed graduates. Consistently, most interview participants criticized that cooperative training is attempted just for the sake of formality but not to address the intended objectives due to various

problems. This problem has been complemented by most of the participants interviewed. The practice of HPC in relation to resource supply seems to be on the crossroads because neither did it implement the cooperative or the dual TVET strategy, which has been confirmed by many valuable sources of literature (e.g., Alet & Bonnal, 2011; Bauer & Gessler, 2017; Eichhorst et al., 2012; Horn, 2013; Quintini & Manfredi, 2009; Quintini et al., 2007) in terms of its utility in improving the competence, relevance and employability of graduates, nor equipped its workshops with the necessary facilities and material resources.

b) Supply of facilities and material resources (N = 46 Employed; 81 Unemployed)

Facilities and resources supplied for training	Employment status	Mean	Std. Dev.	Facilities and resources supplied for training	Employment status	Mean	Std. Dev.
Workshops	Employed	2.54	.912	Workshop furniture	Employed	2.59	1.107
	Unemployed	2.62	.995		Unemployed	2.77	1.197
Machinery	Employed	2.35	.795	Maintenance service	Employed	2.57	1.241
	Unemployed	2.53	1.038		Unemployed	2.86	1.212
Hand tools and equipment	Employed	2.65	.822	Power supply	Employed	2.65	.822
	Unemployed	2.63	.955		Unemployed	2.83	1.058
Consumable materials	Employed	2.33	1.055	Water supply	Employed	2.76	.947
	Unemployed	2.94	1.307		Unemployed	2.78	1.000
Computers	Employed	2.02	.906	Internet access	Employed	2.17	.973
	Unemployed	2.27	.908		Unemployed	2.38	.995

#### 4.3.2. The training processes

The training process is equally important to resource supply in the TVET system to equip trainees with the necessary skills. An effective TVET delivery starts with the preparation of session plans depending on the individual needs of trainees. To optimize effectiveness and efficiency, in addition, the training delivery needs a closer follow-up and continuous assessment. Nonetheless, as all the mean scores in Table 4.22c disclose, the quality of the training methods the graduates have passed through was below average. As can be seen from the mean scores described in the table, the participants graduated equipped with neither the necessary conceptual knowledge nor the required practical skills. An effort made to examine whether training methods vary across occupations (see Annex F) demonstrated not that much variation. In most cases participants from all occupations/sectors felt that the

graduates had experienced less than satisfactory training methods applied during their stay. That is probably because trainers were not only good enough in their competence but also lacked to dwell on CBET, which is widely employed in the TVET practice across the world as a highly a useful methodology that focuses on the performance of trainees (Fan, 2017; Hauuanga, 2017; Nakkeeran et al., 2018; Panth & Caoli-Rodriguez, 2017).

c) Training methods used to equip graduates with the necessary competences (N = 46 Employed; 81 Unemployed)

Training methods applied	Employment status	Mean	Std. Dev.	Training methods applied	Employment status	Mean	Std. Dev.
Reliance on training session plans	Employed	2.72	.544	Practice of CBET	Employed	2.89	.640
	Unemployed	2.56	.612		Unemployed	2.81	.550
Emphasis for trainees' learning needs	Employed	2.85	.666	Industrial attachment	Employed	2.02	.931
	Unemployed	2.64	.658		Unemployed	2.43	.907
Reliance on trainee record book	Employed	2.70	.726	Workshop and material utilization	Employed	2.46	.887
	Unemployed	2.60	.665		Unemployed	2.57	.821
Adherence to work safety	Employed	2.93	.490	Attention for practical exercise	Employed	2.80	.719
	Unemployed	3.01	.680		Unemployed	2.73	.725
Continuous competence assessment	Employed	3.02	.537	Attention to theoretical concepts	Employed	2.83	.677
	Unemployed	3.05	.472		Unemployed	2.81	.635
Feedback delivery	Employed	2.61	.682				
	Unemployed	2.69	.736				

Besides directly measuring the training methods applied, the quality of training methods applied can be judged based on the competence and commitment of trainers. Consequently, the current tracer study put emphasis both on the competence and commitment of trainers to gauge the quality of the training methods applied in HPC during the training delivery for the graduates under scrutiny. In this respect, with the exception of the practical skills whereby the mean score of unemployed graduates depicted (M = 3.00), Table 4.22d revealed that graduates involved in this study remind that the competencies of their trainers were below average in all sorts of indicators. This in turn implies that the training methods applied were not good enough to equip trainees with

the necessary competencies. A more detailed occupation-by-occupation and/or sector-by-sector data that describe the differences trainers have across occupations/sectors are presented under Annexes C and D. The current finding disclosed that HPC lacked to meet one of the key requirements for producing competent and employable graduates, particularly the one stipulated by MoE (2010b)– “an overall improvement in competencies for employability can only be realized if there is an improvement in the quality, effectiveness, and relevance of teaching by a competent trainer” (p. 7).

d) Graduates’ perception about the competence of their trainers

Trainer competence	Employment status	2009		
		N	Mean	Std. Deviation
Subject matter knowledge	Employed	46	2.98	.494
	Unemployed	81	2.79	.586
Practical skills	Employed	46	2.80	.719
	Unemployed	81	3.00	.652
Project formulating competence	Employed	46	2.70	.756
	Unemployed	81	2.69	.645
Capability of competence assessment	Employed	46	2.70	.667
	Unemployed	81	2.79	.684
Communication skills	Employed	46	2.96	.556
	Unemployed	81	2.77	.657
Determination to trainee competence	Employed	46	2.91	.590
	Unemployed	81	2.94	.713

Unlike their perceptions regarding the competence of their trainers, graduates involved in this study have a little bit better feeling regarding the commitment of their trainers, although the ratings by themselves did not that much exceed the average scores. Participants rated the commitments of trainers regarding professional motivation, training session management, preparation to deliver training, and zeal for delivering counselling services for their trainees below average. Examinations made to measure the commitment of trainers through these indicators in terms occupations and/or sectors (see Annex E) also demonstrated a convergent output with the mean score. In contrast to this, different authors (e.g., Dixit & Bhati, 2012; Khan et al., 2010; Mehmud et al., 2010; Qaisar, et al., 2012; Rafiei et al., 2014 Sabapathy, 2011) contend that organizational commitment significantly contributes to the learning and employability of graduates.

e) Graduates' perception about the commitment of their trainers (N = 46 Employed; 81 Unemployed)

Trainer commitment	Employment status	Mean	Std. Dev.	Trainer commitment	Employment status	Mean	Std. Dev.
Professional motivation	Employed	2.98	.577	Preparation	Employed	2.96	.631
	Unemployed	2.98	.632		Unemployed	2.90	.583
Training session management capability	Employed	2.96	.515	Occupational passion	Employed	3.20	.619
	Unemployed	2.95	.669		Unemployed	3.19	.573
Respect for trainees	Employed	3.04	.595	Workplace ethics	Employed	3.11	.640
	Unemployed	3.19	.654		Unemployed	3.21	.720
Workplace availability	Employed	2.98	.614	Occupational knowledge	Employed	3.13	.582
	Unemployed	3.04	.601		Unemployed	3.06	.533
Counseling service	Employed	2.85	.729	Occupational skill	Employed	3.02	.494
	Unemployed	2.93	.685		Unemployed	3.00	.612

Employers were surveyed about the level of their company involvement in the TVET system because these days one of the key strategies in TVET is involving the industry in all sorts of TVET right from planning to competence assessment and evaluation and workplace placement. The data was collected to triangulate and validate the responses provided by graduates on related issues and arrive at a sound conclusion about industry involvement in TVET. As can be observed from the Table 4.23 below, like graduates, employers (companies and enterprises) also sensed that their involvement in TVET was below average at all levels (Appendix G, intended to further explain the situation in terms of company type and levels of involvement, complements the scores in another way). The finding with the entire training process seems to be in a deadlock on whether to apply cooperative TVET, market-based liberal approach, or government regulated model (Dustmann & Schonberg, 2012; Eichhorst et al., 2012; Kyobe, 2017), as it is at the entire national TVET too, all of which do have their own contextual validities and utilities. Table 4.23 focuses on the perception of employers about the extent and type of their involvement or cooperation with HPC in TVET delivery.

**Table 4.23: Level of company involvement in TVET system in view of employers (N = 30)**

Type of involvement	Mean	Std. Deviation
In training delivery for trainees	2.70	.952
In involving staff to deliver training in TVET colleges	2.40	1.102
In providing TVET instructors training in the enterprise/company	2.17	1.117
In occupational standard development	2.53	1.042
In designing curriculum	2.13	1.167
In occupational competence assessment	2.17	1.206
In conducting a need assessment	2.60	1.192
In vocational guidance and counseling	2.53	1.042



## 5. SUMMARY

- **Employment status of HPC graduates**
  - Employment opportunity among the graduates of HPC is very low. Although most interviewees felt that unemployment problem among the graduates of HPC is severe across all qualification levels, some other interview participants replied that levels II is the most vulnerable qualification level for unemployment. Survey data sources, on the other hand, revealed Level II occupations were better employable than others, followed by levels IV and III.
  - Relatively speaking, however, occupations related to animal production and animal health are more employable than other occupations among the graduates of 2009 E. C. Even though the proportion of female graduates exceeds that of their male counterparts, employment opportunities are better for males than females, not only in proportion but also in magnitude.
  - Graduates are almost completely reliant on wage employment, basically in private enterprises where only one among 46 employed graduates has self-employed. Despite the government rhetoric or emphasis on it, self-employment is hardly the choice of HPC graduates.



- It took one to three years for most graduates to get their first job among the 46 employed, with some of them (17.8%) waiting more than three years to get their first job.
  - The employment procedure of graduates is exposed to blame games. Although the majority of the few employed graduates have reported that they got their jobs by keeping an eye on noticeboards and through personal networks and communications, employers claimed that they recruit employees through media advertisements but not through noticeboard announcements or personal networks.
- **Income status of HPC graduates**
- Most (58.7%) HPC graduates among those who have got employment opportunities earn between 3001 and 6000 ETB, which is between around 57.5 and 115.5 USD per month with the current market exchange rate. In other words, their daily incomes are between 1.22 and 3.83 USDs. This is a very low income when compared with the livelihood requirements of the current living standards in Ethiopia.
- **Job history of graduates and challenges for sustainability in their job;**
- Among the graduates of HPC involved in this study who got job opportunities, 47.8% are employees of private enterprises, 21.7% are employees of government enterprises, 21.7% are employees of public sectors, and only one (2.2%) is self-employed.
  - Employment opportunities are challenged with trainee enrolment without taking the market signals, nepotism, favoritism, and corruption into consideration. For instance, self-employment is faced with formidable challenges to avail starting capital, workplaces, market information, etc. due to corruption and nepotism of diverse types.

- **Views and satisfaction levels of employers on the competence of HPC graduates**
  - Half and one-third of employers consecutively felt that HPC graduates employed in their organizations have moderate or low job performance and skill gaps, respectively, in their occupations. In addition, both graduates themselves and employers know that the competence of graduates is not that much more than average. Hence, the number of graduates whose performance did not satisfy their employers and those who do have skill gaps cannot be underestimated.
  
- **The socio-economic impact of HPC training on graduates and their families**
  - Although HPC has contributed a lot in equipping citizens with indispensable competencies, a high unemployment and under-employment problems have thwarted the intended, necessary impact of the college on the livelihood of graduates and their families effectively.
  
- **The social and economic enablers and barriers facing graduates in securing employment**
  - The potential for the expansion of agro-industry in the catchment areas of HPC may be one of the notable enablers for graduates in securing their future employment.
  - Lack of market demands for the occupations graduates are equipped with, a widespread nepotism and corruption, and lack of winning in the market competition by the graduates are the major challenges that stand against their employment opportunity.
  - Market informality and preference of employers for untrained cheap labor to graduates denied many HPC graduates to secure valued employment.

➤ **Gaps of HPC programs vis-a-vis industry requirements**

- While a considerable portion of the employers felt that graduates demonstrated high and very high job performance, an equal proportion of them reported graduates as having moderate and low performance. With respect to skill gaps, the majority of employers do not think that graduates of HPC have gaps. Parallel, to this, employers view the competence level of graduates as being not that much higher than average, implying that graduates still have skill gaps. The report by the graduates that disclosed the scarcity of resources, poor competence and commitment of trainers and lack of enjoying quality training methodologies indirectly implies the inevitable presence of skill gaps among graduates.
- Both graduates and employers rated the competencies of graduates employed as being not above average in all the competence indicators set by this study.

➤ **Identify the efficiency, relevance, and quality of the HPC programs**

- The direct measurement of indicators by this study revealed that the relevance of the occupations delivered by HPC was below average in all the indicators set to measure occupational relevance. In addition, the efficiency and relevance of the programs delivered in HPC were all measured by employment of graduates and whether the job they secured is helpful or not. The efficiency and relevance of the programs delivered are very poor because 63.8% of the graduates are unemployed, 56.5 % of the graduates employed felt their jobs have a little or no relation to the occupations they are satisfied, and 39.1% of the graduates employed reported their occupations as only a little helpful or not helpful at all for their livelihoods.

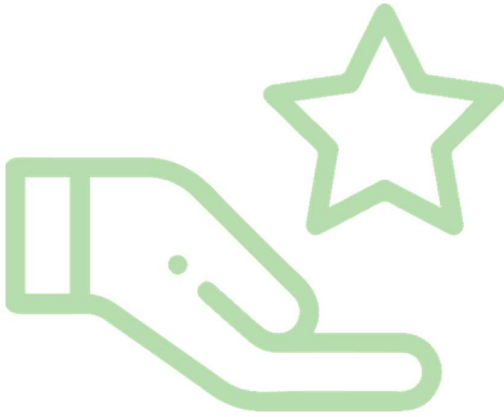
- To judge the quality of the programs delivered, it was necessary to take the framework of the study into consideration. Hence, the inputs (both human and nonhuman by HPC), the process and the output shall be considered in this respect. The quality of the training the graduates under study have gained was also poor because the mean scores of both employed and unemployed graduates about the material input supply, the competence and commitment of trainers, and the training methods used to be employed were below average. In addition to this, the competence of the graduates did not exceed the average score in most competence indicators and the unemployment rate serve to confirm that the quality of the trainings delivered in different programs was low.
  - The poor practice of cooperative training that used to be employed also completes the existence of quality problem in the training delivery of the different programs.
- **Graduates' current work conditions from decent work perspectives**
- Besides the majority of the graduates suffering from problems of unemployment after lots of costs and opportunity loses, the underemployment status of most of the employed graduates exposed most HPC graduates to problems of livelihood, lacking the income to reliably meet their basic personal needs.
  - Lack of correlation between qualification level and earnings also demonstrates the prevalence of a haphazard and unmerited market environment that creates inconvenience among employed graduates.
  - Among the graduates of HPC who have got job opportunities, about 10.9% and 28.3%, respectively, reported their occupations as being only a little helpful or not helpful at all for their livelihood, which denotes that the problems in the decency of employed graduates' work situation shall not be underestimated.

- The current work of employees is not also decent enough because the highest proportion (23 or 50%) of employed graduates have reported that their jobs have no relation to the occupations they are certified in.
- Significant proportion of graduates are not satisfied with their occupations, starting right from the placement method employed by HPC into different occupations that denied most to get their first-choice occupation, which might also have a spillover effect on their job too.



## 6. CONCLUSION

In HPC employment opportunity among the graduates of 2009 is not only very low, but many among them are engaged in jobs different from the occupations they were certified in as well. Since the greatest proportion of graduates is unemployed, up to the date of data collection for this study, it is obviously alarming, in that leaving the young and productive generation unemployed for the past four to five years inevitably adds up to public dissatisfaction and may even have destructive consequences.



## 7. RECOMMENDATIONS

- The following remedial mechanisms are suggested to improve the effectiveness of the training programs in terms of training models, occupation in focus, and post-training services:
  - HPC shall conduct a deeper and far-sited occupational audit and long-run market demand studies.
  - HPC shall give adequate emphasis to the effective functionality of LMIS and VC services.
  - The leaders in HPC shall pay adequate attention to enrolment to be based on factual data and knowledge instead of relying on sheer forecasts that do not consider the institutional capacity of accommodation and the dynamic nature of the labor market.
  - Ensuring quality and employability without supplying the necessary inputs is unthinkable in TVET. Maximizing enrolment rate without providing essential material resources and poor practices of cooperative training are not only compromising quality but also ignoring one of the key principles of the TVET strategy, implementing CBET to make TVET outcome based. Training provision should be aligned with the capacity to deliver. To that effect, the government shall either avoid the cooperative/dual TVET system and equip TVET colleges with necessary facilities or carry out

legal reinforcements that can attract companies and enterprises to actively participate in TVET.

- Both the regional and federal governments should have an employment policy, rules, and regulations that discourage market informality and widespread nepotism and corruption to ensure a transparent, principle- and competency-based employment opportunity, and pay system.





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# ANNEXES



## ANNEXES

## A. Relevance of Occupations Delivered

Relevance dimension	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Relevance of Occupations to the Market	Animal production	5	8	2	0	0	15
	Advanced animal health service	1	2	3	1	0	7
	Crop production	19	26	16	0	0	61
	Natural resources	14	9	17	1	2	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	39	46	38	2	2	127
Theoretical content of OSSs	Animal production	5	6	4	0	0	15
	Advanced animal health service	0	4	3	0	0	7
	Crop production	3	29	28	1	0	61
	Natural resources	11	18	14	0	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	19	57	50	1	0	127
Emphasis to international standards and best practices	Animal production	2	10	3	0	0	15
	Advanced animal health service	0	4	2	1	0	7
	Crop production	3	31	27	0	0	61
	Natural resources	7	23	12	0	1	43
	Hardware and Network Service	1	0	0	0	0	1
	Total	13	68	44	1	1	127
Fitness to workplace dynamics	Animal production	3	7	4	1	0	15
	Advanced animal health service	1	3	3	0	0	7
	Crop production	10	26	23	0	2	61
	Natural resources	8	25	10	0	0	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	22	62	40	1	2	127
Fitness to the local industry (market)	Animal production	2	9	4	0	0	15
	Advanced animal health service	0	1	5	1	0	7
	Crop production	10	24	24	0	3	61
	Natural resources	9	20	13	0	1	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	21	55	46	1	4	127
Reliance on Counseling and career guidance service	Animal production	1	6	8	0	0	15
	Advanced animal health service	1	3	3	0	0	7
	Crop production	4	19	37	0	1	61
	Natural resources	2	12	27	2	0	43
	Hardware and Network Service	1	0	0	0	0	1
	Total	9	40	75	2	1	127

**Note:** IA = Inadequate; SWA = Somewhat adequate; Ad = Adequate; MA = More than adequate; CD = Can't decide

## B. Resource Supply

Resource Category	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Workshops	Animal production	3	5	5	1	1	15
	Advanced animal health service	2	2	3	0	0	7
	Crop production	5	19	29	6	2	61
	Natural resources	4	19	15	1	4	43
	Hardware and Network Service	0	1	0	0	0	1
	<b>Total</b>		<b>14</b>	<b>46</b>	<b>52</b>	<b>8</b>	<b>7</b>
Machinery	Animal production	3	8	1	2	1	15
	Advanced animal health service	1	3	3	0	0	7
	Crop production	4	28	24	2	3	61
	Natural resources	6	19	13	2	3	43
	Hardware and Network Service	1	0	0	0	0	1
	<b>Total</b>		<b>15</b>	<b>58</b>	<b>41</b>	<b>6</b>	<b>7</b>
Hand tools and equipment	Animal production	2	5	5	2	1	15
	Advanced animal health service	0	5	2	0	0	7
	Crop production	3	21	29	5	3	61
	Natural resources	3	20	16	1	3	43
	Hardware and Network Service	0	1	0	0	0	1
	<b>Total</b>		<b>8</b>	<b>52</b>	<b>52</b>	<b>8</b>	<b>7</b>
Consumable materials	Animal production	1	8	1	2	3	15
	Advanced animal health service	3	3	1	0	0	7
	Crop production	7	17	21	2	14	61
	Natural resources	4	24	10	0	5	43
	Hardware and Network Service	1	0	0	0	0	1
	<b>Total</b>		<b>16</b>	<b>52</b>	<b>33</b>	<b>4</b>	<b>22</b>
Computers	Animal production	4	5	4	1	1	15
	Advanced animal health service	2	3	2	0	0	7
	Crop production	11	32	17	0	1	61
	Natural resources	10	19	10	2	2	43
	Hardware and Network Service	1	0	0	0	0	1
	<b>Total</b>		<b>28</b>	<b>59</b>	<b>33</b>	<b>3</b>	<b>4</b>
Reading materials	Animal production	0	5	6	3	1	15
	Advanced animal health service	3	0	4	0	0	7
	Crop production	2	15	40	4	0	61
	Natural resources	1	13	24	5	0	43
	Hardware and Network Service	0	1	0	0	0	1
	<b>Total</b>		<b>6</b>	<b>34</b>	<b>74</b>	<b>12</b>	<b>1</b>
Modules and teaching materials	Animal production	0	6	6	3	0	15
	Advanced animal health service	1	2	2	2	0	7
	Crop production	0	18	33	10	0	61
	Natural resources	0	14	23	6	0	43
	Hardware and Network Service	0	0	1	0	0	1
	<b>Total</b>		<b>1</b>	<b>40</b>	<b>65</b>	<b>21</b>	<b>0</b>
Cross cutting resources	Power supply	5	51	53	5	13	127
	Access for internet connection	29	44	45	4	5	127
	Water supply	10	37	63	6	11	127
	Workshop furniture	14	50	41	4	18	127

Maintenance service	17	42	44	3	21	127
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### C. Trainer competence

Competence Category	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Occupational knowledge	Animal production	0	3	8	4	0	15
	Advanced animal health service	0	1	5	1	0	7
	Crop production	1	2	49	9	0	61
	Natural resources	0	6	28	9	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	1	11	91	24	0	127
Practical skills	Animal production	1	3	10	1	0	15
	Advanced animal health service	0	4	3	0	0	7
	Crop production	0	12	39	9	1	61
	Natural resources	1	8	24	10	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	2	27	77	20	1	127
Project formulating capability	Animal production	1	5	7	2	0	15
	Advanced animal health service	0	6	1	0	0	7
	Crop production	1	25	32	3	0	61
	Natural resources	1	8	28	5	1	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	3	45	68	10	1	127
Competence assessment capability	Animal production	1	4	6	4	0	15
	Advanced animal health service	0	4	2	1	0	7
	Crop production	0	13	42	5	1	61
	Natural resources	0	14	21	8	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	1	35	72	18	1	127
Training session management capability	Animal production	0	4	9	2	0	15
	Advanced animal health service	0	0	5	2	0	7
	Crop production	0	11	46	4	0	61
	Natural resources	2	6	24	11	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	2	21	85	19	0	127

## D. Support for trainees

Competence Category	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Communication skill	Animal production	0	4	8	3	0	15
	Advanced animal health service	0	2	5	0	0	7
	Crop production	1	15	40	4	1	61
	Natural resources	0	12	26	5	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	1	33	80	12	1	127
Respect for trainees	Animal production	0	2	8	5	0	15
	Advanced animal health service	0	1	5	1	0	7
	Crop production	0	5	45	11	0	61
	Natural resources	0	7	24	9	3	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	0	15	83	26	3	127
Counseling service	Animal production	0	4	5	4	0	15
	Advanced animal health service	0	3	3	1	0	7
	Crop production	2	10	46	3	0	61
	Natural resources	2	8	22	10	1	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	4	25	79	18	1	127

## E. Trainer commitment

Commitment Category	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Determination to trainee competence	Animal production	1	2	9	3	0	15
	Advanced animal health service	0	3	4	0	0	7
	Crop production	0	10	41	9	1	61
	Natural resources	1	10	25	7	0	43
	Hardware and Network Service	0	1	0	0	0	1
	Total		2	26	79	19	1
Professional motivation	Animal production	0	4	8	3	0	15
	Advanced animal health service	0	1	6	0	0	7
	Crop production	0	8	44	9	0	61
	Natural resources	0	12	21	10	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total		0	25	80	22	0
Workplace availability	Animal production	0	3	8	4	0	15
	Advanced animal health service	0	1	5	1	0	7
	Crop production	0	8	41	12	0	61
	Natural resources	0	10	26	7	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total		0	22	81	24	0
Workplace ethics	Animal production	0	4	6	5	0	15
	Advanced animal health service	0	2	5	0	0	7
	Crop production	0	8	38	13	2	61
	Natural resources	0	4	22	16	1	43
	Hardware and Network Service	0	0	1	0	0	1
	Total		0	18	72	34	3
Adherence to work safety	Animal production	0	4	9	2	0	15
	Advanced animal health service	0	1	5	1	0	7
	Crop production	1	4	50	5	1	61
	Natural resources	2	5	27	9	0	43
	Hardware and Network Service	0	1	0	0	0	1
	Total		3	15	91	17	1
Preparation	Animal production	0	4	8	3	0	7
	Advanced animal health service	0	1	5	1	0	7
	Crop production	1	11	46	3	0	61
	Natural resources	0	9	24	10	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total		1	25	84	17	0
Occupational passion	Animal production	0	2	8	5	0	8
	Advanced animal health service	0	1	6	0	0	7
	Crop production	0	1	43	16	1	61



Natural resources	0	7	24	12	0	43
Hardware and Network Service	0	0	1	0	0	1
Total	0	11	82	33	1	127

## F. Training methods used

Method	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Reliance on training session plan	Animal production	0	7	8	0	0	15
	Advanced animal health service	0	2	4	1	0	7
	Crop production	4	17	40	0	0	61
	Natural resources	1	14	27	1	0	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	5	41	79	2	0	127
Emphasis on trainees' learning needs	Animal production	0	6	8	1	0	15
	Advanced animal health service	2	2	3	0	0	7
	Crop production	3	12	43	3	0	61
	Natural resources	0	15	22	6	0	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	5	36	76	10	0	127
Continuous competence assessment	Animal production	0	2	10	3	0	15
	Advanced animal health service	0	0	6	1	0	7
	Crop production	0	6	48	7	0	61
	Natural resources	0	4	34	4	1	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	0	12	99	15	1	127
Reliance on trainee record book	Animal production	0	6	7	2	0	15
	Advanced animal health service	1	3	3	0	0	7
	Crop production	3	13	43	2	0	61
	Natural resources	4	14	22	3	0	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	8	37	75	7	0	127
Feedback delivery	Animal production	0	5	9	1	0	15
	Advanced animal health service	1	1	4	1	0	7
	Crop production	3	24	31	2	1	61
	Natural resources	1	14	24	3	1	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	5	44	69	7	2	127
Practice of CBET	Animal production	0	5	10	0	0	15
	Advanced animal health service	1	2	4	0	0	7
	Crop production	0	10	44	7	0	61
	Natural resources	0	12	26	5	0	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	1	30	84	12	0	127
Industry attachment	Animal production	4	5	4	2	0	15
	Advanced animal health service	3	1	3	0	0	7
	Crop production	13	25	21	1	1	61
	Natural resources	7	16	14	5	1	43

	Hardware and Network Service	1	0	0	0	0	1
	Total	28	47	42	8	2	127
Workshop and material utilization	Animal production	1	6	6	2	0	15
	Advanced animal health service	2	2	3	0	0	7
	Crop production	6	21	30	2	2	61
	Natural resources	4	17	18	3	1	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	13	47	57	7	3	127
Attention paid to practical exercise	Animal production	1	5	8	1	0	15
	Advanced animal health service	1	2	4	0	0	7
	Crop production	2	16	34	7	2	61
	Natural resources	0	14	26	3	0	43
	Hardware and Network Service	0	1	0	0	0	1
	Total	4	38	72	11	2	127
Attention paid for theoretical concepts	Animal production	0	6	8	1	0	15
	Advanced animal health service	0	2	4	1	0	7
	Crop production	0	18	36	6	1	61
	Natural resources	0	13	24	6	0	43
	Hardware and Network Service	0	0	1	0	0	1
	Total	0	39	73	14	1	127

## G. Company/enterprise involvement in TVET

Type of cooperation	Type of enterprise or company	No at all	To a little extent	To some extent	To a high extent	Total
In training delivery for trainees	Government	1	3	9	4	17
	Private	2	3	4	1	10
	NGO	1	1	0	1	3
In involving the staff to provide training in TVET colleges	Government	4	4	5	4	17
	Private	2	4	3	1	10
	NGO	2	0	0	1	3
In providing TVET instructors training in their enterprise/company	Government	7	5	3	2	17
	Private	2	3	2	3	10
	NGO	2	0	1	0	3
In occupational standard development	Government	2	3	10	2	17
	Private	4	2	3	1	10
	NGO	1	0	0	2	3
In designing curriculum	Government	6	4	5	2	17
	Private	4	1	2	3	10
	NGO	3	0	0	0	3
In occupational competence assessment	Government	6	5	3	3	17
	Private	4	0	3	3	10
	NGO	3	0	0	0	3
In conducting need assessment	Government	3	4	5	5	17
	Private	4	0	2	4	10
	NGO	1	1	1	0	3
In vocational guidance and counselling	Government	1	6	7	3	17
	Private	3	1	3	3	10
	NGO	2	1	0	0	3