

A group of graduates in silhouette, standing on a hill and throwing their caps into the air against a sunset sky. The caps are scattered in a semi-circle above the group.

A Tracer Study For 2010 E.C.  
Graduates of Holeta  
Polytechnic College

**Final Report**

July 2022



# List of Abbreviations

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

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# Abstract

This study aimed to conduct a tracer study for 2010 E.C. graduate of Holeta Polytechnic College (HPC). More specifically, this tracer study assessed the contribution of the training programs for HPC graduates, the relevance of the training delivered to job markets, the employment status of graduates, and the effectiveness of the HPC focusing on the employment situation of its 2010 E. C. graduates. It tried to address the following specific objectives: 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. The study employed the mixed design approach. It involved 155 graduates, 30 employers and 12 leaders and trainers of HPC. The study identified: employment opportunity among graduates is very low (only 29%); among those who have got employment opportunities most (58.7%) earn between 3001 and 6000 ETB ( 57.5 and 115.5 USD) per month with the current market exchange

rate; 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; and 35.5% of the graduates employed felt their jobs have a little or no relation to the occupations; and the quality of the training was 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.

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

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# 1. INTRODUCTION

## 1.1. Background

A key pre-requisite for achieving the Sustainable Development Goals is ensuring accessible and inclusive quality education (SDG 4). Research has shown that investments in human capital –by the public sector, by firms and by households– will have a significant impact on economic performance as well as individual and social wellbeing. In this regard, Technical and Vocational Education and Training (TVET) holds the key to building the technical and entrepreneurial workforce. TVET is a tool of human resource development to enable one to earn a living. It is the acquisition of knowledge and skills in an occupation to enhance the competence, employability, productivity, and the socio-economic wellbeing of people or foster individual and national development (Ministry of Education [MoE], 2008). The main role of TVET is to produce skilled labor force that can effectively meet the requirements of the labor market and enhance the socio-economic development of society. TVET is widely recognized 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). The literature (e.g., Adams, 2007, 2009, 2012; McGrath et al., 2006, 2012) highlights three pivotal roles that TVET plays. First, it enables the employability of youths and thereby improve their livelihood. Second, it has a vital role to meet the labour market needs of human power. Third, it encourages the youth and paves the way for further education and training. That is why governments across the globe considered TVET as a tool for human resource development and livelihood improvement since long ago (e.g., Badawi, 2013; Gasskov, 2000; International Labor Organization, 2008; UNESCO, 2012).



In recognition of its fundamental means 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 much better option than general education for youth employment (Ngcwangu, 2015). The reason behind this statement is that skills' development among people provides a better employment opportunity in the labor market and it provides sustainable solutions to mitigate challenges of development (Ayonmike & Okeke, 2016; World Bank, 2011).

Cognizant of this, Ethiopia has given a considerable attention to TVET as one of the main components of poverty reduction and national development since long time ago. 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.

To provide both students and employers with relevant and valuable labor market information, the factors that affect occupational choice, employment opportunity, and wastage issues of education and training, effectiveness, and efficiency of TVET must be assessed duly (Psacharopoulos & Woodhall, 1985). Effectiveness of TVET is the function of the satisfaction by both the graduates and their employers. It is measured by the percentage of graduates who found employment opportunities. In this regard, TVET's contribution 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 enough (Gasskov, 2000).

To verify the relevance and validity of TVET, it is essential to have labour market orientation, which, by itself, requires augmenting the provision with a tracer study (Psacharopoulos and Woodhall, 1985; Ministry of Education [MoE], 2010). The literature stresses 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. Tracer studies with no doubt deliver authentic as well as up-to-date information about the labor market and the status of graduates if it is conducted periodically. That is why MoE has endorsed this whole idea into its TVET system (MoE, 2008; 2010; MoSHE, 2020). In general, a TVET system without continuous tracer study will not be responsive to the needs of both graduates and the labor market as relevance and employability of TVET delivery process is a function of a tracer study (African Union, 2007; MoE, 2010).

A tracer study measures a TVET output in a holistic approach based on the interacting elements in its environment. Tracer studies are a form of program evaluation in which the employability of graduates, the perceptions of graduates on their learning experience and competence are examined to understand graduates' preparedness and success (Burke, 2005). As to Gasskov (2000) and Psacharopoulos and Woodhall (1985), a tracer study contributes multidimensionally for the entire socio-economic development in general and human resource development in particular, besides measuring the success of TVET institutions in preparing their trainees for the labor market. It informs the following important points: (i) the way how youth join specific occupation and why do they enter them; (ii) the extent to what

institutions help and guide their graduates in finding job or advise them about getting more competence and training; (iii) on the length of time graduates find their first work ; (iv) the sort of work they enter, what they earn and whether that work is related to what they are prepared; (v) whether graduates are competent enough to workplace requirements and their competence gaps if any; (vi) what sort of work graduates prefer and expect; and(vii) 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, and the obstacles faced against self-employment.

To sum up, 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, 2010; Woltermann, 2004). According to Woltermann (2004), LMIS depicts how the systems theory functions as a means of addressing employability of TVET by looking into TVET interrelationships within its parts (interactions in the entire training delivery process) and its interactions with its environment or job seekers and employers. In other words, it is the activity of looking for, collecting, evaluating, analyzing, and delivering LMI to both the supply and demand sides of the labor market. Furthermore, it incorporates different components working independently and together to achieve a common goal, produce employable graduates with gainful earnings. 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. It is, therefore, important to enable the labor market system to operate better by improving the flow of information.

TVET is better understood only when the interrelationships among the different elements of TVET delivery focusing on inputs, processes, outputs, and outcomes is considered (Gasskov, 2000). It is, therefore, important for a tracer study to employ the systems approach into practice. Trying to analyze a TVET system without taking into account the way its parts interact and function will make the analysis insufficient and incomplete (Hanna & Ryan, 2012; Schermerhorn et al., 2002). Thus, analysis that considers dynamic interaction of elements in view of systems theory is recommended by organizational structure scholars (e.g., Bush, 2003; Cameron & Green, 2007; Muller-Christ, 2011; Ahrweiler, 2011; Lunenburg, 2010; Scott, 2008). As per these scholars, systems approach is categorized into close or open conditional on the relationship of the organization with its environment. Those 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.

TVET colleges are affected by the steadily changing customer expectations and fluid external environment (Schermerhorn et al., 2002). Thus, it is highly essential to utilize the open system perspective to understand the internal and external environment of TVET colleges. This is because, naturally, 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 (Bush, 2003; Cameron & Green, 2007; Schermerhorn et al., 2002). 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 to draw the conceptual framework for the current study.

As per the systems theory, the context-input-process-product (CIPP) model is an overarching model that is not only a widely used model but also the most complete model that better explains the conceptual foundation (Aziz et al., 2018; Stufflebeam, 2000, 2015; Warju, 2016). Scholars in the field further argue that employing this model for tracer study is appropriate because it helps to measure the whole aspect of TVET from beginning to end by evaluating 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 indicate the relationship among trainees, trainers, and materials, all of which lie at the heart of TVET quality. Accordingly, Figure 1 demonstrates the conceptual framework or model the current study employed in view of the interacting elements in the TVET environment mentioned in the theory above. With this model, the output, i.e. competence and employability of graduates, is the function of the context set from the outset, the resource supply, and the training process directly or indirectly.

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



## 1.1. 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 graduate 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 that 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 well-know the practice on the ground 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).

More alarming, many employers across the country complain very much about the competence and productivity of TVET graduates, and that they have to retrain the TVET graduates before deploying them into an operation. Lack of competence is also shared by graduates themselves who have reservations about the quality of training they have received in TVET institutions. This was confirmed by the recently introduced TVET strategy by MoSHE (2020), which notes that the achievements of the TVET system in the country were found insignificant. MoSHE was keen to criticize the mismatch between the training programs and the needs of the industry by pinpointing the competence gap by graduates at workplaces and their consequent vulnerability for widespread unemployment. MoSHE claims 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.

The accomplishment of any TVET institution lies on the competence and employability of its graduates, *inter alia*. It is, therefore, essential to conduct a tracer study by TVET institutions at some time intervals to ensure 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.

It was against this backdrop Holeta Polytechnique College (HPC) commissioned Frontieri Consult PLC to conduct this tracer study. The study is expected to alleviate the disparity between the trainings provided and the employability of graduates, as underscored by MoSHE, to ultimately enable HPC to identify to what extent has the concern of MoSHE surfaced in HPC. The study aimed to locate graduates, obtain their feedback to improve the study program and measure the

relevance of the occupations provided for the labor market. Moreover, it is intended to assess how effective and efficient HPC is in meeting its primary objective of creating competent and relevant labor force for the market.

Deficiency in the knowledge about the whereabouts of earlier graduates is believed to have a spillover effect on the future training needs and to meet the changing needs of the labor market. The results of this tracer study are, therefore, intended to inform not only about the destination of earlier graduates but become a basis for generating information necessary for improving future training deliveries, updating occupational standards (OSs) and curriculum so that any training delivered in the future will be 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.

To sum up, the main purpose of this study is to assess the contribution of the training programs for the graduates, relevance of the training to job markets, the employment status of the graduates, and the effectiveness of HPC with respect to the graduates 2010 E. C. In other words, it is to trace a number of graduates who have been either employed or self-employed on 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 this end, the study tried to answer following research questions:

1. How is the employment opportunity and satisfaction of HPC graduates (2009 and 2010 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?

## 1.2. Objective of the study

The main objective of this study was to conduct a tracer study for the 2010 E. C. graduates of **HPC** by exploring the changes of the trainees in their professional career and livelihood after graduation. The study had 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.



## 2. REVIEW OF RELATED LITERATURE

Thanks to globalization, the world has witnessed unparalleled level of competition in every sector over the last few decades (Nakkeeranm et al., 2018). As there are several possibilities to invest resources on the one hand and the scarcity of available resources on the other, a proper cost benefit analysis needs to be conducted before making an investment (Afiouni, 2013; Psacharopoulos & Woodhall, 1985). The education and training sector is not an exception. In fact, an investment in this sector needs even more analysis of effectiveness and efficiency because it deals with developing another critical resource for the performance of other sectors – the human resources attention than other sectors because (Afiouni, 2013; Checchi, 2005; Dustman et al., 2008; Johanson & Adams, 2004). According to Psacharopoulos and Woodhall (1985), in order to achieve the best possible outcome from investment on TVET programs, internal and external efficiency has to be maximized. The analysis and utilization of the LMIS is the key instrument that helps significantly on this regard (MoE, 2010).

According to MoE, LMIS can help TVET institutions to make informed decisions regarding the type and levels of occupations they want to provide training. Among other things, it is useful for the purposed of broad-based data collection on labor market demand and job

opportunities, monitoring outcomes of trainings, and disseminating the findings for the institutions (MoE, 2010). In order to be effective, an LMIS needs to pay attention to three types of data sources: signals from the industry, 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 the changes in employment opportunities and available vacancies for different occupations and the qualifications required to fill the vacancies. Second, it identifies the skills that current employees are missing to perform their tasks fully, which can be used as an input to identify the necessary trainings that need to be provided for the employees. Third, it informs about wages and real income across sectors, occupations and qualifications indirectly signal demand for certain skills. Fourth, it provides a crucial information related to the reaction of the labor market to TVET graduates. Hence, an effective management of LMIS is crucial for the effectiveness and efficiency of TVET.

Generally speaking, LMIS bridges three interacting bodies in the market environment by playing three important functions (Elkins et al., 2012; King & Palmer, 2010; Krahn et al., 2002; Woltermann, 2004). First, it accelerates the creation of possible access for enrolment on employable skills and job placement, which in turn benefits job seekers in their decision related to their short and long-term career goals. Second, it enables employers to have feedbacks for the decisions on their business expansion, recruitment, relocation, skill development, and compensation of their employees. Third, it benefits TVET institutions for future planning, implementation, and evaluation of their training programs, curricula, and career guidance. Besides it also benefits policy makers at any level who would formulate policies and strategies on TVET by enabling them to process, evaluate and filter relevant information required in the policy making process.

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. Currently, 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. In the Ethiopian TVET system, the dual model has been followed over the last decade and half (MoE, 2010).

The dual model has been chosen partly because of at least three reasons that would help to create a strong public-private collaboration in TVET financing and resolve different problems inherent in TVET (Dustmann & Schonberg, 2012; Eichhorst et al., 2012; Kyobe, 2017; Mulder, 2017). First, beyond minimizing the mismatch between supply and demand in the labor market, particularly among graduates, it enables enterprises or companies that provide training to make timely adjust and adapt training curricula to the changing demands of the labor market. Second, it provides a suitable environment for both learning and working by creating more motivation and engagement among trainees. Third, it paves the way for graduates to join the labor market faster by paving the way for early contact with enterprises in the industry. It would also help them to identify better future opportunities and the type of occupations they would like to have in the future. 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). Indeed, prior studies (e.g., Bauer & Gessler, 2017; Quintini & Manfredi, 2009; Quintini et al., 2007) have shown that those countries

who maintained a substantial dual system have addressed the problems of unemployment better than those who did not. The dual approach has also been found to provide better relevance and employability than the school-based approach (e.g., Alet & Bonnal, 2011; Eichhorst et al., 2012; Horn, 2013). These studies have also shown that countries that introduce cooperative training addressed the competence and employability concern of graduates better as compared to countries that practice only school-based delivery. This is because the cooperative scheme improves early labor market attachments that leads to a faster and more structured integration of the youth into the labor market.

This positive view towards the dual approach, however, has been contested. For instance, in relation to the role of creating better job opportunities, Plug and Groot (1998, p.1) stated 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.” Eichhorst et al. (2012) documented experiences where attempts of the dual system have failed. They further contend that benefits incurred early by creating better employment opportunities fade away eventually. Dustmann and Schonberg (2012) also identified a drawback of the dual approach, which is difficulty to replicate it in many countries. They argue that 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, to that effect, 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 workplace. 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 (MoE, 2010). 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).

TVET institutions are market-oriented and can equip graduates with necessary competences and enhance their employability or earning measure their effectiveness (Howell, 2005; MoE, 2010; 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

The philosophical and epistemological underpinnings of the proposed study is a pragmatic research paradigm that refers to a worldview that focuses on “what works” rather than what might be considered absolutely and objectively “true” or “real.” Pragmatism is based on the proposition that researchers should use the philosophical and or methodological approach that works best for the particular research problem that is being investigated. It may employ both formal and informal rhetoric (Creswell and Clark, 2011) and results into a scientifically balanced analysis through acceptance of single or multiple realities that are open to empirical inquiry. 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 was employed to have a more complete understanding of the problem by collecting both quantitative and qualitative data (Creswell, 2014).



### 3.2. Data Sources

Since the study employed cross-sectional mixed approach study design, it used both primary and secondary data. Data was collected from multiple sources through multiple data collection techniques and/or tools. Hence, the data sources for this study are both primary and secondary. The primary data required to meet the objective of the study was collected through questionnaires and key informant interviews from 2010 E.C. graduates, employers of graduates found within 100 KM radius of the HPC as well as from trainers and leaders of HPC. All these are the target population of the study.

### 3.3. Population and sampling

Due consideration was given to incorporate representative samples size to arrive at a sound conclusion that paves the way to prescribe appropriate recommendations. To that effect, the sample size for the study was determined using the formula developed by Yamane (1967) because it is not only a simplified formula to draw a sample size easily but appropriate for a population environment not hierarchically structured that does not nest any segments of the population unnecessarily that otherwise may affect the relevance of the conclusion to be drawn (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 95 % confidence interval, about 155 graduates were selected from the 2010 E.C. HPC graduates. After identifying their years of graduation and occupations of graduates, simple random sampling method was utilized to draw participants from each occupation.

The same procedure was employed to select those employers who will fill the questionnaire. Primarily, all enterprises, companies and government sector offices who employed at least one 2010 E.C. graduates of HPC found within 100 KM radius of HPC were identified. Next, a total of 30 employers were randomly selected for the structured questionnaire. In the end, the sample covered small, medium, and large enterprises as well as government offices.

With respect to qualitative data, HPC trainers and leaders were involved in different key informant interview sessions selected through purposive sampling. Key informant interviews were conducted with 12 trainers and leaders of HPC. Dean of the college, department heads, vocational counsellor, and trainers were included for the key informant interview. A maximum effort was exerted to select more outgoing, articulate, and assertive participants for the key informant interviews.

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

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#### **3.4.1. Questionnaires**

Questionnaires were administered only for graduates and employers. For both groups the questionnaires 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 contains close-ended questions. It covers experiences of graduates both before and after graduation: respondents' profile; employment status and condition of graduates; relevance of graduates' profession; the training methods they used to attend; institutional capacity of HPC they experienced; trainer competence and commitment graduates used to observe; and competence (knowledge, skill and attitude) and performance of graduates. Employer questionnaire, on other hand, incorporated both close-and open-ended items. The major thematic areas addressed in

the employers' questionnaires were the following: 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. The survey data was collected by trained and experienced enumerators in face-to-face interviews using the structured/ questionnaires.

### **3.4.2. Key informant Interviews**

With respect to the key informant interview, KII guides were developed to collect data from trainers and leaders of HPC. KII was employed because, according to Patton (2002), such an interview approach "... 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. Key informant interviews were conducted with dean of the college, department heads, vocational counsellor, and trainers of HPC.

## 4. DATA ANALYSIS

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

Just like the one conducted for the 2009 E.C. graduates, this tracer study also examined the whereabouts and how of the 2010 E.C. graduates of HPC. The study examined the sectors/occupations described in Table 4.1. The occupations/sectors were selected through probability sampling across occupations. As can be seen in the table, the aggregate population size of the graduates was 225, from which participants have been drawn using Yamane's (1967) formula portrayed in the methodology section. 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	2010 E.C.		Total
	Male	Female	
Animal Production	23	5	28
Advance Animal Health Services	37	17	54
Crop Production	21	15	36
Natural Resource	38	34	72
Hard-Ware and Network Service	8	27	35
TOTAL	127	98	225

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

Based on Yamane's formula, about 155 participants were involved in the study. As can be seen from Table 4.2., Level IV graduates dominated the proportion. When it comes to occupation of graduates, natural resource, crop production, advanced animal health services, and animal production occupations took the highest share. Hardware and networking service was the new occupation considered in the tracer study of the 2010 E.C. graduates.

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

Occupation	Qualification level			
	II	III	IV	Total
Animal Production	1	2	26	29
Advanced Animal Health Service	0	0	34	34
Crop Production	0	7	32	39
Natural resources	1	5	35	41
Hardware and Network Service	4	8	0	12
Total	6	22	127	155

#### 4.1.1. Employment opportunity

Regarding the employment status of graduates, data were manipulated from different directions (see Table 4.3). To begin with, examination of data in terms of occupation and/or sector about the employment opportunity of graduates demonstrates that employment opportunity was not only low (29.0%) but also declined from its 2009 level, which was 36.2%. An interviewee has described the problem in a comprehensive and critical way as follows:



*“The reasons for unemployment are [related to the] country’s economy. Primarily, there is a scarcity of industries. Second, those available industries are reluctant to employ graduates ... because they prefer cheap untrained labour to TVET graduated. Third, the government is not effectively supplying resources (starting capital, working place, loans for material procurement, etc.) that help them to create jobs....”*

According to the interview participants, the root cause for graduate unemployment is the demand and supply mismatch for trained labor force. Alike the findings during the tracer study of the 2009 graduates, occupations related to animal production and animal health are relatively more employable than the other occupations considered in this study. Despite an overwhelming majority of interview participants have claimed that they admit trainees based on regular tracer study, reportedly conducted every two years, graduate unemployment rate is

not only higher than employment rate but is also growing steadily. In general, it is painful to hear such a high proportion of unemployed graduates four years after certification, which also grew from 63.8% among the 2009 graduates to 71.0% in a year difference. These findings contradict the principles reported by different scholars in the field, such as Adams, 2012; McGrath et al., 2012, who advise avoiding waste of resources with a TVET that does not facilitate the employability and livelihood of graduates and lacks to address the human power needs of the labor market. The findings are also mismatched with the ideals of Psacharopoulos and Woodhall (1985) who contends that a tracer study that cannot provide both students and employers with relevant and valuable labor market information and cannot help in occupational choice, competencies, and employment opportunity is wastage.

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

Occupation/sector	Employed		Unemployed		Total
	Number	Percentage	Number	Percentage	
Animal Production	10	34.5	19	65.5	29
Advanced Animal Health Service	10	29.4	24	71.6	34
Crop Production	8	20.5	31	79.5	39
Natural resources	11	26.8	30	73.2	41
Hardware and Network Service	6	50.0	6	50.0	12
Total	45	29.0	110	71.0	155

In addition to occupation of graduates, their employment opportunity can be determined by level of qualification. Just like the findings in the 2009 graduates' tracer study, Table 4.4 shows that Level II occupations were better employable, followed by Levels IV and III. Nonetheless, many interviewees believe that there is not that much difference in terms of qualification levels and types of occupation regarding employment opportunities among the graduates of HPC. According to them, what matters in employment opportunity among graduates is whether there are networks of different types with employers, and not competence

level and competitiveness of a graduate. Altogether, it implies a severe efficiency problem in the TVET system of HPC according to Alhasan and Tyabo (2013) because 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 of resource for the nation. By the same token, the current finding diverges from Gasskov (2000) who evidently argued that a TVET that does not contribute for the improvement of graduates is useless. In other words, one of the key performance indicators of TVET is the percentage of graduates who found employment opportunities.

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

Qualification level	2010 E. C.					
	Employed		Unemployed		Total	
	#	%	#	%	#	%
Level II	2	33.3	4	66.7	6	100
Level III	6	27.3	16	72.7	22	100
Level IV	38	29.1	89	70.9	127	100
Total	46	29.0	109	71.0	155	100

With respect to sex, as can be seen in Table 4.5, males are better employed than their female counterparts. This coincided with earlier findings by Anker (1997, 1998) as well as Fawcett and Howden (1998), both cited in Gebremeskel (2018), who argued that entry into the labor market and career development is biased to males in the sense that females are not valued as are males in the labor market no matter females have acquired necessary competences. Although their employment rate is lower and representing a higher proportion of the graduates, the employment gap with their male counterparts has shown an improvement from the 2009 graduates. That is, the gap was reduced from 9.6% to 2.8%, despite the entire employment rate has declined significantly just like that of males. The reasons behind this may generate valuable experiences that needs not only to be kept in the

college but also to be shared for others after a further qualitative investigation on subsequent graduates thenceforth.

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

Sex	Employed		Unemployed		Total
	Number	Percentage	Number	Percentage	
Male	26	31.0	58	69.0	84
Female	20	28.2	51	71.8	71
Total	46	29.7	109	70.3	155

Among the few who have got employment opportunities (see Table 4.6), most got jobs in private enterprises, followed by the public sector, and government development enterprises. Despite the special attention it has been given by the government rhetorically, self-employment accommodated only the lowest proportion (4.3%) of graduates. This aligns with the concerns of MoSHE (2020) that criticized the TVET system for its insignificant achievement. HPC should also beware that low involvement in self-employment might have held back its graduates to alleviate unemployment and generate gainful income, 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	2	6	1	0	10
Advanced animal health service	1	5	2	1	2	11
Crop production	0	5	3	0	0	8
Natural resources	1	7	3	0	0	11
Hardware and Network Service	1	1	4	0	0	6
Total	4	20	18	2	2	46

Inevitably, low self-employment practices have far-reaching consequences in the utility of TVET for graduates and TVET itself. One



interviewee described self-employment in short as “mere talk of government officials for media consumption and inspire donors to grab money at the expense of the jobless poor” with disappointment. Other interview participants also concluded that self-employment is not feasible in a highly corrupt government and corruption-oriented generation of our time in Ethiopia in general.

The type of employment also informs about the utility of TVET. Among the graduates who have got employment opportunity, the overwhelming majority (43 or 93.5%) were employed on full-time basis. The remaining insignificant proportion of them were employed either temporarily or on a part-time basis (see Table 4.7). Despite the smallest proportion they represent, this implies that these graduates have maintained the sustainability of their jobs. With this status of employment opportunity, it is hardly rational to say the socio-economic impact of HPC on graduates and their families is satisfactory enough, given that HPC has equipped many with competences and some with job opportunities which they could not have achieved otherwise. Hence, although many have got competences 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 that much satisfactory.

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

Occupation and/or Sector	Type of employment			Total
	Fulltime employee	Part-time employee	Temporary employment	
Animal production	10	0	0	10
Advanced animal health service	11	0	0	11
Crop production	5	1	2	8
Natural resources	11	0	0	11
Hardware and Network Service	6	0	0	6
Total	43	1	2	46

As the data in Table 4.8 portrays, most graduates, like their predecessors, got employed within three years, followed by those employed within less than a year. The years between one and three are times that most graduates have secured their job opportunities among those employed.

**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	1	8	1	10
Advanced animal health service	2	9	0	11
Crop production	1	7	0	8
Natural resources	0	11	0	11
Hardware and Network Service	1	5	0	6
Total	5	40	1	46

Over and above the type of occupation, sex also discriminated the pace of employment opportunity among HPC graduates. Table 4.9, in this regard, revealed 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 years where employment opportunities are higher than others.

**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
Male	3	23	0	26
Female	2	17	1	20
Total	5	40	1	46

The other very important factor that has its own role in determining graduates' employment opportunity is the methods they apply to

search jobs. In relation to this, as the data in Table 4.10 demonstrates, graduates mostly watch noticeboards, followed by utilizing personal relationships to look for and obtain jobs. With respect to male - female discrepancies in job search, males utilized noticeboards more than females did. Regarding the use of personal relationships as a means of securing jobs, the two sexes have comparably equivalent practices among HPC graduates.

**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	0	11	1	8	6	26
Female	0	8	2	8	2	20
Total	0	19	3	16	7	46

To validate data garnered from graduates about their job search, employers were inquired to inform about the recruitment mechanisms they employ. In this respect, the latter have delivered a report divergent from their employees of HPC graduates. As can be seen in Table 4.11, most employers reported that they employ media advertisement to select their employees. Surprisingly, neither private nor government organizations did rely on noticeboards as alternatives for vacancy announcement for recruiting employees although they were given the chance to choose whether they utilize it. This contrasts with the reports of HPC graduates where none of them reported getting employment opportunities through media advertisement. This inconsistent report or the discrepancy between employers and employees needs further in-depth investigation to refine it more. A widespread nepotism, favoritism and corruption reported by the interview participants in the labor market has something to imply about the divergent reports by the two parties

above, which is also one of the formidable challenges entangled against competence- or merit-based employment opportunity of graduates.

**Table 4.11: Employers' Response about Employee Recruitment Methods They Apply**

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

Data described so far, in general, inform that the employment opportunity of HPC graduates is not only low in its proportion but also is dwindling from year to year. The sources of this problem were presented for participants to rate. Participants pinned down that lack of employing the market-led enrolment, growing nepotism and corruption in the market environment, and lack of producing competitive graduates who can win in the contemporary highly competitive market environment as the challenges in the forefront (see Table 4.12). In contrast to the principles of MoE (2010a) and Woltermann (2004), the current findings about employee recruitment methods applied by employers inform that HPC has disregarded 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.

**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	61	39.4	49	31.6	110
Lack of winning in the market competition	24	15.5	86	55.5	110
Market informality	7	4.5	103	66.5	110
A huge investment demand by the profession	13	8.4	97	62.6	110
Dislike of self-employment by the graduates	1	0.6	109	70.3	110
Lack of attractiveness of salaries offered	3	1.9	107	69.0	110
Nepotism and corruption affected employment opportunities	56	36.1	54	34.8	110

#### 4.1.2. Occupational satisfaction of graduates

Multidimensional interests determine the occupational satisfaction, the extent to which HPC graduates are gratified by the occupations they have been equipped with. According to data collected through interview, the issue of satisfaction starts from the outset, during trainee placement. That is because the method of trainee placement into different occupations plays significant roles in the occupational passion and satisfaction of trainees. In the context of Ethiopia, the occupational choice of newly enrolled trainees is based on their secondary school leaving examination scores. Due to this, according to the interview participants, most trainees admitted more likely did not get their first-choice occupation. On the other hand, the one with relatively best secondary school achievement enjoys getting his/her first choice. In due course of the placement process, many candidates ended up by joining an occupation that is not of their choice. Consequently, the first occupational dissatisfaction and dislike for TVET often starts at this juncture. To make things worse, participants also criticized that the vocational guidance and counselling service is limited to arbitrating disciplinary issues, grading complaints and gender related disputes but not their major task, ensuring a better career utility for trainees.

Moreover, when graduates were requested to respond on how much their occupation helped them in their livelihoods, their feelings seemed somewhat polarized. While the first majority (18 or 40%) of graduates rated their occupation as highly helpful, the next majority (16 or 35.5%) rated it as not helpful at all. The inconsistent finding is due to the discrepancies in the utilities of different occupations. For instance, while advanced animal health service was rated as highly helpful, crop production was rated as predominantly not helpful at all. Aggregating such divergent figures unnecessarily created a sort of balanced aggregate feeling. 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.

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

Occupation and/or sector	Highly helpful	Someho w helpful	A little helpful	Not helpful at all	Total
Animal production	5	0	1	4	10
Advanced animal health service	8	1	1	1	11
Crop production	0	1	1	6	8
Natural resources	3	2	2	4	11
Hardware and Network Service	2	3	0	1	6
Total	18	7	5	16	46

Understanding the satisfaction level of graduates with the job also helped to gauge the effectiveness of the training HPC provides. In this regard, as Table 4.14a shows, proportionally less graduates (21 or 46.67%)

are satisfied with their job. This implies that not only did the employment opportunity but also the level of satisfaction by those who have got a job opportunity deteriorated from 2009 E.C. to 2010 E.C. Given the majority of graduates are unemployed, job satisfaction with less than half of the employed graduates may result in the decline of the importance of TVET among young school leavers, which in the end, may result in worsening the unemployment problem. When the figures are viewed in terms of sex, on the other hand, the job satisfaction level of both males and females declined in 2010 E.C. It showed a decline from 19 (67.9%) for males and 9 (50%) for females in 2009 to 13 (50%) and 8 (40%) in 2010 consecutively (see Table 4.14a). This finding matches with other sources of literature that analyzed gender-based occupational segregation (e.g., African Union, 2007; Anker, 1998; Ethiopian Society of Population Studies, 2008). It is the result of gender patterns of socialization and gender roles as if there is women's work or men's work.

**Table 4.14: Employed Graduates' Satisfaction with Their Job in Terms of Sex**

Sex	Satisfied	Not satisfied	Total
Male	13	13	26
Female	8	12	20
Total	21	25	46

Regarding level of job satisfaction by employed graduates in terms of levels of qualification, levels III and IV graduates have 50% and 48.6% levels of job satisfaction (see Table 4.14b). This informs not only a low level of satisfaction among employed graduates but also the existence of the same trend of decline in their satisfaction (it was 80% and 61.5% in 2009 consecutively) as well, with no satisfaction totally observed among Level II graduates of this year too. Satisfaction levels deteriorated indiscriminately when viewed in terms of types of occupation too, except in the case of animal production where the job satisfaction among the employed graduates has risen to 60%, from 57.1% in 2009. It dropped

from 100% to 72.7% for advanced animal health services, from 58.3% to 25% for crop production, and from 58.3% to 18.2% for natural resources (see Table 4.14c). Given the majority of graduates are still unemployed, the decline in the proportion of graduates who are satisfied with the jobs they secured inevitably results in the decline of the importance of TVET among young school leavers, not to mention the more severe and damaging 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 earn a living and create satisfaction.

a) In terms of qualification level

Indicator	Response	Qualification level			
		II	III	IV	Total
Satisfaction with their current job	Yes	0	3	18	21
	No	2	3	20	25
	Total	2	6	37	46

b) In terms of occupation

Occupation and/or sector	Yes	No	Total
Animal Production	6	4	10
Advanced animal health service	8	3	11
Crop production	2	6	8
Natural resources	2	9	11
Hardware and Network Service	3	3	6
Total	21	25	46

Moreover, employed graduates (be it wage employed or self-employed) were inquired to deliver data about their gross monthly income with intention to track and gauge how a reasonable and satisfactory income they gain. As can be understood from Table 4.15a, graduates' income is in most cases concentrated between 3001 and 6000 ETB, which is relatively very low when compared with the



requirements of the living standards in the country these days. Those predominantly observed income rates translate to between around 57.5 and 115.5 USD per month with the current market exchange rate, or a daily rate of between 1.22 and 4.83 USD. Besides, the proportion of employees who earn a relatively better pay decreased from 2009 to 2010, implying that TVET graduates employed in different enterprises are moving down toward lower income from year to year, not to mention the worse problem their unemployed counterparts suffer from. Unlike the recommendations by scholars in the field (such as Adams, 2011; King & Palmer, 2010; Kingombe, 2012), the income the graduates of HPC earn lacks to meet the contexts of today's globalized and competitive socio-economic system due to HPC's ineffectiveness to create employable graduates who can generate adequate income and maintain their livelihoods sustainably.

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

a) Gross monthly income

Income in ETB	Employed graduates	
	Number	Percentage
600-1000	1	2.2
1001-2000	-	-
2001-3000	7	15,2
3001-4000	15	32.6
4001-5000	14	30.4
5001-6000	5	10.9
6001-7000	3	6.5
7001-8000	1	2.2
Total	46	100

Furthermore, the earnings of employed graduates were compared with their level of qualifications to see how much merit based and rational the market environment is. Table 4.15b below reveals there is no pattern and employee earnings are somewhat haphazard. Pearson correlation was also conducted to fine tune this finding with a more scientific method. Like that of the graduates of 2009, the correlation coefficient run to gauge the relationship between the income employed graduates earn and their level of qualification showed no significant relationship ( $r = .039$  at  $p < 0.05$ ). In this respect, the literature (e.g., Tikly, 2013; Vegas & Petrow, 2008; World Bank, 2011) consistently commends that enhancing access for the opportunities of TVET alone could not reduce the problems of unemployment, income inequalities and poverty, and instead, paving the way for securing gainful opportunity right from the admission stage matters highly.

b) Relationship between income and qualification level of employed graduates

Qualification level	Gross monthly income in ETB								Total
	600-1000	1001-2000	2001-3000	3001-4000	4001-5000	5001-6000	6001-7000	7001-8000	
Level II	0	0	0	2	0	0	0	0	2
Level III	0	0	1	2	2	0	1	0	6
Level IV	1	0	6	11	12	5	2	1	38
Total	1	0	7	15	14	5	3	1	46

Whether graduates who are employed in occupations are satisfied with their job is worth examining to gauge their satisfaction with the competences and the utility of their occupation. Table 4.16 demonstrates the match between the occupations HPC graduates had been certified with before their employment and the jobs they are engaged in. There are two contradictory findings observed from the table. While the highest proportion (21 or 46.7%) of employed graduates have reported that their jobs are not related with the occupations they are certified with, the next highest proportion (16 or 35.5%) of them reported the existence of a high relationship between their occupation and job. The rest of participants lie in-between are more or less related and related to a low extent. These findings are consistent with the findings regarding the utility of the occupations that graduates have been certified with (refer to Table 4.13), where both tables inform HPC to depend on market needs while enrolling trainees into different occupations and levels of qualifications. This finding rightly coincides with the 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 often have 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. These scholars also add that in those regions (developing countries), TVET is suffering from lack of relevance to the labor market and creating employment opportunities for graduates, and hence is subjected to mere wastage of scarce resources, particularly in very poor economies, instead of rendering adequate benefits to improve the livelihood of graduates and the society at large.

**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	6	0	0	4	10
Advanced animal health service	7	2	1	1	11
Crop production	0	1	0	7	8
Natural resources	3	1	0	7	11
Hardware and Network Service	0	3	1	2	6
Total	16	7	2	21	46

## 4.2. Graduate Competence and Workplace Requirements

Competence in TVET refers to the knowledge, skills and attitude that a graduate demonstrates. Indicators described in Table 4.17 describe the commonly utilized constructs or indicators of competence. The data in the table shows the retrospective perception of graduates about the competence HPC has equipped them with. Accordingly, graduates claimed that they had more than average ( $M = 3.00$ ) level of competence in all sorts of indicators described. Like that of the 2009 graduates, the competences in self-confidence ( $M = 4.07$  and  $4.00$ ), work ethics ( $M = 4.19$  and  $4.07$ ), and professional passion ( $M = 4.08$  and  $4.05$ ) of the 2010 graduates are relatively better than in the other elements of competences. Based on their self-evaluation, it can be concluded that the competence of graduates did not show significant improvements in all sorts of indicators.

**Table 4.17: Perception of Graduates about their Competence (N = 125)**

Competence indicator			Competence indicator		
	Mean	Std. Deviation		Mean	Std. Deviation
Entrepreneurial skill	3.06	.811	Work ethics	4.07	.571
Problem solving capability	3.45	.775	Professional passion	4.05	.617
Team spirit	3.65	.691	Project management skill	3.49	.658
Communication skill	3.55	.656	Time management skill	3.64	.643
Planning and programming capability	3.69	.576	Endurance	3.66	.586
Information technology	3.13	.762	Creative thinking	3.58	.673
Critical thinking	3.67	.666	Strategic thinking	3.46	.616
Learning new skills and adaptability	3.43	.665	Ability to work independently	3.88	.581
Organizing and leadership capability	3.54	.676	Negotiating skill	3.94	.589
Decision making skill	3.61	.658	Ability to work under pressure	3.78	.637
Self confidence	4.00	.635	Risk taking and risk analysis skill	3.76	.615

In addition to data garnered from graduates' self-evaluation, in this study employers were requested to share their experiences about the competence of HPC graduates in their workplaces. This was done with the intention of having a more concrete understanding by triangulating data in terms of sources (depicted by Table 4.18). Just like the claim made by graduates themselves, all the mean scores (which ranged from 3.00 regarding creative thinking to 3.90 for work ethics) of employers displayed in the table are only a fraction higher than the average score ( $M = 3.00$ ). This in turn implies that graduates and employers do not have that much difference about the competence of the former. The current finding in this respect is inconsistent with notable sources of literature (Afiouni, 2013; Checchi, 2005; Dustman et al., 2008; Johanson & Adams, 2004; Nakkeeran et al., 2018) that suggested graduate competence levels shall go far beyond average to optimize internal and external efficiency and survive in the highly globalized and competitive environment which is characterized by

pervasive and unprecedented competition and rapidly and continuously changing technology and work situation.

**Table 4.18: Perception of Employers on the Competence of HPC Graduates**

Variable			Variable		
	Mean	Std. Deviation		Mean	Std. Deviation
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

A further scrutiny has been conducted by running an independent samples t-test to for a better understanding of the competence of graduates. In this respect, Table 4.19 displays varying outputs; some demonstrating the existence of significant differences and others showing 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 perception 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 displayed 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 skills, information technology,

critical thinking, negotiation skills, and learning new skills and adaptability. The data in the table imply that the graduates and their employers have different perceptions regarding the competence of the former that HPC has to take into consideration in its endeavor to meet market demands.

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

COMPETENCE INDICATORS	T-VALUE	P-VALUE	COMPETENCE INDICATORS	T-VALUE	P-VALUE
Entrepreneurial skill	0.6076	0.5457	Work Ethics	-1.4618	0.1455
Problem-solving capability	-0.5509	0.5824	Professional passion	-2.4243	0.0207
Team spirit	0.1571	0.8753	Project management skill	-2.4404	0.0156
Communication skill	-0.6696	0.5039	Time management skill	-2.9405	0.0037
Planning and programming capability	-5.4505	0.0000	Endurance	-3.6512	0.0003
Information technology	-0.1968	0.8442	Creative thinking	-4.2109	0.0001
Critical thinking	-1.5927	0.1130	Strategic thinking	-2.6784	0.0103
Learning new skills and adaptability	-0.9885	0.3242	Ability to work independently	-2.7969	0.0083
Organizing and leadership capability	-2.5412	0.0119	Negotiating skill	-1.1472	0.2528
Decision-making skill	-1.8702	0.0631	Ability to work under pressure	-2.1984	0.0341
Self-confidence	0.0631	0.0006	Risk-taking and risk analysis skills	-2.6674	0.0083

This tracer study also investigated the job performance and skill gaps of HPC graduates as functions of graduate competences. Table 4.20 presents mixed perceptions by employers in this respect. While part of the employers felt graduates demonstrate high job performance, an equal proportion of them reported a moderate performance. 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 competences but are poor in their workplace performance for reasons still need further scrutiny.

**Table 4.20: Employers' Perception about 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

Workplace performance and skill gaps of graduates were also contrasted in terms of employer experiences. Accordingly, much discrepancy was not observed among employers with differences in their service years too in gauging both the performance and skill gaps of HPC graduates. Nonetheless, the number of graduates whose performance does not satisfy their employers and those who do have skill gaps have their own implications that HPC shall change into an advantage for its future performance. Hence, since one of the major prerequisites of an effective workplace performance is a skill or competence, the finding of the current study cites notable authorities in the field (such as Billett, 2017; Cairns & Malloch, 2017; Day, 2017; Hyland, 2017; King & Palmer, 2010; Mulder & Winterton, 2017) who emphasize the CBET strategy as an essential remedy for enhancing performance by filling trainee skill gaps during training delivery.



**Table 4.21: Workplace performance and skill gaps of 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

Input is an indispensable factor in assuring TVET utility. With respect to input, the first factor the current tracer study sought to examine was occupational relevance. As such, as Table 4.22 reveals, the relevance of the occupations under study was below average in all sorts of indicators set to measure occupational relevance. In addition, data presented in terms of occupation (see Annex A) have more or less the same pattern. That is, majority of the graduates felt that their occupations are somewhat adequate, followed by inadequate, and adequate, in that order, for workplace requirements. It all implies that although, seemingly HPC has shown an improvement in maintaining the relevance of the occupations for the market demand, the employment opportunity of its graduates is dwindling from year to year, which calls for a closer and deeper scrutiny and appropriate remedy. The suggestions by scholars in the field (e.g., Ajibola & Jumoke, 2012; Badawi, 2013; Bhanugopan & Fish, 2009; Elkins, Krzeminski & Nink, 2012) who strongly echo that a three-way communication or interaction among three actors (interactions among the TVET institutions, labor market, and potential trainees) is very

essential to maintain the relevance of TVET and ultimate employability of its graduates.

**Table 4.22: A Retrospective Evaluation of the Training by the Graduates on Relevance of occupation for the market demand**

Occupational relevance	Employment status	N	Mean	Std. Deviation
Relevance of occupation to the job market	Employed	46	2.29	.991
	Unemployed	109	2.17	.800
The theoretical content of the OS	Employed	46	2.60	.654
	Unemployed	109	2.44	.657
Emphasis to international standards and best practices	Employed	46	2.42	.621
	Unemployed	109	2.36	.602
Fitness to workplace dynamics	Employed	46	2.42	.839
	Unemployed	109	2.29	.708
Fitness to the local industry (market)	Employed	46	2.24	.802
	Unemployed	109	2.22	.817
Reliance on counselling and career guidance service	Employed	46	2.69	.763
	Unemployed	109	2.66	.579

The other resource component examined has emphasized facilities, infrastructure and other material resources. In this respect, as displayed below in Table 4.22b, the mean scores of the graduates about the supply of facilities, machinery, and other material resources had been below average (average mean score is 3.00). The data in Tables 4.22c and 4.23 also complement that the industrial attachment or cooperative training practice used is below average in its practice in the views of both employed and unemployed graduates. Most interview participants agree that cooperative training is attempted just for the sake of formality but not to address its intended objectives due to various complicated problems. This problem has been applauded by most interview participants, among which the remark made by one of them is quoted here under:



*“In cooperative training we take our trainees ... to visit farms and factories.... The logic is trainees will exercise in fields to complement the theories they have learned in the class. But practically it is not ...because factories or farms do not allow trainees to do the tasks or operate some machines since it is costly for them. So, in most cases trainees only observe the process.”*

Unlike in academic education, since material resources are indispensably essential to effectively carry out a day-to-day practical exercise and equip trainees with the necessary skills in TVET, an environment with resource scarcity, obviously produces graduates without necessary competencies acquired and leaves them vulnerable for the brunt of unemployment.

In contrast to this, one of the authorities who complained about a widespread problem of graduates' unemployment earlier claimed that HPC has the necessary material resources. The following is an excerpt from the translated transcription of his interview data:



*“Our college has sufficient infrastructure. There is a furnished laboratory, modern technology, capable trainers, demonstration sites. Human resource is abundant. For instance, some trainers here came from industry. These trainers give training after they learn pedagogy. Those who come from federal TVET institute are empowered by pedagogy. Even some NGOs give training to them on effective teaching, performance assessment and evaluation system. Generally, infrastructure is good. Nevertheless, there is a sort of skill gap in technical competence, especially during operating new machine. There is also reluctance in attitude. People do not do what is expected of them.”*

All that he has said is probably an idea attempted for the sake of image building, which the current government in Ethiopia is accustomed to. Otherwise, an interviewee who complained about a widespread

problem of graduate competence and unemployment can in no way claim the availability of ample human and material resources with the necessary qualities fulfilled and in sufficient quantity. In relation to resource supply, HPC seems to be on the crossroads because neither did it implement the cooperative or dual TVET strategy that many valuable authorities (e.g., Alet & Bonnal, 2011; Bauer & Gessler, 2017; Eichhorst et al., 2012; Horn, 2013; Quintini & Manfredi, 2009; Quintini et al., 2007) have confirmed its utility in improving the competence, relevance and employability of graduates, nor equipped its workshops with the necessary facilities and material resources.

a) Supply of facilities and material resources (N = 46 employed; 109 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	2.84	.824	Workshop furniture	Employed	2.53	.968
	Unemployed	2.49	.810		Unemployed	2.65	.999
Machinery	Employed	2.38	.747	Maintenance service	Employed	2.78	1.042
	Unemployed	2.29	.805		Unemployed	2.45	1.105
Hand tools and equipment	Employed	2.80	.726	Power supply	Employed	2.60	.618
	Unemployed	2.48	.763		Unemployed	2.61	.889
Consumable materials	Employed	2.38	1.093	Water supply	Employed	3.02	.723
	Unemployed	2.53	1.155		Unemployed	2.69	.854
Computers	Employed	2.51	.944	Internet access	Employed	2.56	.785
	Unemployed	2.21	.847		Unemployed	2.11	.912

#### 4.3.2. The training processes

The process of training is as important as resource supply in TVET. Expecting competent graduates without paying adequate emphasis for and appropriate training process is akin to inviting someone to a dinner of roast chicken and then denying him a knife. An effective TVET delivery process starts with the preparation of session plans depending on the individual needs of trainees. To optimize effectiveness and efficiency, subsequently, the training delivery needs a closer follow up and continuous assessment. Nonetheless, as all the mean scores in Table

4.22c depict, the emphasis or practice of different training methods that the graduates have passed through were below average. Those mean scores described in the table imply that participants have 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 differences from what are described in Table 4.22c. It is because, in most cases, participants from all occupations/sectors felt that the level of satisfaction graduates had on the training methods applied were predominantly 'somewhat adequate', the aggregated average of which does not reach average. 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 for it is highly useful methodology that focuses on the performance of trainees (Fan, 2017; Hauuanga, 2017; Nakkeeran et al., 2018; Panth & Caoli-Rodriguez, 2017).

b) Training methods used to equip graduates with the necessary competences (N = 46 employed; 109 Unemployed)

Training methods applied	Employment status	Mean	Std. Dev.	Training methods applied	Employment status	Mean	Std. Dev.
Reliance on training session plans	Employed	2.82	.716	Practice of CBET	Employed	3.02	.583
	Unemployed	2.73	.557		Unemployed	2.94	.654
Emphasis for trainees' learning needs	Employed	2.84	.520	Industrial attachment	Employed	2.24	.908
	Unemployed	2.83	.662		Unemployed	2.08	.836
Reliance on trainee record book	Employed	2.73	.720	Workshop and material utilization	Employed	2.67	.769
	Unemployed	2.75	.612		Unemployed	2.56	.698
Adherence to work safety	Employed	3.02	.657	Attention for practical exercise	Employed	2.93	.618
	Unemployed	2.95	.588		Unemployed	2.75	.706
Continuous competence assessment	Employed	3.09	.668	Attention for theoretical concepts	Employed	2.84	.673
	Unemployed	2.99	.583		Unemployed	2.85	.666
Feedback delivery	Employed	2.64	.743				
	Unemployed	2.63	.728				

Obviously, the effectiveness and quality of training methods applied is a function of the competence and commitment of trainers. With this in mind, the current tracer study focused on both trainer competence and commitment to gauge the quality of the training methods applied in HPC during the training delivery for the graduates under scrutiny. Accordingly, except for the practical skills of employed graduates (M = 3.16), as Table 4.22d depicts, participants involved in this study revealed that in all the indicators, the competences of their trainers were below average. (A more detailed occupation-by-occupation and/or sector-by-sector data that attempted to describe the differences among trainers' competences across occupations/sectors are described 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) in such a way, that “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).

c) Graduates’ perception about the competence of their trainers (N = 46 employed; 109 Unemployed)

Trainer competence	Employment status	N	Mean	Std. Deviation
Subject matter knowledge	Employed	46	3.04	.520
	Unemployed	109	2.89	.564
Practical skills	Employed	46	3.16	.475
	Unemployed	109	2.81	.657
Project formulating competence	Employed	46	2.67	.522
	Unemployed	109	2.50	.632
Capability of competence assessment	Employed	46	2.91	.514
	Unemployed	109	2.83	.604
Communication skills	Employed	46	2.91	.668
	Unemployed	109	2.73	.604
Determination to trainee competence	Employed	46	2.93	.751
	Unemployed	109	2.85	.541

Unlike their perceptions regarding their trainers’ competence, graduates involved in this study have a more satisfactory feeling on the commitment of their trainers, despite those scores by themselves did not that much exceeded average scores. In fact, participants scored below average the commitments of their trainers regarding professional motivation, training session management skills, preparation to deliver training, and zeal for delivering counselling services for their trainees. Examinations made to measure the commitment of trainers through these indicators in terms of occupations and/or sectors also demonstrated not that many discrepancies across

occupations/sectors (see Annex E). 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.

d) Graduates' perception of the commitment of their trainers (N = 46 employed; 109 Unemployed)

Trainer commitment	Employment status	Mean	Std. Deviation	Trainer commitment	Employment status	Mean	Std. Deviation
Professional motivation	Employed	2.93	.580	Preparation	Employed	3.07	.654
	Unemployed	2.89	.611		Unemployed	2.96	.663
Training session management capability	Employed	2.96	.520	Occupational passion	Employed	3.20	.505
	Unemployed	2.95	.572		Unemployed	3.10	.558
Respect for trainees	Employed	3.09	.417	Workplace ethics	Employed	3.16	.562
	Unemployed	3.04	.574		Unemployed	3.13	.527
Workplace availability	Employed	3.07	.720	Occupational knowledge	Employed	3.18	.650
	Unemployed	3.08	.608		Unemployed	3.02	.488
Counseling service	Employed	3.04	.706	Occupational skill	Employed	3.24	.679
	Unemployed	2.87	.622		Unemployed	2.95	.603

To fill the gaps that TVET colleges and their trainers have to equip trainees with the necessary competences, these days, involving the industry in all sorts of TVET is one of the strategies employed. Table 4.23 focuses on the perception of employers about industry involvement or cooperation with HPC. As can be observed from the table, alike graduates, employers (companies and enterprises) scored that their involvement in TVET was below average at all levels. Appendix G further reveals the situation in terms of company type and levels of involvement and complements the scores in this table in another way. Hence, expecting graduate competence and employability without equipping TVET colleges with necessary resources or without supporting the training with a due participation of the industry is a futile exercise that HPC has to give adequate attention to. The finding with



the entire training process seems to be in a deadlock between applying cooperative TVET, market-based liberal approach, and 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: 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 need assessment	2.60	1.192
In vocational guidance and counselling	2.53	1.042



## 5. SUMMARY OF FINDINGS

### ➤ **Employment status of HPC graduates**

- Relatively speaking employment opportunity among the 2010 E.C. graduates of HPC is not only very low but also below the 2009 E.C. rate. Although most interviewees felt that the unemployment problem among the graduates of HPC is severe across all qualification levels, some other interview participants replied that levels II are the most vulnerable qualification levels for unemployment. Survey data sources, on the other hand, revealed Level II occupations were better employable than others followed by levels IV and III.
- Hardware and networking service is a more employable occupation followed by animal production and animal health occupations among the graduates of 2010 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 two among 46 employed graduates are self-employed. Although self-

employment is the priority of the TVET strategy, it is not realized as intended.

- It took one to three years for most graduates to get their first job among the 46 employed, with a few who waited for more than three years to get their first job. The number of graduates who have got their first employment in less than a year and after three years decreased, whereas the number of those who secured their first job between one and three years increased when compared with those of the 2009 graduates.
- Just like the finding in the 2009 study, the employment procedure of the 2010 graduates is exposed to blame games. Although the majority of the few employed graduates have reported that they got their jobs from adverts in noticeboards and through personal networks and communications, employers claimed that they recruit employees through media advertisements, and not through noticeboard announcements or personal networks.

➤ **Income status of HPC graduates**

- Most (71.7%) HPC graduates (13% higher than the 2009 graduates) among those who 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 not only a very low income when compared with the livelihood requirements of the current living standards in Ethiopia but also shows an increase in volume when compared with the 2009 E.C. situation.

➤ **Job history of graduates and challenges for sustainability in their job**

- Among the graduates of HPC involved in this study and have got job opportunities, 43.5% are employees of private enterprises, 8.7% are employees of government enterprises, 39.1% are employees of public sectors, and only two (4.3%) is self-employed. This time it is the public sector employment opportunity that showed a significant rise at the expense of others' self-employment with only one increase.
- Just like earlier times, employment opportunities are challenged in trainee enrolment, failing to take 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**

Just like the findings of the 2009 E.C. tracer study, half and one-third of employers consecutively felt that HPC graduates employed in their organizations have moderate or low job performance and skill gaps 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, high unemployment and under-employment problems have prevented it from realizing the necessary impact of the college on the livelihood of graduates and their families effectively. The problem gets worse when compared with the case in 2009 E.C.
  
- **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 entangled 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 part of the employers felt that graduates demonstrated high and very high job performance, an equal proportion of them reported they have moderate and low performance. With respect to skill gaps, the majority of employers do not think that graduates of HPC have gaps. In contrast, employers know the competence level of graduates is not that much higher than

average, implying that they do 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 imply the inevitability of skill gaps among graduates.

- Both graduates and employers rated the competencies of graduates employed around average, as measured 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 whereabouts and why of graduates. The efficiency and relevance of the programs delivered were found very poor, because 71.0% of the graduates are unemployed, 50.0 % of the graduates employed felt their jobs have a little or no relation to the occupations they are certified for, and 45.7% (6.5% higher than 2009) of the graduates employed reported that their occupations are only a little helpful or not helpful at all for their livelihoods. That is meant the utility of the occupations HPC trainees are graduated with is increasing from year to year.
- The quality of the training for the 2010 graduates was poor because the mean scores of both employed and unemployed graduates regarding the material input supply, the competence and commitment of trainers, and the training methods employed were below average. In addition, the competence of the graduates that did not exceed the average score in most

cases and the unemployment rate confirm the quality of the training delivered in different programs was low.

- The poor practice of cooperative training that used to be employed also concludes the existence of a quality problem in the training delivery of the different programs

➤ **Graduates current work conditions from decent work perspectives**

- The majority of the graduates are suffering from problems of unemployment after lots of costs and opportunity costs. In addition, the underemployment of most of the employed graduates themselves has 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 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 are only a little helpful or not helpful at all for their livelihood, which implies 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 reported that their jobs have no relation to the occupations they were certified in.
- 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, probably with a spillover effect on their job too.



## 6. CONCLUSION

In HPC employment opportunity among the graduates of 2010 E.C. is not only very low but many among them are engaged in jobs different from the occupations they are certified in as well. Since the greatest proportion of graduates is unemployed up to the date of data collection for this study, it is highly likely that leaving the young and productive generation unemployed for the past four years inevitably adds up to public dissatisfaction and may 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 study.
  - HPC shall give adequate emphasis for the effective functionality of LMIS and VC services.
  - The leaders in HPC shall pay adequate attention for enrolment to be based on knowledge and factual 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 necessary inputs is unthinkable in TVET. Maximizing enrolment without supplying necessary material resources and poor practices of cooperative training is not only compromising quality but also contradicting one of the key principles of the TVET strategy, implementing CBET to make TVET outcome based. Training provision should align 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 transparent, principle- and competency-based employment opportunity and pay system.



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## ANNEX

### 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	7	11	8	3	0	29
	Advanced animal health service	10	6	17	1	0	34
	Crop production	8	17	13	1	0	39
	Natural resources	9	19	13	0	0	41
	Hardware and Network Service	2	5	4	0	1	12
	<b>Total</b>		<b>36</b>	<b>58</b>	<b>55</b>	<b>5</b>	<b>1</b>
Theoretical content of OSs	Animal production	2	8	16	3	0	29
	Advanced animal health service	5	11	18	0	0	34
	Crop production	2	15	22	0	0	39
	Natural resources	2	21	18	0	0	41
	Hardware and Network Service	0	6	6	0	0	12
	<b>Total</b>		<b>11</b>	<b>61</b>	<b>80</b>	<b>3</b>	<b>0</b>
Emphasis to international standards and best practices	Animal production	1	10	17	1	0	29
	Advanced animal health service	2	15	16	1	0	34
	Crop production	0	25	14	0	0	39
	Natural resources	2	25	14	0	0	41
	Hardware and Network Service	3	7	2	0	0	12
	<b>Total</b>		<b>8</b>	<b>82</b>	<b>63</b>	<b>2</b>	<b>0</b>
Fitness to workplace dynamics	Animal production	1	10	17	1	0	29
	Advanced animal health service	2	15	16	1	0	34
	Crop production	0	25	14	0	0	39
	Natural resources	2	25	14	0	0	41
	Hardware and Network Service	3	7	2	0	0	12
	<b>Total</b>		<b>8</b>	<b>82</b>	<b>63</b>	<b>2</b>	<b>0</b>
Fitness to the local industry (market)	Animal production	4	13	9	3	0	29
	Advanced animal health service	6	12	15	1	0	34
	Crop production	8	20	11	0	0	39
	Natural resources	12	10	18	1	0	41
	Hardware and Network Service	2	6	4	0	0	12
	<b>Total</b>		<b>32</b>	<b>61</b>	<b>57</b>	<b>5</b>	<b>0</b>
Reliance on Counseling and career guidance service	Animal production	1	7	19	2	0	29
	Advanced animal health service	0	9	24	1	0	34
	Crop production	2	12	25	0	0	39
	Natural resources	4	8	27	2	0	41
	Hardware and Network Service	2	2	8	0	0	12
	<b>Total</b>		<b>9</b>	<b>38</b>	<b>103</b>	<b>5</b>	<b>0</b>

**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	2	11	14	2	0	29
	Advanced animal health service	4	9	19	2	0	34
	Crop production	0	18	17	4	0	39
	Natural resources	4	17	14	4	2	41
	Hardware and Network Service	2	3	5	1	1	12
	<b>Total</b>		<b>12</b>	<b>58</b>	<b>69</b>	<b>13</b>	<b>3</b>
Machinery	Animal production	4	15	8	2	0	29
	Advanced animal health service	4	10	18	2	0	34
	Crop production	5	22	12	0	0	39
	Natural resources	6	19	13	2	1	41
	Hardware and Network Service	2	7	2	1	0	12
	<b>Total</b>		<b>21</b>	<b>73</b>	<b>53</b>	<b>7</b>	<b>1</b>
Hand tools and equipment	Animal production	2	14	12	1	0	29
	Advanced animal health service	1	11	21	1	0	34
	Crop production	0	18	19	2	0	39
	Natural resources	6	11	20	2	2	41
	Hardware and Network Service	1	5	4	1	1	12
	<b>Total</b>		<b>10</b>	<b>59</b>	<b>76</b>	<b>7</b>	<b>3</b>
Consumable materials	Animal production	4	14	9	1	1	29
	Advanced animal health service	6	14	10	0	4	34
	Crop production	7	14	11	1	6	39
	Natural resources	9	16	13	0	3	41
	Hardware and Network Service	1	4	4	0	3	12
	<b>Total</b>		<b>27</b>	<b>62</b>	<b>47</b>	<b>2</b>	<b>17</b>
Computers	Animal production	8	7	13	1	0	29
	Advanced animal health service	5	9	16	3	1	34
	Crop production	11	14	13	1	0	39
	Natural resources	8	20	11	2	0	41
	Hardware and Network Service	1	3	7	1	0	12
	<b>Total</b>		<b>33</b>	<b>53</b>	<b>60</b>	<b>8</b>	<b>1</b>
Reading materials	Animal production	0	5	20	4	0	29

	Advanced animal health service	1	5	23	4	1	34
	Crop production	2	8	24	5	0	39
	Natural resources	2	15	21	3	0	41
	Hardware and Network Service	1	1	8	2	0	12
	<b>Total</b>	<b>6</b>	<b>34</b>	<b>96</b>	<b>18</b>	<b>1</b>	<b>155</b>
Modules and teaching materials	Animal production	0	4	20	5	0	29
	Advanced animal health service	2	13	12	7	0	34
	Crop production	1	7	27	4	0	39
	Natural resources	2	9	20	10	0	41
	Hardware and Network Service	1	1	5	5	0	12
	<b>Total</b>	<b>6</b>	<b>34</b>	<b>84</b>	<b>31</b>	<b>0</b>	<b>155</b>
Cross cutting resources	Power supply	9	61	73	6	6	155
	Access for internet connection	33	65	46	9	2	155
	Water supply	9	42	81	19	4	155
	Workshop furniture	16	57	63	8	11	155
	Maintenance service	19	70	46	3	17	155

### C. Trainer competence

Competence Category	Occupation and/or sector	IA	SWA	Ad	M A	CD	Total
Occupational knowledge	Animal production	0	1	21	7	0	29
	Advanced animal health service	0	4	25	5	0	34
	Crop production	1	5	30	3	0	39
	Natural resources	0	4	29	8	0	41
	Hardware and Network Service	0	1	7	4	0	12
	Total	1	15	112	2 7	0	155
	Practical skills	Animal production	2	4	14	9	0
Advanced animal health service		0	5	26	3	0	34
Crop production		0	7	29	3	0	39
Natural resources		0	14	22	5	0	41
Hardware and Network Service		0	2	8	2	0	12
Total		2	32	99	2 2	0	155
Project formulating capability		Animal production	0	11	17	1	0
	Advanced animal health service	2	12	19	1	0	34
	Crop production	2	14	23	0	0	39
	Natural resources	1	21	17	2	0	41
	Hardware and Network Service	0	6	6	0	0	12
	Total	5	64	82	4	0	155
	Competence assessment capability	Animal production	0	7	18	4	0
Advanced animal health service		0	10	22	2	0	34
Crop production		0	8	28	3	0	39
Natural resources		1	9	25	6	0	41
Hardware and Network Service		0	2	10	0	0	12
Total		1	36	10	3 5	1 0	155
Training session management capability		Animal production	0	2	20	7	0
	Advanced animal health service	0	7	22	5	0	34
	Crop production	0	7	30	2	0	39
	Natural resources	2	5	30	4	0	41

Hardware and Network Service	0	1	11	0	0	12
Total	2	22	113	1	0	155
				8		

## D. Support for trainees

Competence Category	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Communication skill	Animal production	1	4	21	3	0	29
	Advanced animal health service	0	6	27	1	0	34
	Crop production	1	15	20	3	0	39
	Natural resources	1	11	23	6	0	41
	Hardware and Network Service	1	3	8	0	0	12
	Total	4	39	99	13	0	155
Respect for trainees	Animal production	0	1	19	9	0	29
	Advanced animal health service	0	3	24	7	0	34
	Crop production	0	7	31	1	0	39
	Natural resources	1	2	33	5	0	41
	Hardware and Network Service	0	2	7	3	0	12
	Total	1	15	114	25	0	155
Counseling service	Animal production	1	2	20	4	2	29



Advanced animal health service	0	7	23	3	1	34
Crop production	0	8	29	2	0	39
Natural resources	1	9	25	6	0	41
Hardware and Network Service	0	4	7	1	0	12
Total	2	30	10	16	3	155

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## E. Trainer commitment

Commitment Category	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Determination to trainee competence	Animal production	0	6	15	8	0	29
	Advanced animal health service	0	7	24	2	1	34
	Crop production	0	11	26	2	0	39
	Natural resources	0	10	26	4	0	40
	Hardware and Network Service	1	1	10	0	0	12
	Total	1	35	101	16	1	154
Professional motivation	Animal production	0	4	18	7	0	29
	Advanced animal health service	0	7	21	6	0	34
	Crop production	0	11	27	1	0	39
	Natural resources	2	5	29	5	0	41
	Hardware and Network Service	0	3	9	0	0	12
	Total	2	30	104	19	0	155
Workplace availability	Animal production	0	3	18	8	0	29
	Advanced animal health service	0	5	20	9	0	34
	Crop production	0	5	29	5	0	39
	Natural resources	1	6	22	12	0	41
	Hardware and Network Service	1	1	8	2	0	12
	Total	2	20	97	36	0	155
Workplace ethics	Animal production	0	1	18	9	1	29

	Advanced animal health service	0	3	22	9	0	34
	Crop production	0	3	32	3	1	39
	Natural resources	0	3	33	5	0	41
	Hardware and Network Service	0	1	9	2	0	12
	Total	0	11	114	28	2	155
Adherence to work safety	Animal production	1	1	26	1	0	29
	Advanced animal health service	0	2	21	11	0	34
	Crop production	0	10	25	4	0	39
	Natural resources	1	8	27	5	0	41
	Hardware and Network Service	1	1	8	2	0	12
	Total	3	22	107	23	0	155
Preparation	Animal production	0	4	15	9	1	29
	Advanced animal health service	0	10	16	8	0	34
	Crop production	0	11	23	5	0	39
	Natural resources	0	5	30	6	0	41
	Hardware and Network Service	0	3	7	2	0	12
	Total	0	33	91	30	1	155
Occupational passion	Animal production	0	2	18	9	0	29
	Advanced animal health service	0	1	23	10	0	34
	Crop production	0	8	25	6	0	39
	Natural resources	0	2	33	6	0	41
	Hardware and Network Service	0	1	8	3	0	12
	Total	0	14	107	34	0	155

## F. Training methods used

Method	Occupation and/or sector	IA	SWA	Ad	MA	CD	Total
Reliance on training session plan	Animal production	0	4	20	5	0	29
	Advanced animal health service	2	7	25	0	0	34
	Crop production	0	11	26	2	0	39
	Natural resources	1	12	25	3	0	41
	Hardware and Network Service	1	6	5	0	0	12
	Total	4	40	101	10	0	155
Emphasis on trainees' learning needs	Animal production	2	3	18	6	0	29
	Advanced animal health service	0	8	23	3	0	34
	Crop production	1	10	27	1	0	39
	Natural resources	1	8	28	4	0	41
	Hardware and Network Service	0	4	7	1	0	12
	Total	4	33	103	15	0	155
Continuous competence assessment	Animal production	0	1	23	5	0	29
	Advanced animal health service	1	3	22	8	0	34
	Crop production	0	8	25	6	0	39
	Natural resources	0	7	28	6	0	41
	Hardware and Network Service	1	2	6	3	0	12
	Total	2	21	104	28	0	155
Reliance on trainee record book	Animal production	2	3	22	2	0	29
	Advanced animal health service	1	11	21	1	0	34
	Crop production	1	14	21	3	0	39
	Natural resources	1	9	27	4	0	41
	Hardware and Network Service	1	2	8	1	0	12
	Total	6	39	99	11	0	155
Feedback delivery	Animal production	2	9	16	2	0	29
	Advanced animal health service	2	10	18	4	0	34
	Crop production	2	10	25	2	0	39
	Natural resources	2	18	17	4	0	41
	Hardware and Network Service	2	3	6	1	0	12
	Total	10	50	82	13	0	155
Practice of CBET	Animal production	0	5	17	7	0	29

	Advanced animal health service	0	9	22	3	0	34
	Crop production	0	7	26	6	0	39
	Natural resources	0	10	25	4	2	41
	Hardware and Network Service	0	1	9	2	0	12
	Total	0	32	99	22	2	155
Industry attachment	Animal production	5	17	7	0	0	29
	Advanced animal health service	9	22	3	0	0	34
	Crop production	7	26	6	0	0	39
	Natural resources	1	25	4	2	0	41
	Hardware and Network Service	1	9	2	0	0	12
	Total	3	99	22	2	0	155
		2					
Workshop and material utilization	Animal production	2	10	15	2	0	29
	Advanced animal health service	3	13	17	0	1	34
	Crop production	0	16	20	3	0	39
	Natural resources	2	15	20	4	0	41
	Hardware and Network Service	1	5	5	1	0	12
	Total	8	59	77	10	1	155
Attention paid to practical exercise	Animal production	0	6	18	5	0	29
	Advanced animal health service	2	9	21	2	0	34
	Crop production	0	13	22	4	0	39
	Natural resources	1	12	21	6	1	41
	Hardware and Network Service	0	4	7	1	0	12
	Total	3	44	89	18	1	155
Attention paid for theoretical concepts	Animal production	0	6	17	6	0	29
	Advanced animal health service	1	10	19	4	0	34
	Crop production	1	8	26	4	0	39
	Natural resources	0	14	22	4	1	41
	Hardware and Network Service	0	3	8	1	0	12
	Total	2	41	92	19	1	155

## 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