

**KENYA INSTITUTE OF HIGHWAYS AND BUILDING
TECHNOLOGY**

**REGIONAL FLAGSHIP TVET INSTITUTE IN
HIGHWAYS TECHNOLOGY**

**TRACER STUDY REPORT FINDINGS AND
RECOMMENDATIONS**

MAY 2022



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EASTRIP

LIST OF ABBREVIATIONS

EASTRIP: East Africa Skills for Transformation and Regional Integration Project

TVET: Technical and Vocational Education and Training

KIHBT: Kenya Institute of Highways and Building Technology

DHE: Diploma in Highway Engineering

RCC: Road Construction Course

LIST OF SYMBOLS

N: Total population

n: Sample population

μ : Measurement of mean score

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1. INTRODUCTION

1.1 BACKGROUND INFORMATION

Kenya Institute of Highways & Building Technology was originally established as a training division within the Public Works department in May 1948. The purpose was to cater for skills improvement which had become necessary in the country. The training areas included Roads Road Foremen, Water Foremen, Inspectors and Survey Assistants.

The institute is now a major skill improvement training centre, well staffed and with an annual trainee turn over of more than three thousand.

The mandate has now been revised to include training for the infrastructure sector and client countries from the sub-Saharan region.

Vision: *To Become the Preferred Infrastructure training Institution in Africa And Beyond.*

Mission: *To Facilitate the provision of High-Quality infrastructure through training.*

1.2 OBJECTIVES OF THE STUDY

The objective of this tracer study is to track the effectiveness of Kenya Institute of Highways and Building Technology in equipping TVET graduates with the necessary skills to successfully gain employment. To do so, the study traced the whereabouts of graduates and assessed how successful they have been able to integrate into the labour market after completing their learning programmes in 2021. The study was conducted in 2022, between 3 months to one year after the students graduated.

EASTRIP Tracer Study examines;

- a. The perceptions of employers regarding the quality of the employees they recruited from KIHBT graduates;
- b. The attitudes of the graduates themselves regarding job quality, relevance, and effectiveness of their TVET education in securing employment.

2. METHODOLOGY

The tracer survey was conducted between January to March 2022. It was done by administering questionnaires to graduates and employers which touched many areas: study, course of study, assessment of study conditions, transition to work, qualification and usage of qualifications, relationship between study and work, working conditions (salary, working hours, kind of contract), job satisfaction and training conditions.

The Methodology covers Database of Potential Participants, Target Study Groups, Access to the People, Survey Instruments and Tools, Ethical Considerations, Sampling Strategy, and Methodological Challenges and Mitigations.

2.1 DATABASE OF POTENTIAL PARTICIPANTS

The population of this study included KIHBT graduates and Employers of KIHBT Graduates. The study concentrated on the long courses covered under the project; DHE and RCC. The graduates were called to determine their whereabouts and employers' details were acquired. From these, a consolidated database was created.

2.2 TARGET GROUPS FOR THE SURVEY

Two groups; KIHBT Graduates and Employers of KIHBT Graduates were targeted in the survey.

2.2.1 KIHBT Graduates

74 (Male 59, Female 15) 2021 graduates was drawn and contacted. The participants were picked according to availability of their contact details, such as, a working phone number and/or an active email address. The study concentrated graduates from DHE and RCC. The study targeted the TVET graduates who are employed, unemployed, self-employed or progressing with further Academic or Vocational studies.

2.2.2 Employers of KIHBT Graduates

13 Employers were targeted for the study. They employed TVET graduates from KIHBT and other TVET institutes. They completed the questionnaire that was administered to them.

2.3 ACCESS TO THE PEOPLE

Multiple communication channels were used to reach the participants, these included, phone, and email.

2.3.1 Research Participant Invitation

The participants were invited to participate in the tracer exercise through phone call.

2.4 SURVEY INSTRUMENTS AND TOOLS

Two Questionnaires were designed for the tracer study, Graduate Survey Questionnaire (33 questions, 140 variables) for graduates of 2021. Employer Survey Questionnaire (18 questions, 77 variables), for both public and private enterprise employers. The questionnaires comprising of both closed-ended and open-ended questions. The questionnaires were administered via email and a face to face sit down session. Six KIHBT staff assisted in the data collection process.

2.5 ETHICAL CONSIDERATIONS

Upon contacting a potential respondent, the objectives of the study were explained to him/her, and then they were left to decide whether they wanted to participate in the study or not. The respondents were assured that all information collected would be treated in confidence and only used for the purpose of this tracer study.

2.6 SAMPLING STRATEGY

2.6.1 Sample Frame

A sample frame was designed, and sample size determined to ensure that it is adequately representative of the graduates and the employers concerned. This was followed by the design of the questionnaires covering the parameters to be measured.

KIHBT selected the survey sample by convenience sampling. KIHBT purposely selected graduates who were readily/easily available while still satisfying the sampling conditions by year/cohort and gender. For the EASTRIP Tracer Study, a variation of the convenience sampling was used where identified graduates were asked to help share the latest contacts/whereabouts (snowballing technique) of their former colleagues. Although this was time consuming, it helped KIHBT in providing/compiling current contacts for the target graduates.

2.6.2 Sample Size

For the study, the following Graduates sampling approach was adopted for KIHBT.

Where the Total (N) population was less than 100, a census (N=n), that is, a survey of the entire population was conducted.

2.7 METHODOLOGICAL CHALLENGES AND MITIGATIONS

The identification of graduates began using admission records.

Graduates who were available to participate in the survey were encouraged to speak to their employers to inform them of the visit by KIHBT staff.

While these approaches were expected to facilitate and increase the response rate, the fieldwork indicated otherwise. The main recorded constraints included the following:

1. Some graduate contact information had changed, and others refused to be interviewed, particularly those who were unemployed because of social conventions.
2. Some of the addresses that were collected were no longer valid. This is because the more time that has passed from graduation to survey, the more the validity of addresses is in question.
3. Online Questionnaires – some respondents had challenges with either accessing online systems due to internet connectivity or their own inability to participate in online survey types.

Despite the above-mentioned challenges and in order to secure a high response rate, the researchers reverted to snowball sampling techniques where both graduates and employers were asked to identify other graduates that could participate in the study. This meant that while graduates could identify both employed and unemployed peers, employers on the other hand could only identify other employed graduates. The unemployed graduates were reached through the provided databases and snowballing techniques. It is also important to note that indications were given in the study about the students who decided to pursue further education.

EASTRIP

3. DATA ANALYSIS

The data and the information obtained from the survey was compiled, processed and analysed to form the basis of the analysis conclusions and findings of this report. Percentage, Mean and Standard Deviation was applied and the tabulated data. The nature of data obtained from this study is both quantitative and qualitative. The quantitative data results, which were compiled and analysed using Excel. Output from the analysis is presented in both tabular and graphic forms, and in verbatim qualitative statements. This Chapter presents the KIHBT Graduates' Findings (see 3.1), Employers findings (see 3.2) this is followed by two sets of cross tabulation.

3.1 KIHBT GRADUATES' FINDINGS

The Graduate Survey for KIHBT focuses on the program of Road Construction Course and Diploma in Highway Engineering. All the traced TVET graduates from KIHBT were based in Kenya. They came from different regions, such as, Nairobi, Kisumu, Kiambu, Nyeri, Bungoma, Murang'a, Thika, Meru, Mombasa, Laikipia, Nakuru, Eldoret, Siaya, Malindi, Kilifi, Kitui and Kajiado. The data obtained from the completion of the questionnaires was analysed and interpreted as follows.

3.1.1 Demographic Information of the KIHBT Graduates Respondents

In this section Tracer Study report examines the Demographic Information of the traced KIHBT graduates, their gender, Age, county of residence, year of graduation, and their situation in the first six months post-graduating.

3.1.1.1 The Gender of traced graduates

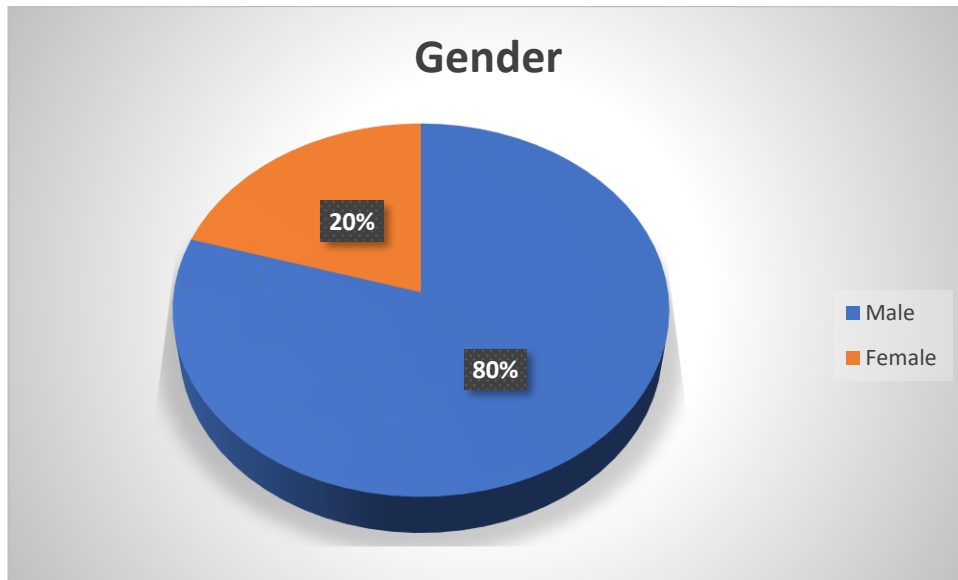
Table 1, Column 2 and Column 3 summarizes the Gender distribution of the sample of male and female graduates. The survey was able to trace 74 graduates. 79.7 per cent of the traced graduates were Male while 20.3 per cent were female.

Table 1: Traced graduates by gender

	Gender		Year of graduation
	Male	Female	2021
Frequency	59	15	74
Per cent	79.7	20.3	100

Source: Collected from field data of tracer study, 2021

Figure 1: Gender of traced graduates



Source: Collected from field data of tracer study,2021

3.1.1.2 Year of Graduation of Traced graduates

Table 1 Column 4 summarizes the Year of Graduation of the traced graduates. The survey was able to trace 74 graduates, out of which 100 percent graduated.

3.1.2.1 The Age of traced graduates

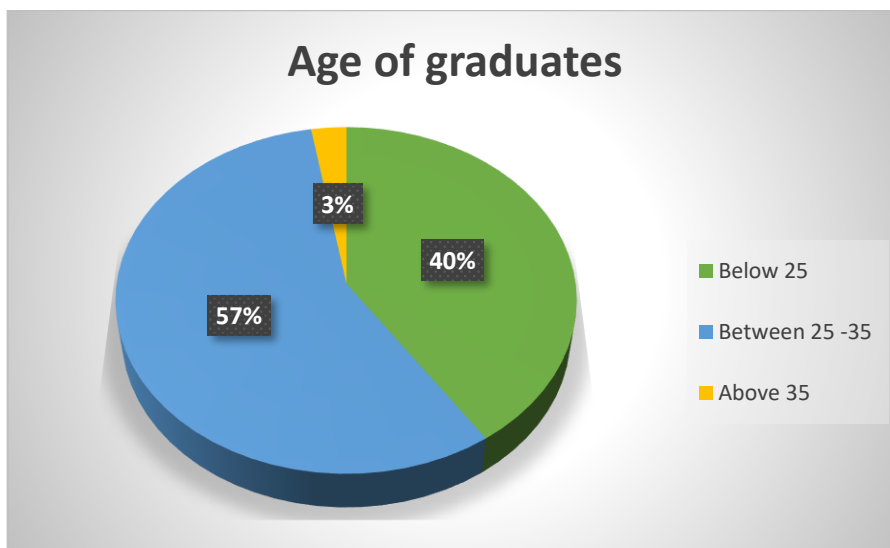
Table 2 Column 2, Column 3 and Column 4 summarizes the Age Bands of traced graduates. Out of the 74 traced graduates, 40.5 percent were below 25 years, 56.8 percent were Between 25 and 35 years, and 2.7 graduates were Above 35 years.

Table 2: Age of traced graduates

	Age Bands in Years		
	Below 25	25 -35	Above 35
Frequency	30	42	2
Percent	40.5%	56.8%	2.7%

Source: Collected from field data of tracer study,2021

Figure 2: Age of traced graduates



Source: Collected from field data of tracer study, 2021

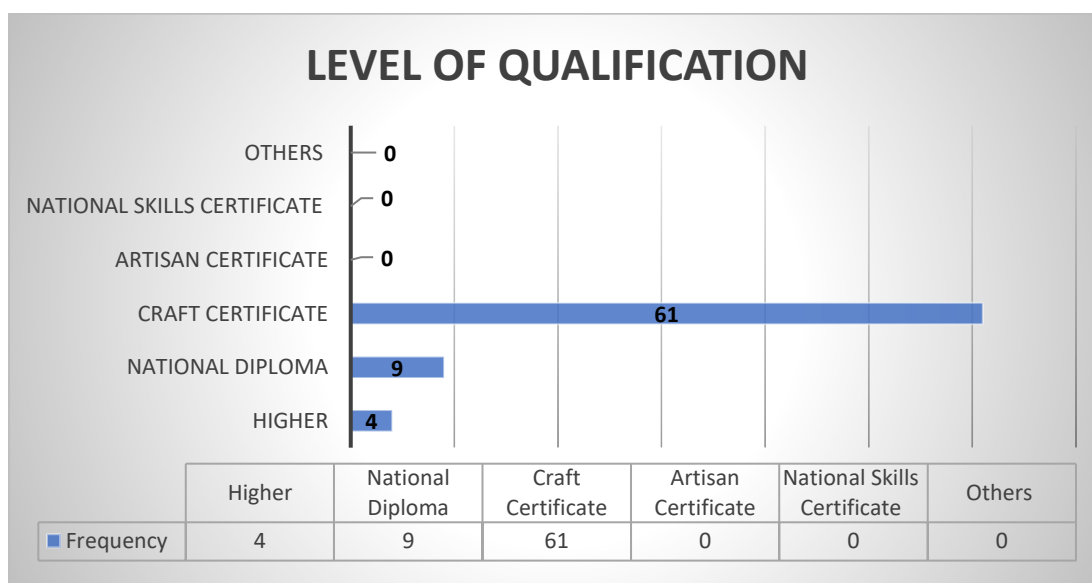
3.1.2 Level of qualification of traced TVET graduates

From Table 3, 82.4 percent are Craft Certificate holders, 12.2 per cent are holders of a National Diploma, 5.4 per cent are holders of a Higher National Diploma holders.

Table 3: Level of qualification of traced graduates

Level of Qualification	Higher National Diploma	National Diploma	Craft Certificate	Artisan Certificate	National Skills Certificate	Others
Frequency	4	9	61	0	0	-
Per cent	5.4%	12.2%	82.4%	0	0	-

Figure 3: Level of qualification attained by traced graduates



Source: Collected from field data of tracer study, 2021

3.1.3 Graduates situation in the first six months post-graduating

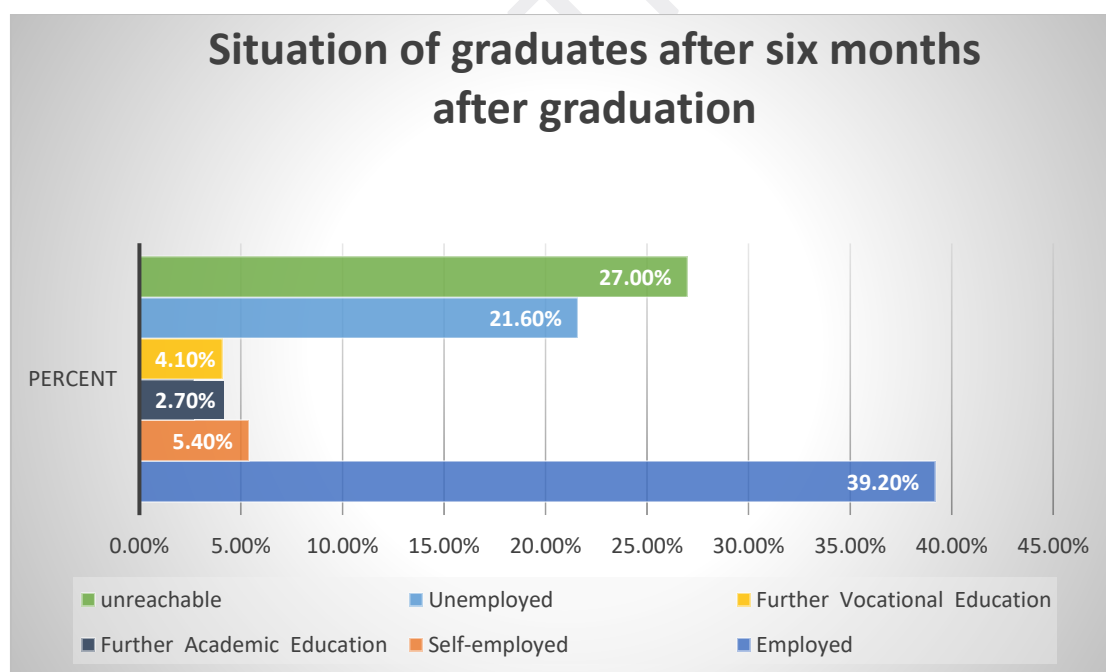
Table 4 summarizes the situation of the traced KIHBT graduates in the first six months after graduating from KIHBT. It shows that among the 74 KIHBT graduates that were traced in the study, 39.2 percent were Employed within the first six months after graduating. 5.4 percent were Self-Employed. 2.7 per cent went for Further Academic Education while 4.1 per cent went for Further Vocational Education. 21.6 percent were unemployed, while 27 percent were unreachable.

Table 4: Graduates situation in the first six months after graduating

Employment Status	Employed	Self-employed	Further Academic Education	Further Vocational Education	Unemployed	Unreachable
Frequency	29	4	2	3	16	20
Percent	39.2%	5.4%	2.7%	4.1%	21.6%	27.0%

Source: Collected from field data of tracer study, 2021

Figure 4: Graduates situation in the first six months after graduating



Source: Collected from field data of tracer study, 2021

3.1.4 KIHBT Graduates Employment Results

In this section the Tracer Study report examines the employment status of the traced KIHBT graduates in the sample, the industry sectors they are engaged in, their present employment status, type of employment contracts they hold, number of hours worked per week, time taken to find their first job,

their salary structure, means and ways with which they found their jobs and reasons for not being in employment (for those not employed).

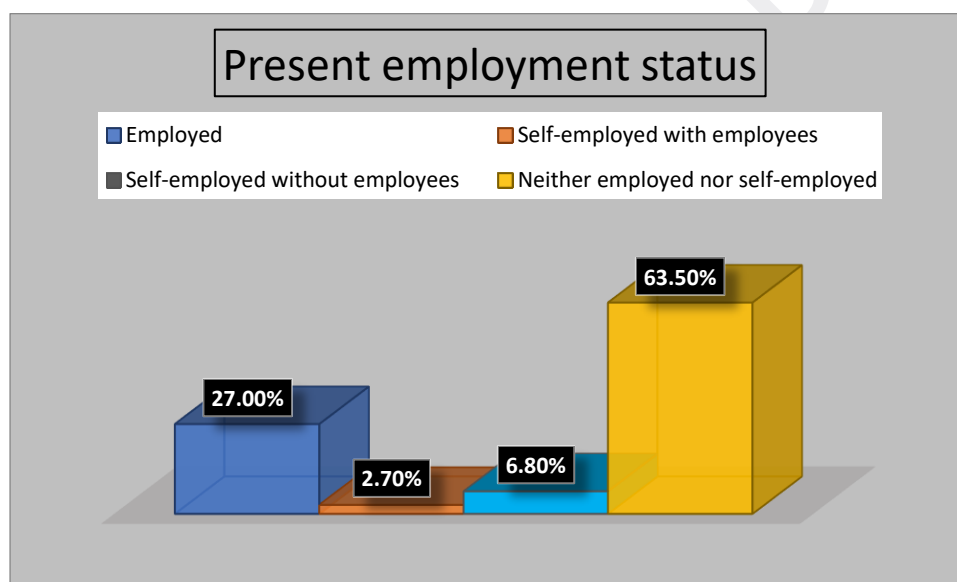
3.1.4.1 Present Employment Status

Table 5 summarizes the Present Employment Status of the traced graduates after graduating from KIHBT. 27 per cent are Employed. 2.7 per cent are Self-Employed with Employees. 6.8 per cent are Self-Employed without Employees. 63.5 percent are Neither employed nor Self-Employed.

Table 5: Present employment status

Employment Status	Employed	Self-employed with employees	Self-employed without employees	Neither employed nor self-employed
Frequency	20	2	5	47
Percent	27.0%	2.7%	6.8%	63.5%

Figure 5: Present employment status



Source: Collected from field data of tracer study, 2021

3.1.4.2 Status of Employment

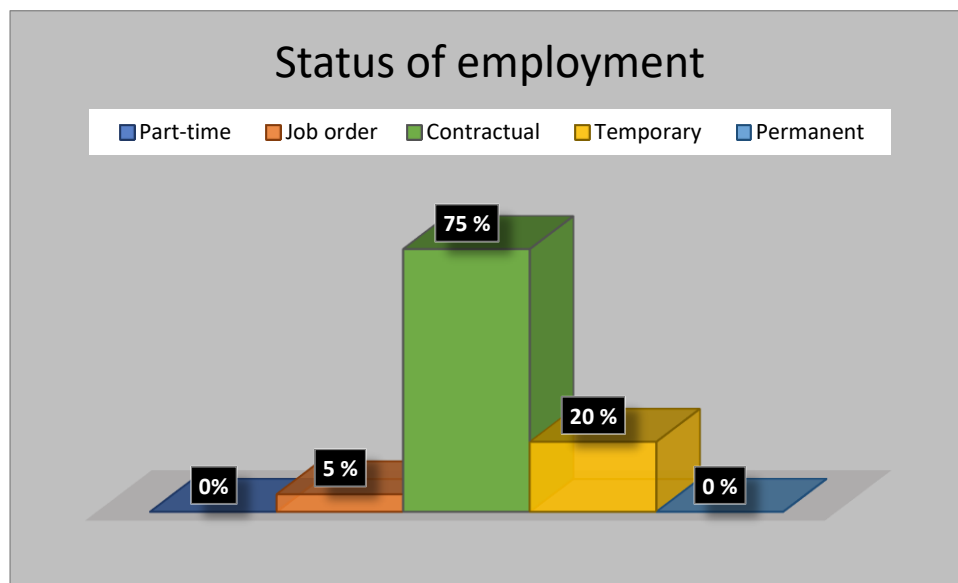
Table 6 summarizes the type of Employment Contracts held by the traced graduates after graduating from KIHBT. For the 74 traced TVET graduates who are in some form of employment; 5 percent are on a Job Order arrangement, 75 per cent are on some fixed term Contract arrangement, while 20 per cent are working on a Temporary agreement.

Table 6: Status of Employment

Type of Employment	Part-time	Job order	Contractual	Temporary	Permanent	Total
Frequency	0	1	15	4	0	20
Per cent	0	5	75	20	0	100

Source: Collected from field data of tracer study, 2021

Figure 6: Status of employment



Source: Collected from field data of tracer study, 2021

3.1.4.3 Working Hours per Week

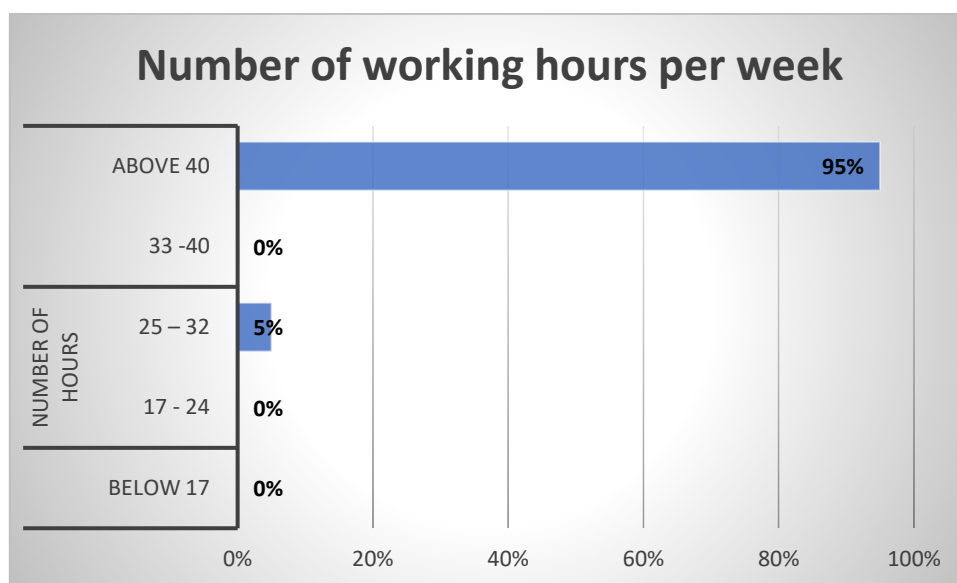
Table 7 summarizes the number of working hours per week for the traced graduates after graduating from KIHBT. Out of the traced graduates; 5 percent work between 25 to 32 Hours per Week, while 95 per cent work more than 40 Hours per Week.

Table 7: Number of working hours per week

Working hours	Number of Hours				
	Below 17	17 - 24	25 – 32	33 -40	Above 40
Frequency	0	0	1	0	19
Percent	0	0	5	0	95

Source: Collected from field data of tracer study, 2021

Figure 7: Number of working hours per week



Source: Collected from field data of tracer study, 2021

3.1.4.4 Employment of TVET Graduates by Industry Sector

Table 8 summarizes how the traced graduates gained Employment in different Industry Sectors after graduating from KIHBT. Out of the 74 traced graduates that are in some form of employment; 16.6 per cent are in Agriculture, forestry and fishing industry and 83.3 per cent are in Construction sector.

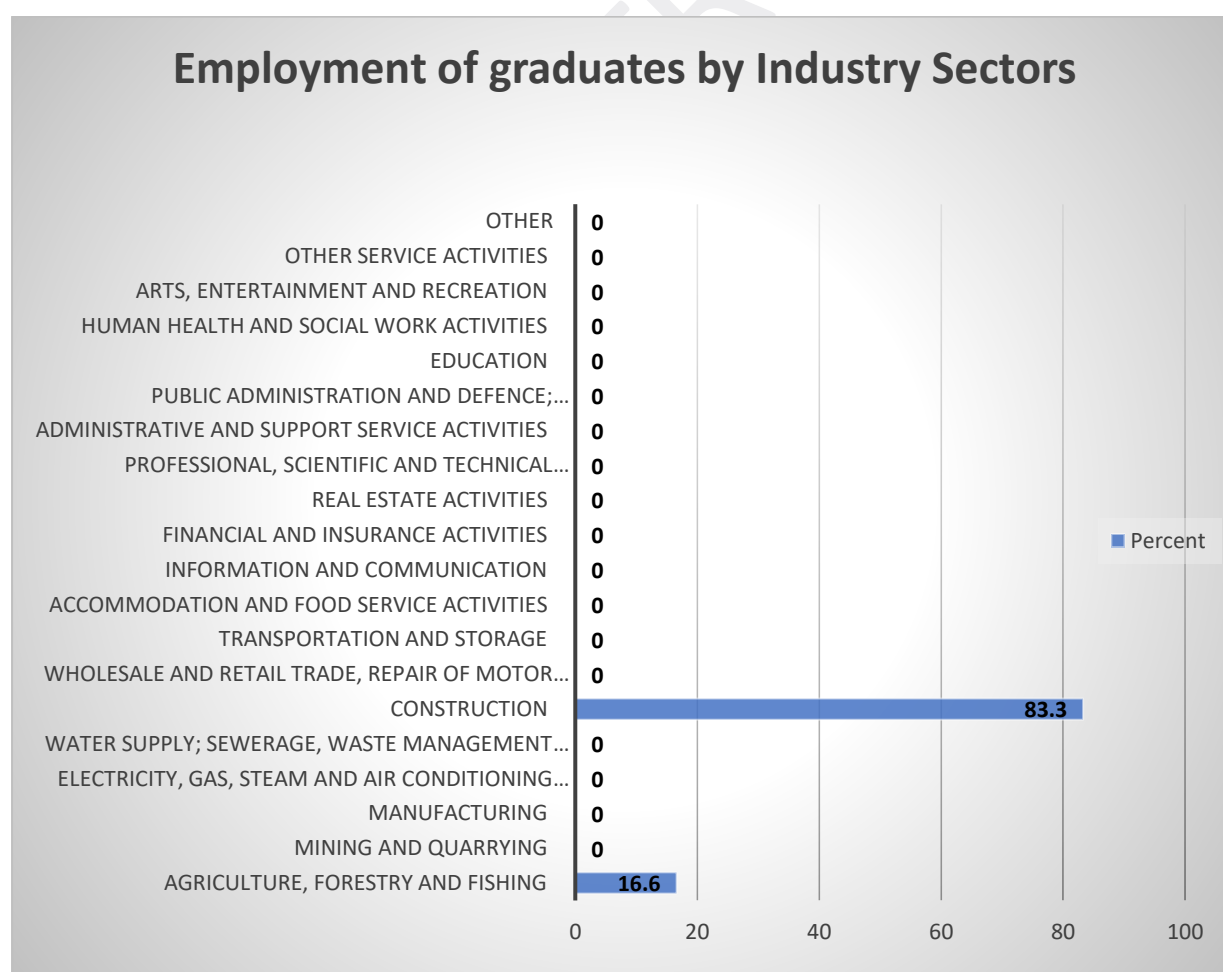
Table 8: Employment of graduates by Industry Sector

EMPLOYMENT OF TVET GRADUATES BY INDUSTRY SECTOR		
Industry Sector	Frequency	Percent
Agriculture, forestry and fishing	4	16.6
Mining and quarrying	0	0
Manufacturing	0	0
Electricity, gas, steam and air conditioning supply	0	0
Water supply; sewerage, waste management and remediation activities	0	0
Construction	20	83.3
Wholesale and retail trade, repair of motor vehicles and motorcycles	0	0
Transportation and storage	0	0
Accommodation and food service activities	0	0

Information and communication	0	0
Financial and insurance activities	0	0
Real estate activities	0	0
Professional, scientific and technical activities	0	0
Administrative and support service activities	0	0
Public administration and defence; compulsory social security	0	0
Education	0	0
Human health and social work activities	0	0
Arts, entertainment and recreation	0	0
Other service activities	0	0
Other	0	0
Total	24	100

Source: Collected from field data of tracer study, 2021

Figure 8: Employment of graduates by Industry Sectors



Source: Collected from field data of tracer study, 2021

3.1.4.5 First job after graduating

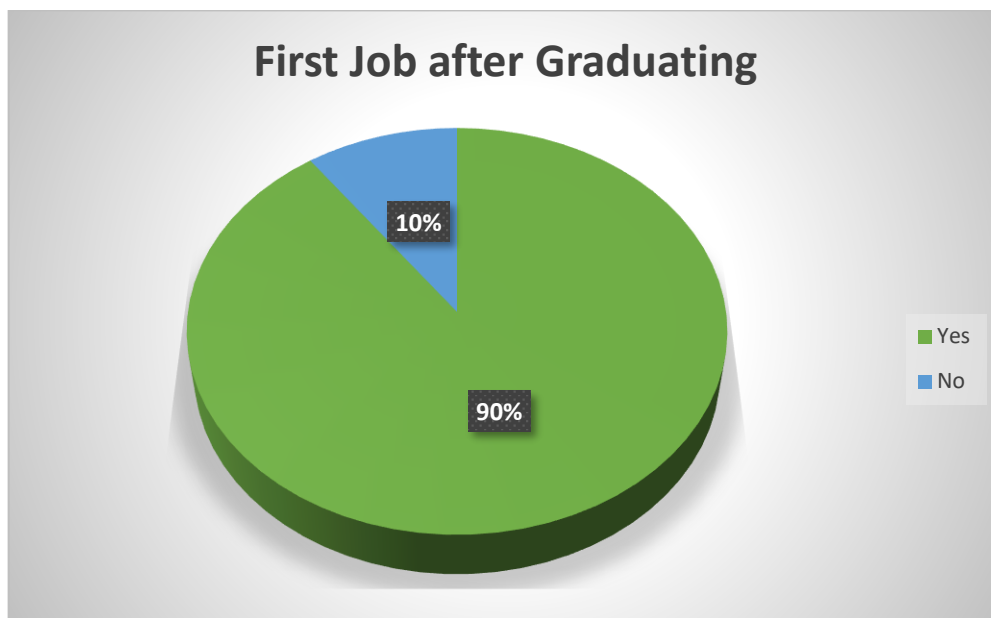
Table 9 summarizes how of the 20 traced graduates, 90 per cent were still in their First Job after Graduating while 10 per cent have held more than one Job after Graduating. This indicates that the KIHBT training received by these graduates were to a large extent relevant or matched the jobs available in this sector.

Table 9: First job after graduating

First job after graduating?	Yes	No
Frequency	18	2
Per cent	90	10

Source: Collected from field data of tracer study, 2021

Figure 9: First job after graduating



Source: Collected from field data of tracer study, 2021

3.1.4.6 Duration Taken to Secure Present Job

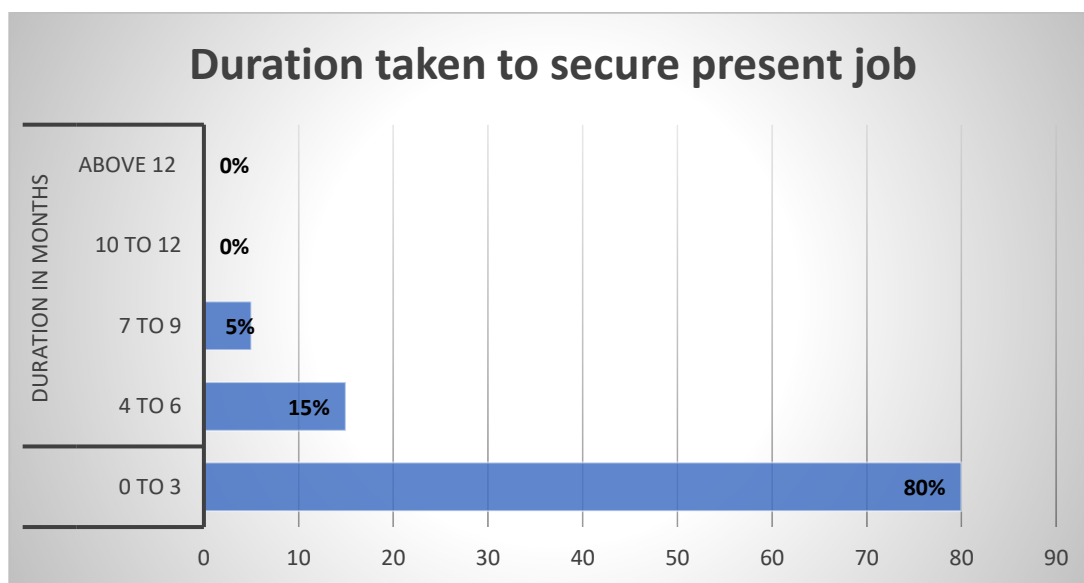
Table 10 captures data on the duration taken to find a present job. Out 20 traced graduates in some form of employment, 80 percent took Less than 4 Months to secure their Present Job. 15 percent took Between 4 and 6 Months to secure their Present Job. 5 percent took Between 7 and 9 Months to secure their Present Job.

Table 10: Duration taken to secure present job

Duration Taken to Secure Present Job	Duration in Months					Total
	0-3	4-6	7-9	10-12	Above 12	
Frequency	16	3	1	0	0	20
Percent	80	15	5	0	0	100%

Source: Collected from field data of tracer study, 2021

Figure 10: Duration taken to secure present job



Source: Collected from field data of tracer study, 2021

3.1.4.7 Duration Taken to Secure First Job after graduating

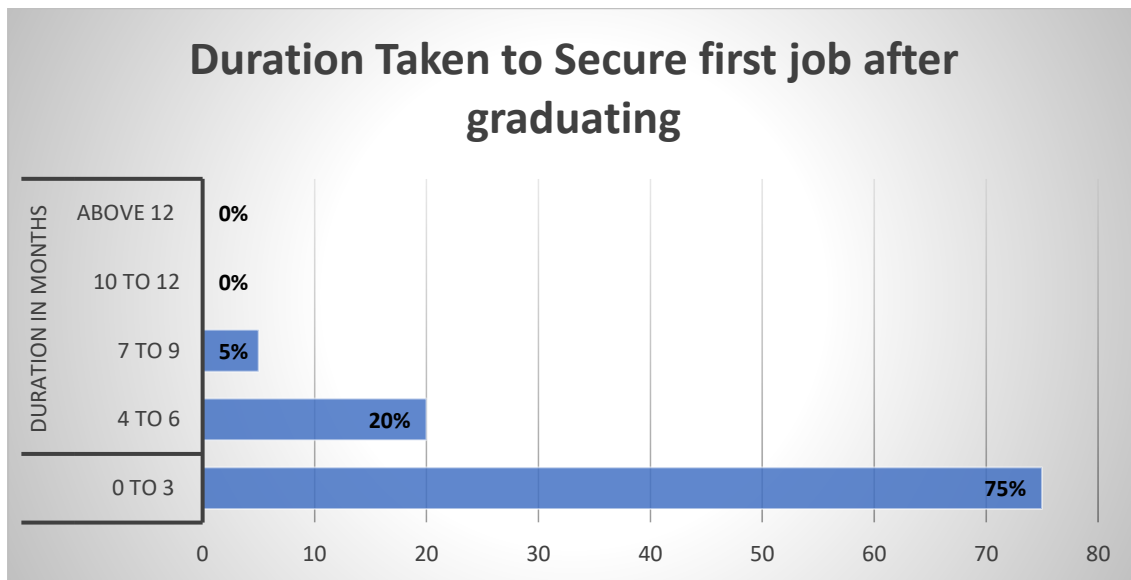
Table 11 captures data on the Duration Taken to secure first Job after graduating. Out of 20 traced graduates, 75 per cent took Less than 4 Months to secure their first job after graduating. 20 percent took between 4 and 6 months to secure their first Job after graduating. 5 percent took between 7 and 9 Months to secure their first job after graduating.

Table 11: Duration taken to secure first job after graduating

Duration Taken to Secure first job after graduating	Duration in Months					Total
	0-3	4-6	7-9	10-12	Above 12	
Frequency	15	4	1	0	0	20
Percent	75	20	5	0	0	100%

Source: Collected from field data of tracer study, 2021

Figure 11: Duration taken to secure first job after graduating



Source: Collected from field data of tracer study, 2021

3.1.4.8 Monthly Salary at Present Job

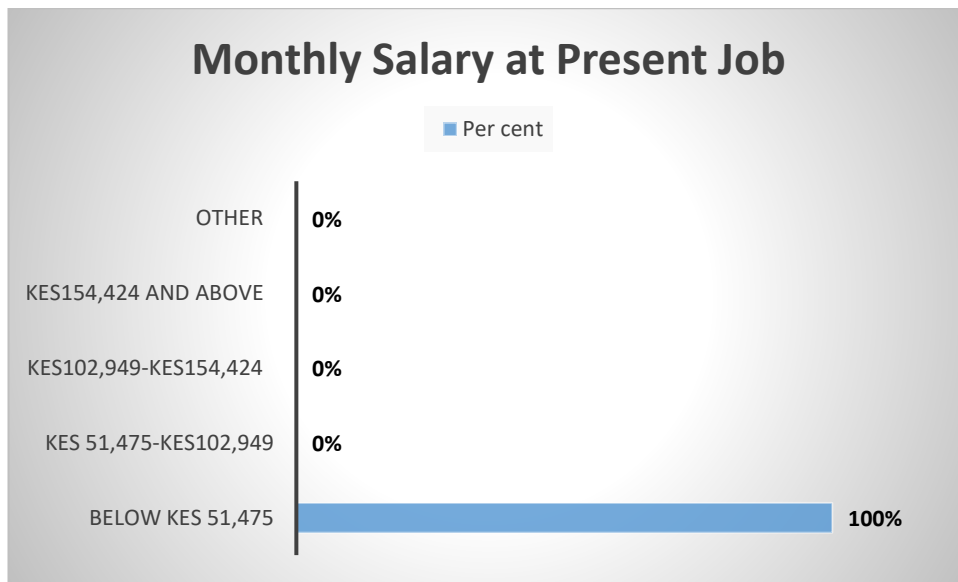
Table 12 captures the graduate's monthly salary at their present job. Results have been taken from a sample of 20 graduates. 100 percent earn Below KES 51,475.

Table 12: Monthly salary at present job

GRADUATES MONTHLY SALARY AT PRESENT JOB						
	Kenya Shillings					Total
	Below KES 51,475	KES 51,475- KES102,949	KES102,949- KES154,424	KES154,424 and above	Other	
Frequency	20	0	0	0	-	20
Per cent	100	0	0	0	-	100%

Source: Collected from field data of tracer study, 2021

Figure 12: Monthly salary at present job



Source: Collected from field data of tracer study, 2021

3.1.4.9 How Graduates Found their Present Jobs

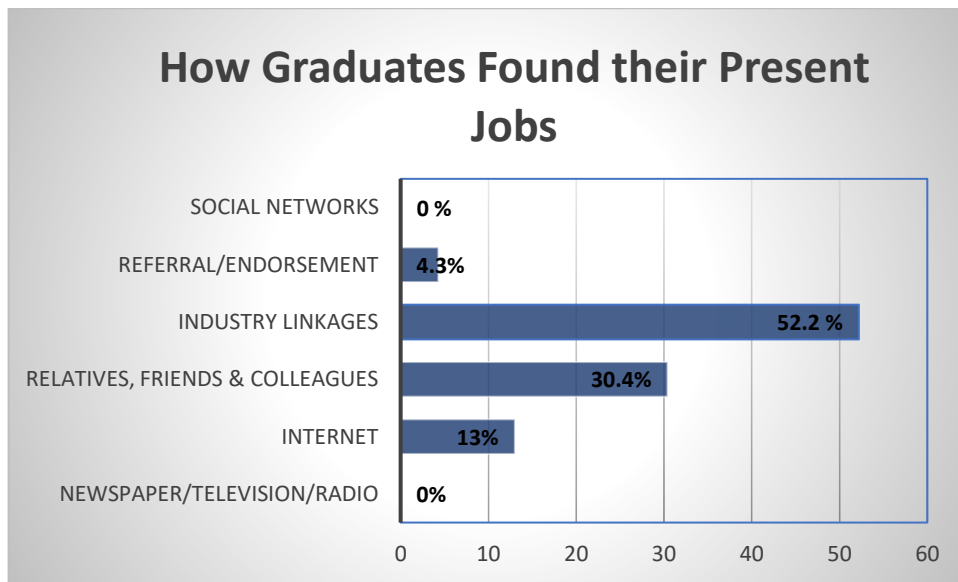
Table 13 captures the means and ways with which graduates found their present jobs. Results have been taken from a sample of the KIHBT graduates who are presently in employment. The statistics in Table 12 shows that of the 20 graduates, 13 per cent secured employment via the Internet searches on government or company websites, 30.4 per cent Relatives, friends and colleagues. 52.2 per cent got employed through Industry Linkages that took place while still undergoing training. 4.3 percent were employed through Referral and School Endorsement.

Table 13: How graduates found their present jobs

How graduates Found their Present Jobs	Newspaper /Television/ Radio	Internet	Relatives, friends & Colleagues	Industry Linkages	Referral/ Endorsement	Social networks
Frequency	0	3	7	12	1	0
Per cent	0	13.0	30.4	52.2	4.3	0

Source: Collected from field data of tracer study, 2021

Figure 13: How graduates found their present job



Source: Collected from field data of tracer study, 2021

3.1.4.10 Reasons for not Being Employed

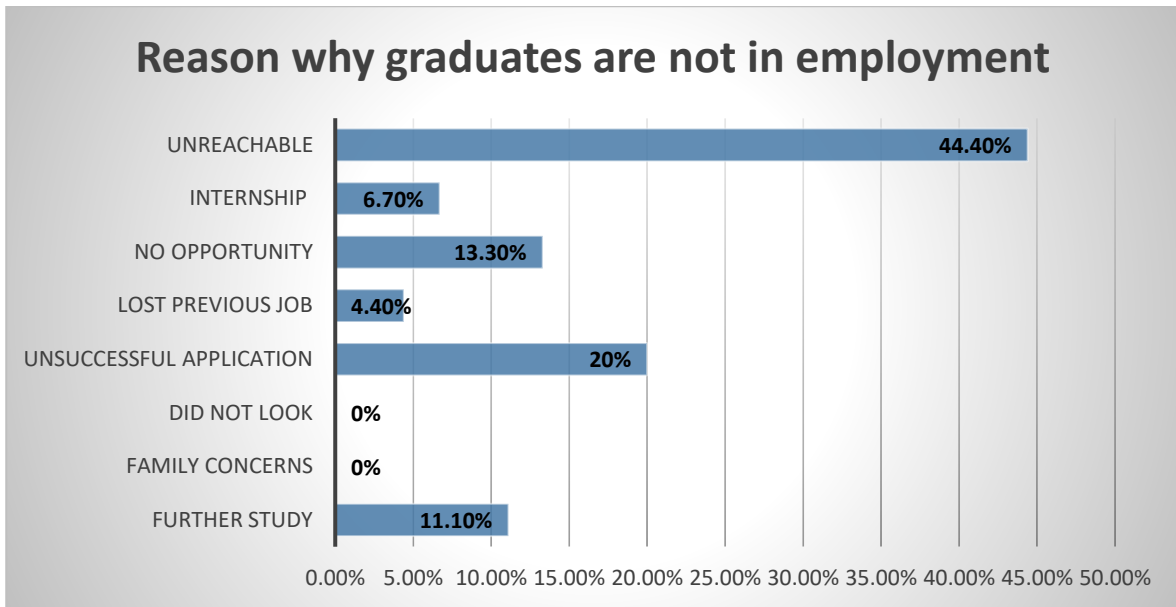
Table 14 below captures the reasons as to why graduates are not in Employment. Results have been taken from a sample of the graduates who are not in employment. The statistics in Table 3.14 shows that of the traced Graduates, 11.1 percent went for Further Studies. 20 per cent had unsuccessful job applications. 4.4 per cent lost their previous job. 13.3 percent did not receive job opportunities in the desired field. In depressed economic conditions suitable jobs may not be available. 6.7 per cent went for internship, 44.4 percent were unreachable.

Table 14: Reasons why graduates are not in employment

REASONS	Further study	Family concerns	Did not look	Unsuccessful application	Lost previous job	No opportunity	Internship	Unreachable	Total
Frequency	5	0	0	9	2	6	3	20	45
Percent	11.1%	0%	0%	20%	4.4%	13.3%	6.7%	44.4%	100%

Source: Collected from field data of tracer study, 2021

Figure 14: Reason why graduates are not in employment



Source: Collected from field data of tracer study, 2021

3.1.5 RELEVANCE OF TRAINING RECEIVED BY KIHBT GRADUATES

In this section the Tracer Study report examines the relevance of training received by traced graduates. It examines the relationship between work and the course followed, the areas of training that are most helpful in performing the present job; reasons for taking jobs that have relevance with the course studied, details of further training undertaken post-graduating. It also checks if KIHBT graduates could be interested to attend further training.

As will be seen in Section 3.2, the assessment of employer views towards graduates' work and the course followed provides an opportunity to highlight some of the areas where decision makers should focus education and employment reform and policies.

3.1.5.1 Relation between work and the course followed

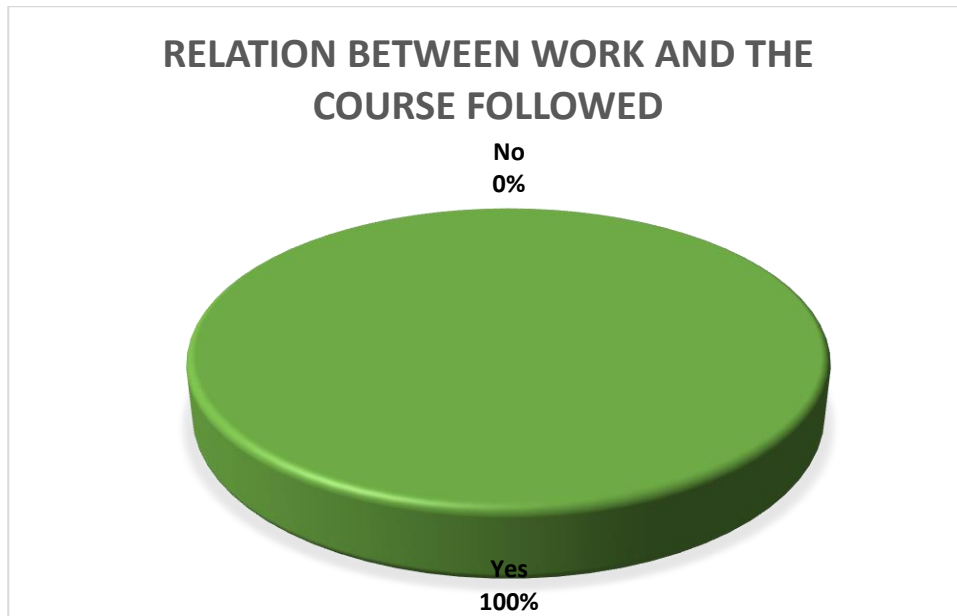
Table 15 captures Relation between work and the course followed. Results have been taken from a sample of 20 traced TVET graduates. 100 percent agree that there is a Relationship between work and the course followed.

Table 15: Relation between work and the course followed

Relation	Yes	No
Frequency	20	0
Percent	100	0

Source: Collected from field data of tracer study, 2021

Figure 15: Relation between work and the course followed



Source: Collected from field data of tracer study, 2021

3.1.5.2 Measurement the degree of Relation between Study and Work

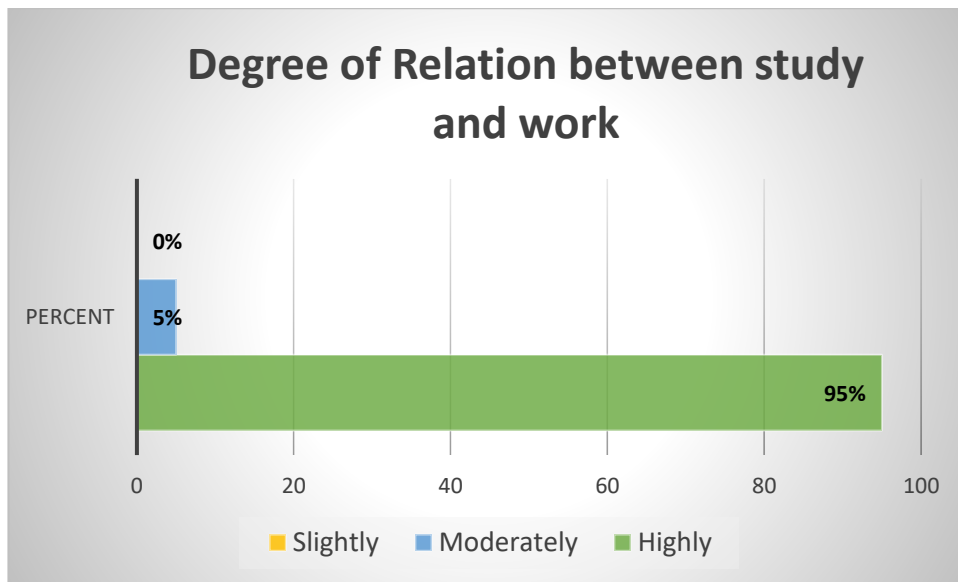
Table 16 captures the degrees of relation between study and work done by KIHBT graduates. Results have been taken from a sample of 20 KIHBT graduates who had confirmed that there is a relation between work and the course followed. Out of the 20 KIHBT graduates, 95 per cent agree that work and course followed were highly related. 5 per cent said the two were moderately related.

Table 16: Measurement of the degree of relation between study and work

Degree of Relation	Highly	Moderately	Slightly	Total
Frequency	19	1	0	20
Percent	95	5	0	100%

Source: Collected from field data of tracer study, 2021

Figure 16: Degree of relation between study and work



Source: Collected from field data of tracer study, 2021

3.1.5.3 Reasons for lack of relationship between Study and Work

Results have been taken from a sample of 20 KIHBT graduates who all confirmed that there is relation between work and the course followed.

3.1.5.4 Areas of study helping in the performance at present job

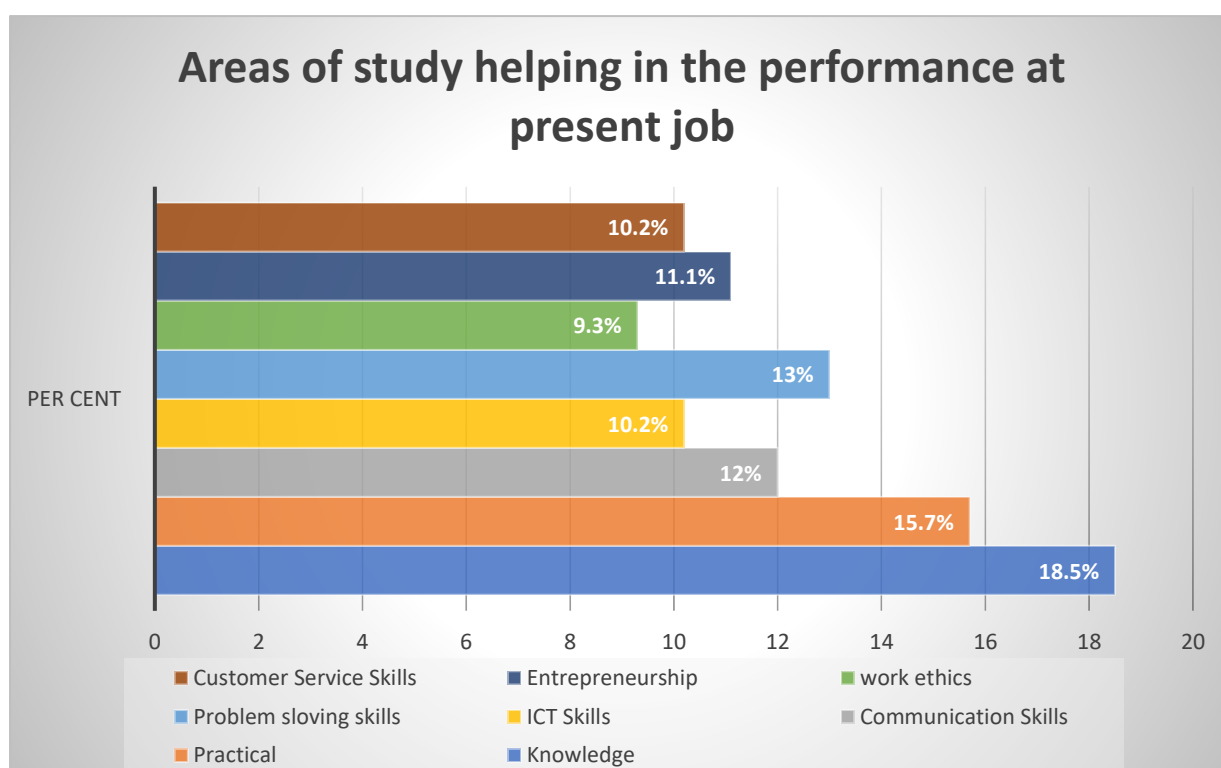
Table 17 captures the Areas of study helping KIHBT graduates in the performance at their present job. Results have been taken from a sample of the KIHBT graduates who were presently in employment. The statistics in Table 17 show that for the traced Graduates, 18.5 per cent selected Knowledge (*theoretical and practical related to my specialization*). 15.7 per cent selected Practical, job-related skills (for example, use of tools, equipment and machinery). 12 per cent settled on Communication skills (*spoken and written*). 10.2 per cent chose ICT skills (*use of computers*). 13 per cent Problem-solving skills (*being able to analyse a problem and find creative solutions*). 9.3 per cent Work ethics (*such as, attendance at work, reliability, punctuality, team work*). 11.1 per cent Entrepreneurship skills (*such as, market research, business planning, financial management, leading others*). 10.2 per cent Customer service skills (*such as, personal presentation, being polite, understanding a customer's needs and being able to meet these*).

Table 17: Areas of study helping in the performance at present job

Areas	Knowledge	Practical	Communication Skills	ICT Skills	Problem Solving Skills	Work Ethics	Entrepreneurship Skills	Customer Service Skills	Total
Frequency	20	17	13	11	14	10	12	11	108
Per cent	18.5	15.7	12.0	10.2	13.0	9.3	11.1	10.2	100

Source: Collected from field data of tracer study, 2021

Figure 17: Areas of study helping in performance at present job



Source: Collected from field data of tracer study, 2021

3.1.5.5 Access to further training

This section looks at the KIHBT graduate's participation in further training after graduation, the reasons for not participating in further training and the likelihood of attending further training courses later.

Table 18: Participation in further training, reasons for not participating and likelihood of attending further training

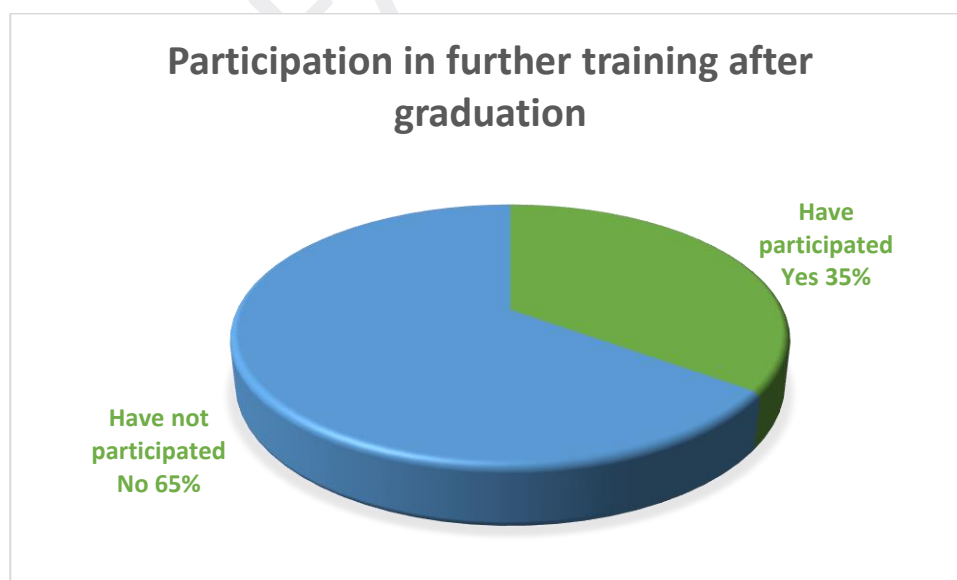
	Have Participated		Reasons for not Participating				Likely to Participate	
	Yes	No	No Course	No Need	No Money	Others	Yes	No
Frequency	7	13	1	0	11	0	20	0
Per cent	35	65	8.3	0	91.7	0	100	0

Source: Collected from field data of tracer study, 2021

3.1.5.5.1 Participation in further training after graduation

Table 18 Column 2 and Column 3 indicates participation in further training (university, evening classes, short courses) after graduation. Results have been taken from a sample of 20 KIHBT graduates. 35 per cent have participated in further training. 65 per cent have not participated in further training.

Figure 18: Participation in further training after graduation



Source: Collected from field data of tracer study, 2021

Among the type of courses undertaken as part of further training include;

Civil Engineering

Low volume sealed road work

Materials grade tests

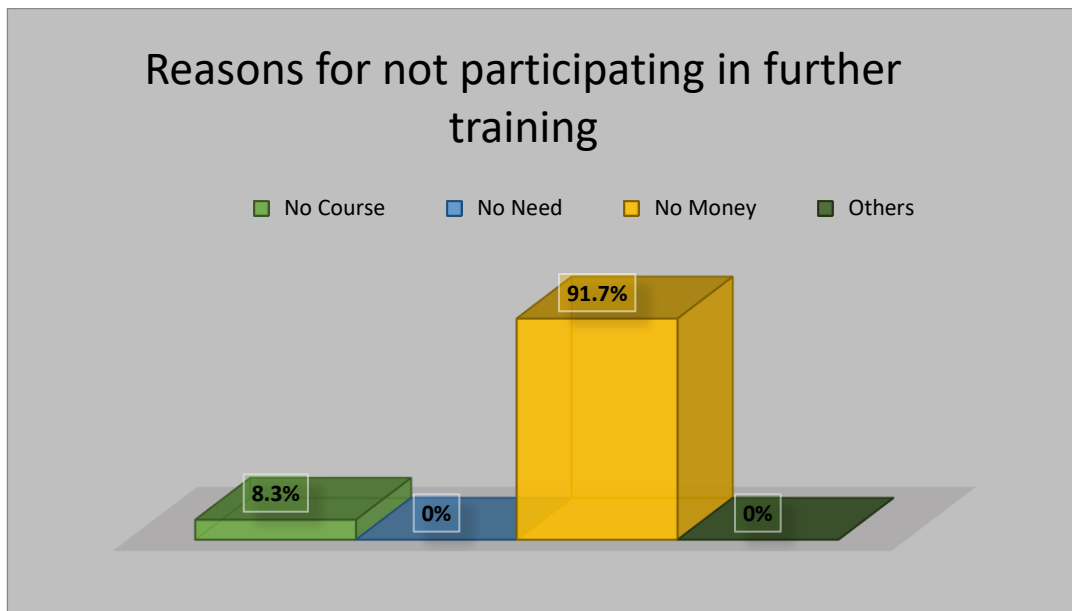
Plant operator course

Driver training course

3.1.5.5.2 Reasons for not participating in further training after graduation

Table 18 Column 4, Column 5, Column 6 and Column 7 captures reasons for not undertaking further training (university, evening classes, and short courses) after graduation. Results taken from a sample of the 12 KIHBT graduates who have not participated in further training after graduation. 8.3 percent did not find relevant further training courses. 91.7 per cent did not have money to pay for further training.

Figure 19: Reasons for not participating in further training

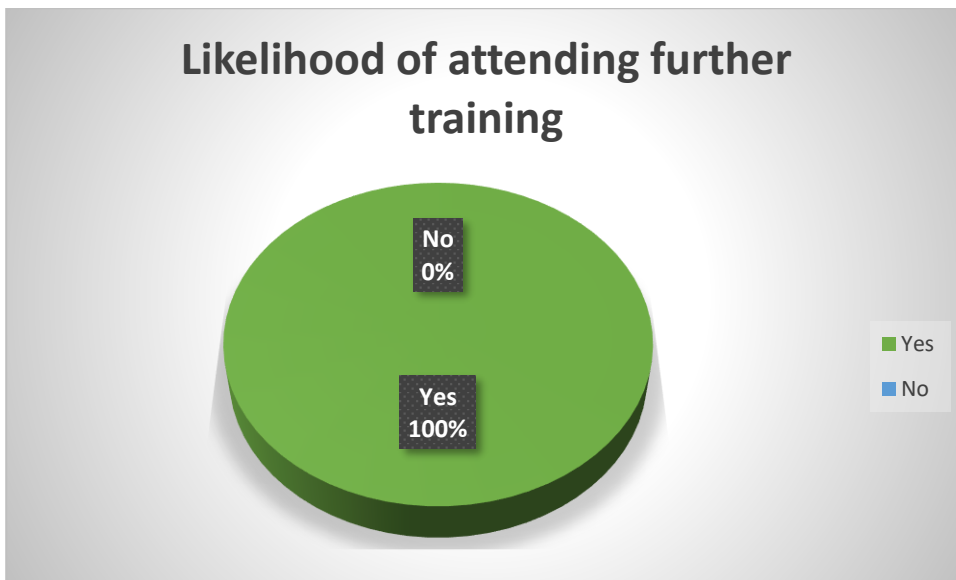


Source: Collected from field data of tracer study, 2021

3.1.5.5.3 The likelihood of attending further training courses

Table 18 Column 8 and Column 9 captures the likelihood of TVET graduates attending further training courses later (university, evening classes, short courses) after graduation. Results have been taken from a sample of 20 KIHBT graduates who have not participated in further training after graduation. These findings reveal that most graduates who took part in the study recognize the importance and need for further skill building for promotion and career development.

Figure 20: Likelihood of attending further training



Source: Collected from field data of tracer study, 2021

3.1.6 ASSESSMENT OF JOB SATISFACTION BY KIHBT GRADUATES

The following sections of this tracer study report will outline findings of the study with regards to employment issues. This section examines the job satisfaction by the traced KIHBT graduates. It is an assessment of employees towards their present jobs.

First the general satisfaction is measured on a five-point scale. This is followed with the measurement of eleven parameters on the same scale. The eleven parameters include; Interesting work tasks, working with some independence, Clear and regulated work tasks, applying what was learned when studying, Job security, Social status and recognition, putting own ideas into practice, Income and benefits, Good social climate / work setting, Good career advancement prospects and Ability to coordinate/ supervise work.

3.1.6.1 General Satisfaction with present job

Using a five-point scale, Traced KIHBT graduates were requested to measure their extent of satisfaction. The scale is shown below.

	1	2	3	4	5	
Not at all	()	()	()	()	()	Very Satisfied
Satisfied						

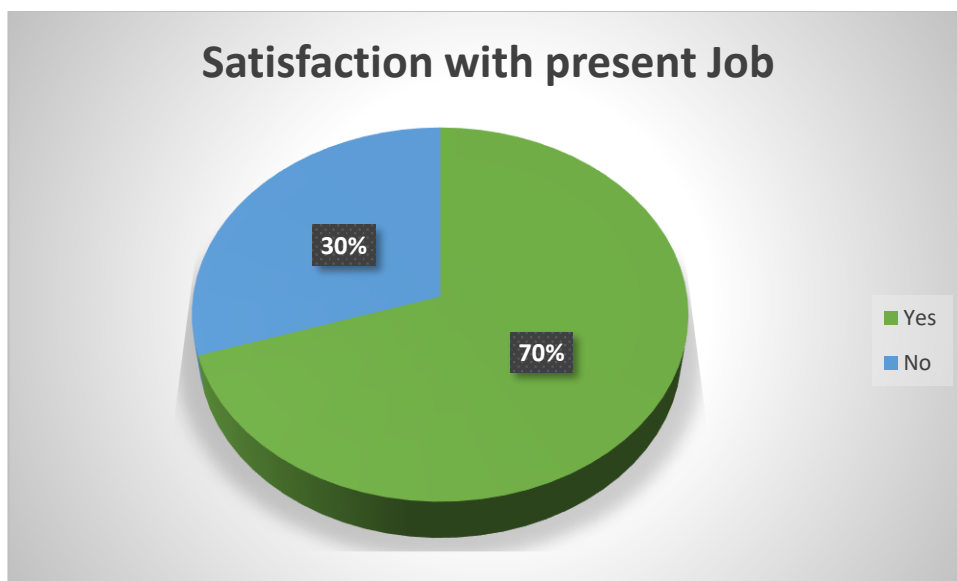
Table 19 captures general satisfaction with present job. Results have been taken from a sample of 20 KIHBT graduates. 70 per cent are satisfied with their present job while 30 per cent are not satisfied with their present job.

Table 19: Satisfaction with present job

SATISFACTION WITH PRESENT JOB			
SATISFACTION	Yes	No	Total
Frequency	14	6	20
Per cent	70	30	100

Source: Collected from field data of tracer study, 2021

Figure 21: Satisfaction with present job



Source: Collected from field data of tracer study, 2021

3.1.6.2 Degree of satisfaction along 11 individual job parameters

The degree/extent of satisfaction along 11 individual job parameters is measured on a five-point scale as shown below.

Not at all Satisfied	1	2	3	4	5	Very Satisfied
	()	()	()	()	()	

3.1.6.2.1: Interpretation of the Degree of Satisfaction with Job Parameters

Using average mean score, the scale has been interpreted as shown below.

INTERPRETATION OF THE AVERAGE MEAN SCORE					
Range	1 – 1.4	1.5 – 2.4	2.5 – 3.4	3.5 – 4.4	4.5 – 5.0
Verbalisation	Not at all Satisfied	Somewhat not Satisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
Colour Code					

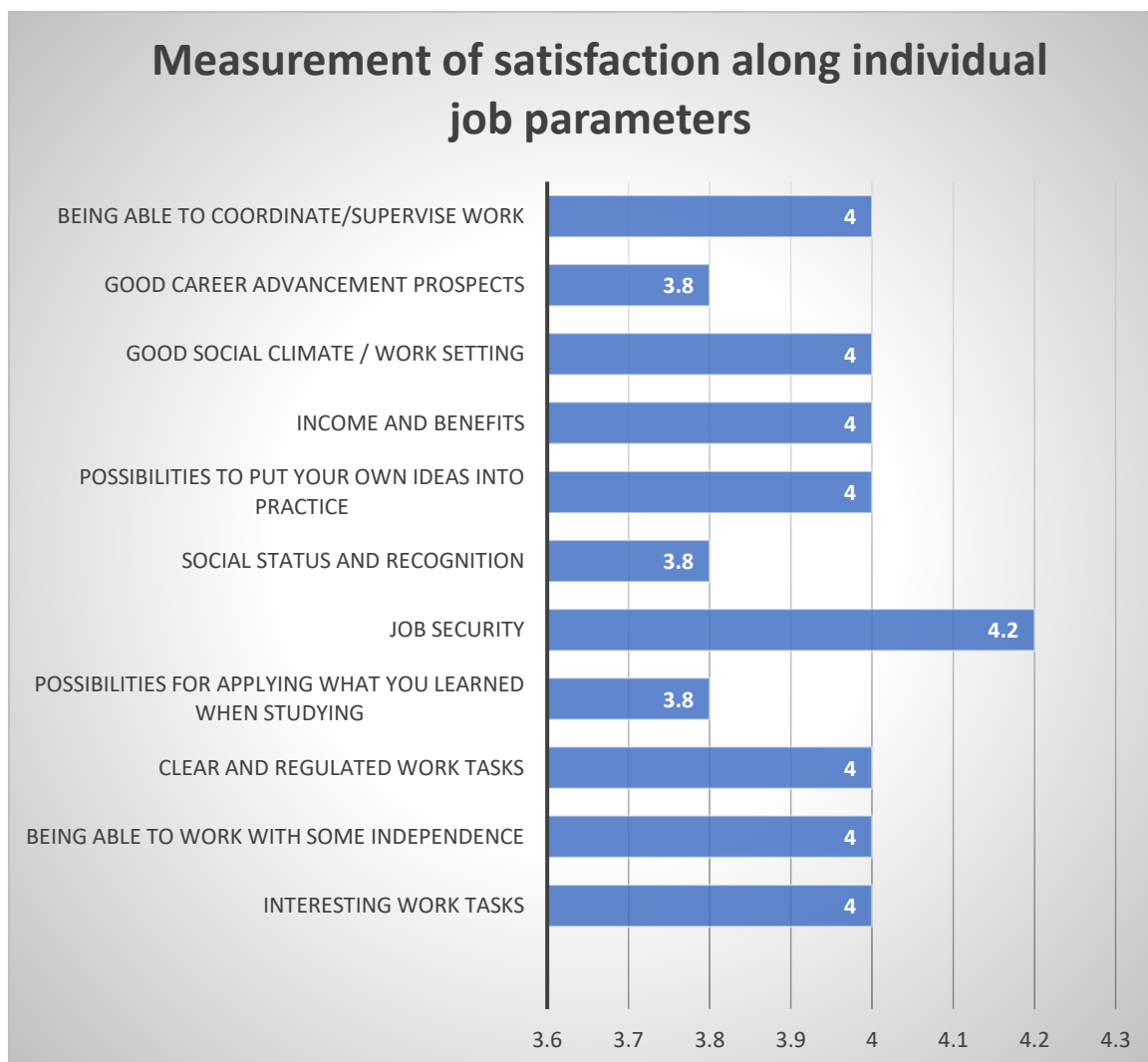
Table 20: Measurement of satisfaction along individual job parameters

Job parameters	Job Satisfaction					n	Mean	SD
	1	2	3	4	5			
Interesting work tasks	0	3	0	4	13	20	4	5.34
Being able to work with some independence	0	1	1	6	12	20	4	5.05
Clear and regulated work tasks	0	1	3	4	12	20	4	4.74
Possibilities for applying what you learned when studying	0	0	2	3	14	19	3.8	5.85
Job security	6	0	2	4	9	21	4.2	3.49
Social status and recognition	1	2	3	4	9	19	3.8	3.11
Possibilities to put your own ideas into practice	0	1	3	6	10	20	4	4.06
Income and benefits	5	3	3	5	4	20	4	1.00
Good social climate / work setting	1	1	2	9	7	20	4	3.74
Good career advancement prospects	0	0	2	6	11	19	3.8	4.71
Being able to coordinate/supervise work	0	1	1	2	16	20	4	6.75

Source: Collected from field data of tracer study, 2021

Table 20 above captures the Measurement (mean score, μ) of satisfaction along 11 individual job parameters. Results have been taken from a sample of 20 graduates. The mean satisfaction rate of the traced Graduates is 4 on Being able to coordinate/supervise work and 4 on Interesting work tasks. The graduates mean satisfaction on being able to coordinate/supervise work was 4, Possibilities for applying what you learned when studying was 3.8. On Job security the mean score was 4.2 and Social status and recognition was 3.8 and Income and benefits was 4.

Figure 22: Measurement of satisfaction along individual job parameters



Source: Collected from field data of tracer study, 2021

3.1.8 RELATIONSHIP BETWEEN STUDY AND EMPLOYMENT

In this section the Tracer Study report examines the teaching-learning conditions and provisions, experienced by the traced graduates, at KIHBT. It is an assessment of the 20 employed traced graduates towards their former institute.

3.1.8.1 Teaching-learning conditions and provisions experienced at KIHBT

The measurement of the Teaching-learning conditions and provisions uses 28 parameters on a five-point Likert scale as shown below.

	1	2	3	4	5	
Very Weak	()	()	()	()	()	Very Strong

3.1.8.1.1 Interpretation of the Ratings for the Teaching-Learning Conditions and Provisions

Using average mean score, the scale has been interpreted as shown below

INTERPRETATION OF AVERAGE MEAN SCORE					
Range	1 – 1.4	1.5 – 2.4	2.5 – 3.4	3.5 – 4.4	4.5 – 5.0
Verbalisation	Very Weak	Weak	Neither Weak nor Strong	Strong	Very Strong
Colour Code					

Table 21: Rating the teaching-learning conditions and provisions experienced at KIHBT

Teaching-learning Conditions and Provisions								
	Job Satisfaction					n	Mean	SD
	1	2	3	4	5			
Theoretical training related to the occupation	0	1	1	2	17	21	4.2	7.19
Practical use of computers	5	1	1	4	8	19	3.8	2.95
Practical use of working tools	0	1	2	3	15	21	4.2	6.14
Practical use of machines and equipment	1	0	1	5	13	20	4	5.39
Practical use of materials and parts	1	0	1	4	14	20	4	5.79

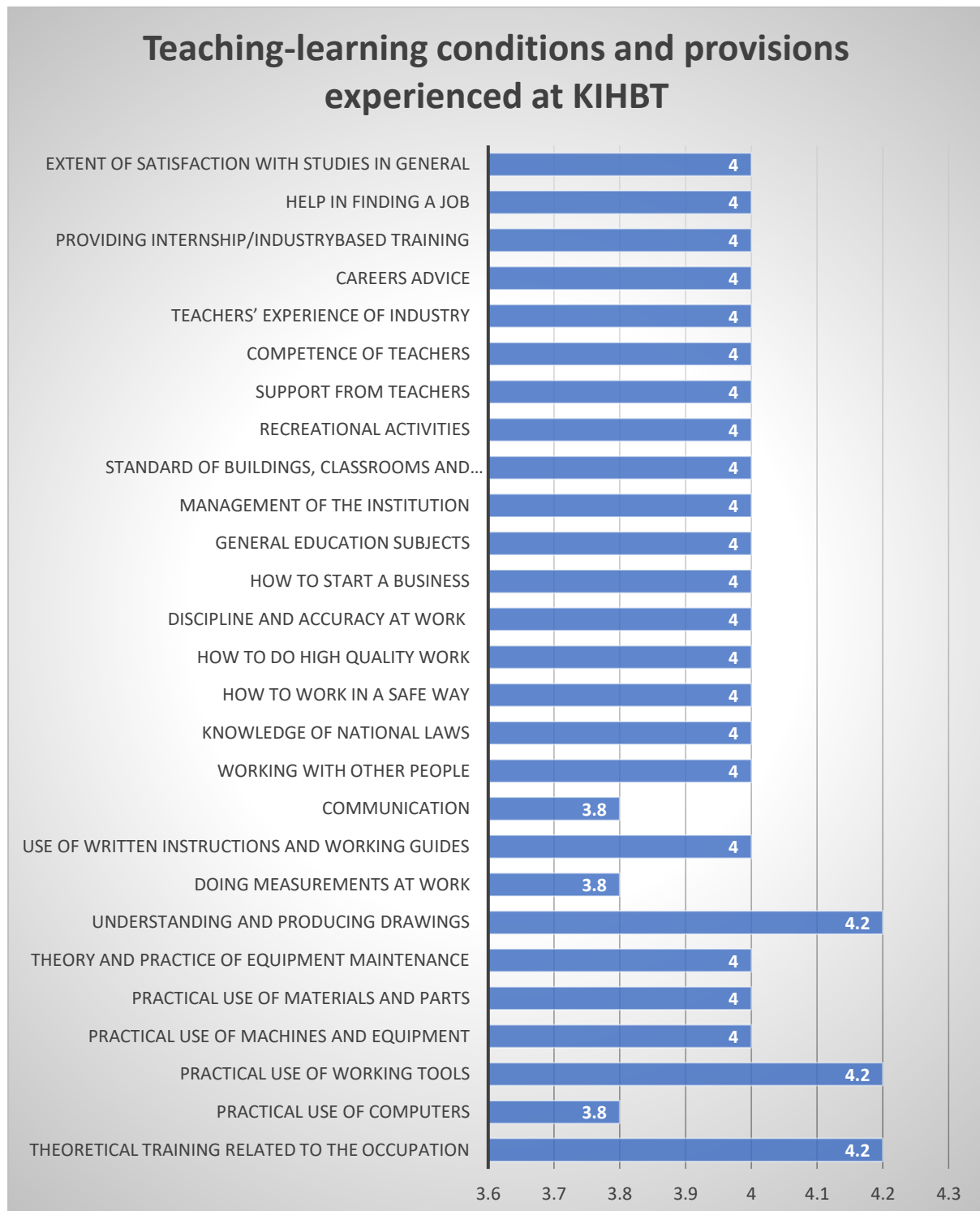
Theory and practice of equipment maintenance	0	1	1	9	9	20	4	4.58
Understanding and producing drawings	2	0	3	6	10	21	4.2	3.90
Doing measurements at work	0	1	2	6	10	19	3.8	4.15
Use of written instructions and working guides	0	0	3	5	12	20	4	4.95
Communication	0	0	0	5	14	19	3.8	6.10
Working with other people	0	0	1	5	14	20	4	5.96
Knowledge of national laws	0	2	1	8	9	20	4	4.18
How to work in a safe way	0	0	2	6	12	20	4	5.10
How to do high quality work	0	0	2	3	15	20	4	6.28
Discipline and accuracy at work	0	0	0	6	14	20	4	6.16
How to start a business	1	0	2	6	11	20	4	4.53
General education subjects	1	0	0	7	12	20	4	5.34
Management of the institution	0	1	1	5	13	20	4	5.39
Standard of buildings, classrooms and workshops/labs	1	1	0	6	12	20	4	5.05
Recreational activities	3	1	2	8	6	20	4	2.92
Support from teachers	0	0	1	6	13	20	4	5.61
Competence of teachers	0	0	0	7	13	20	4	5.87
Teachers' experience of industry	0	0	0	7	13	20	4	5.87
Careers advice	0	2	0	6	12	20	4	5.10
Providing internship/industry-based training	1	1	3	7	8	20	4	3.32
Help in finding a job	5	2	1	6	6	20	4	2.35
Extent of satisfaction with studies in general	0	0	3	5	12	20	4	4.95

Source: Collected from field data of tracer study, 2021

Table 21 captures the Measurement (mean score, μ) and “Rating of the teaching-learning conditions and provisions” experienced at KIHBT. Results have been taken from a sample of 20 graduates. The mean (μ) satisfaction rate of the traced graduates, varies from 3.8 on practical use of computers to 4.2 on practical use of working tools. Theoretical training related to the occupation, Practical use of working tools and Understanding and producing drawings show the strongest parameters with a mean of 4.2

while Practical use of computers, doing measurements at work and Communication show the weakest parameter of 3.8.

Figure 23: Teaching-learning conditions and provisions experienced at KIHBT



3.1.9 SECTION VI - COMMENTS AND RECOMMENDATIONS BY GRADUATES

In this section, traced Graduates share their opinions on the weak areas that require improvement in the course of the study. Essentially these are areas that require professional attention to apply knowledge and skills to perform the job perfectly and efficiently. They also give their comments and suggestions regarding this survey.

3.1.9.1 Changes recommended for KIHBT programmes by Graduates

KIHBT Graduates shared their opinions on areas that require professional attention to apply knowledge and skills to perform the job perfectly and efficiently.

Table 22: Important program of study changes recommended by graduates

IMPORTANT PROGRAMME OF STUDY CHANGES RECOMMENDED BY GRADUATES	
Themes	Recommended Changes
Internship	<ul style="list-style-type: none">● Provide students with internship.
Practical	<ul style="list-style-type: none">● Improve on the practical bit of training● Add practical skills session and material testing skills● The improve the practical experience● Bring the industry professionals in classrooms
Curriculum	<ul style="list-style-type: none">● Add more technical programmes● The training is satisfactory
Facilities	<ul style="list-style-type: none">● The school needs enough classrooms and materials which will help the students to study in a friendly environment
Departments	<ul style="list-style-type: none">● Upgrade of accounts system

Source: Collected from field data of tracer study, 2021

Table 22 summarizes the important changes recommended for the TVET Institute's programme of study by TVET Graduates. The findings indicate that the most common changes recommended improvement in practical training and material testing skills.

3.1.9.2 Graduates Comments and suggestions regarding this survey

Table 23: Graduates Comments and Suggestions regarding this survey

Themes	Comments and Suggestions
Good survey	<ul style="list-style-type: none"> • Its good because it helps the school to know how their students are doing in the field • The institute is the best and if offers the best and its should continue with that spirit • It's a motivation to the alumnus of the institute • Identification of students who have industrial attachment • Keep up with the survey • Its a good start to know the areas the institute needs to improve on <p>The institute gets to know the students experience in the industry</p>
Job Opportunities	<ul style="list-style-type: none"> • Find jobs for students in the relevant industry
Request for Scholarship or Bursary	<ul style="list-style-type: none"> • Give bursary to roads construction course graduates to pursue civil engineering

Source: Collected from field data of tracer study, 2021

EASTRIP

3.2 EMPLOYERS' FINDINGS AT KENYA INSTITUTE OF HIGHWAY & BUILDING TECHNOLOGY

The Employers survey assessment was based on the level of satisfaction with regards to their skills and performance level on the job. This provided the institute with a review of the effectiveness and relevance of training of graduates from the employers' perspectives. Additionally, the employers gave their assessment on the courses that the institute offers in relation to meeting the job market needs

3.2.1 Demographic Information

The following is a demonstration of the role/position of the traced employers in the sample and the industry sectors they are engaged in.

3.2.1.1 Role/Position of traced Employers

Table 24: The role/position of traced Employers

THE NUMBER OF EMPLOYERS AND THEIR ROLE/POSITION						
	Role/Position					
	Director/ CEO	Deputy Director	Human Resource Manager	Head/Deputy Head of Department	Section Supervisor	Assistant engineer
Frequency	1	1	2	2	7	2
Per cent	6.7%	6.7%	13.3%	13.3%	46.7%	13.3%

Source: Collected from field data of tracer study, 2021

The survey was able to trace 13 employers. The statistics in Table 24 shows that of the traced employers, 6.7 per cent were the directors and or the chief executive officers of the organization, 6.7 percent were the deputy directors, 13.3 percent were human resource managers, 33.3 percent were the head of department, 46.7 percent were section supervisors while 13.3 percent were assistant engineers.

3.2.1.2 Traced Employers of Graduates by Industry Sector

The industry sectors were grouped to adequately accommodate all sampled employers.

Table 25: Employers of graduates by industry sectors

EMPLOYERS OF GRADUATES BY INDUSTRY SECTOR		
Industry Sector	Frequency	Per cent
Agriculture, forestry and fishing	-	-
Mining and quarrying	-	-
Manufacturing	-	-

Electricity, gas, steam and air conditioning supply	1	6.25%
Water supply; sewerage, waste management and remediation activities	1	6.25%
Construction	11	68.75%
Wholesale and retail trade, repair of motor vehicles and motorcycles	-	-
Transportation and storage	-	-
Accommodation and food service activities	1	6.25%
Information and communication	-	-
Financial and insurance activities	-	-
Real estate activities	-	-
Professional, scientific and technical activities	2	12.5%
Administrative and support service activities	-	-
Public administration and defence; compulsory social security	-	-
Education	-	-
Human health and social work activities	-	-
Arts, entertainment and recreation	-	-
Other service activities	-	-
Other	-	-
Total	16	100%

Source: Collected from field data of tracer study, 2021

Table 25 summarizes how the traced employers spread across different industry sectors. The statistics shows that the 13 traced employers were spread across 5 industry sectors.6.25 percent is in the electricity, gas, steam, and air conditioning supply ,6.25 percent is in the water supply; sewerage, waste management and remediation activities ,11 per cent is in the construction industry,6.25 percent is in accommodation and food service activities while 12.5 per cent in professional, scientific and technical activities.

3.2.2 Recruitment Procedures and Criteria

The survey examined the procedures and criteria applied by employers during recruitment as follows:

- The number of graduates in both permanent and casual employment
- Important aspects when it comes to employing graduates
- The ways and means of recruiting graduates
- Satisfaction with quality of training received by graduates
- Demonstration of Knowledge and skills aspects
- Reasons for not employing TVET graduates from Kenya Institute of Highway and Building Technology
- Challenges they face with engaged interns.
- Attitude of the graduates that they have employed

This assessment attempted to highlight education and employment reform and policies where decision makers in the institute should focus on.

3.2.2.1 How Employers Recruit TVET Graduates

Table 26: How employers recruit graduates

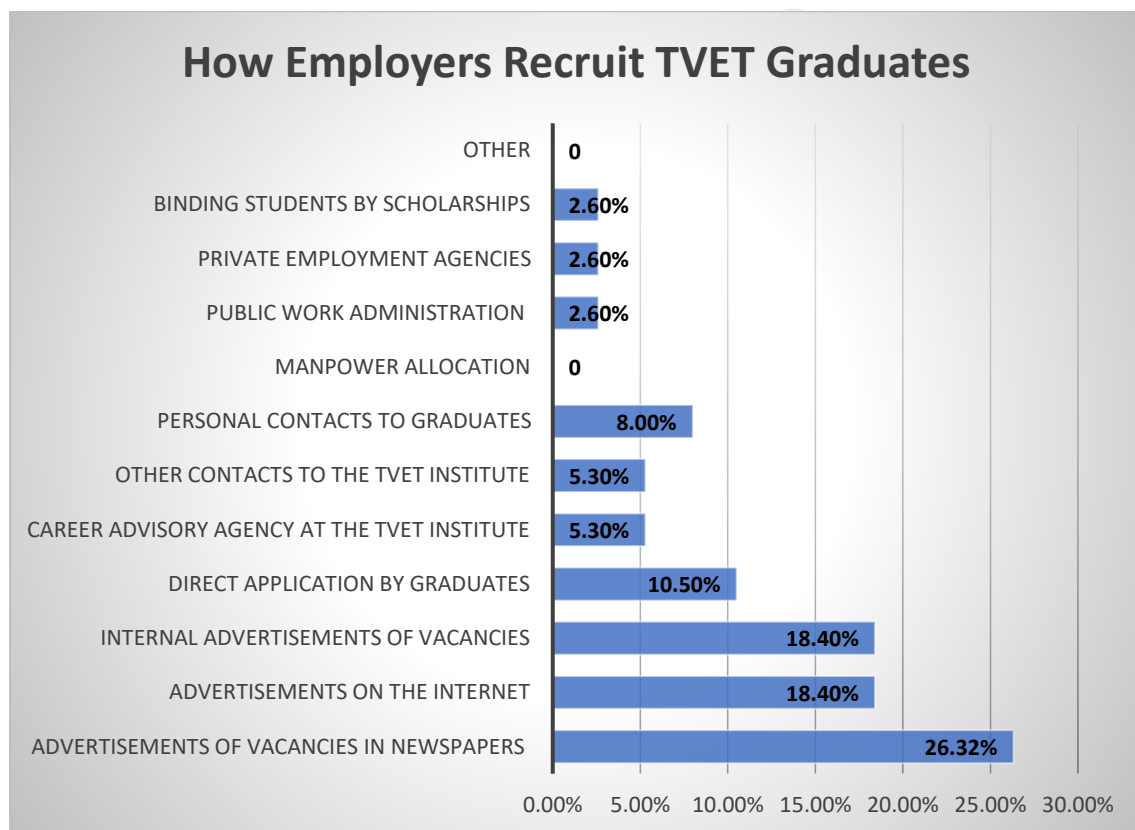
How Employers Recruit Graduates	Frequency	Per cent
Advertisements of vacancies in newspapers (Such as, daily papers, special periodicals)	10	26.32%
Advertisements on the Internet	7	18.4%
Internal advertisements of vacancies	7	18.4%
Direct application by graduates	4	10.5%
Career advisory agency at the TVET Institute	2	5.3%
Other contacts to the TVET Institute	2	5.3%
Personal contacts to graduates	3	8.0%
Manpower allocation	-	-
Public work administration (Such as, public placement services, manpower allocation system)	1	2.6%
Private employment agencies	1	2.6%

Binding students by scholarships	1	2.6%
Other	-	-
Total	38	100

Source: Collected from field data of tracer study, 2021

Table 26 captures the means and ways with which Employers recruit Graduates. Results have been taken from a sample of 13 of the 6 Employers who presently employ TVET graduates. The statistics show that for 26.32 per cent of the respondents Advertisements of vacancies in newspapers 18.4% ,Advertisements on the Internet,18.4% Internal advertisements of vacancies,10.5% Direct application by graduates,5.3 per cent Career advisory agency at the TVET Institute,8.0% Other contacts to the TVET Institute,8.0% Personal contacts to graduates,2.6 per cent Public work administration ,2.6 per cent Private employment agencies while 2.6 per cent Private employment agencies.

Figure 24:How employers recruit TVET graduates



Source: Collected from field data of tracer study, 2021

Advertisement of job vacancies in the newspapers was the most preferred means of recruiting graduates.

There is a need to enhance internship programs so that graduates can establish crucial contacts with employers. The results obtained through this tracer study reveal that there is need for industrial linkages which could potentially secure vacancies for the graduates

3.2.2.2 Employers that have recruited TVET Graduates

Table 27: Employers that have recruited TVET graduates

Recruited Graduates from KIHBT?	Yes	No
Frequency	6	7
Per cent	46.2%	53.8%

Source: Collected from field data of tracer study, 2021

Table 27 above captures the Employers that have recruited TVET Graduates from KIHBT. Results have been taken from a sample of 6 of the 13 Employers who presently employ TVET graduates. The statistics shows that of the traced Employers, 46.2 per cent have recruited TVET Graduates from Kenya Institute of Highway and Building Technology and 53.8 per cent have not recruited any TVET Graduates from KIHBT

3.2.2.3 Statistics of TVET Graduates in Employment

Table 28: Number of TVET Graduates in Employment

KENYA INSTITUTE OF HIGHWAY and BUILDING TECHNOLOGY GRADUATES IN EMPLOYMENT BY GENDER			
	Male	Female	Total
Employer 1	1	1	2
Employer 2	3	2	5
Employer 3	4	1	5
Employer 4	0	1	1
Employer 5	1	0	1
Employer 6	1	0	1
Total	10	5	15
Per cent	66.7%	33.3%	100%

Source: Collected from field data of tracer study, 2021

The statistics in Table 28 shows that of the employed TVET graduates, **66.7** percent are male and **33.3** percent are female.

3.2.2.4. Important Aspects for the recruitment of TVET Graduates

Using a five-point Likert scale, employers measured the degree of importance of eleven (11) aspects for the recruitment of TVET Graduates.

	1	2	3	4	5	
Not at all important	()	()	()	()	()	Very important

3.2.2.4.1 Interpretation of the Degree of Importance of Multiple Aspects for the Recruitment of TVET Graduates

Using average mean score, the scale has been interpreted as shown below.

INTERPRETATION OF THE AVERAGE MEAN SCORE					
Range	1 – 1.4	1.5 – 2.4	2.5 – 3.4	3.5 – 4.4	4.5 – 5.0
Verbalisation	Not at all Important	Somewhat Not important	Neither Important Nor Not important	Important	Very Important
Colour Code					

Table 29: Important Aspects for the recruitment of TVET graduates

Recruitment Aspects	Satisfaction with Quality of Training					n	Mean	SD
	1	2	3	4	5			
Field of study	0	0	1	3	8	12	2.4	3.36
Main focus of subject area/specialization	0	0	2	7	3	12	2.4	2.88
Grades of examinations at the TVET Institute	0	0	2	5	5	12	2.4	2.51
Practical experience acquired during course of study	0	0	2	5	5	12	2.4	2.51
Reputation of TVET Institute	0	2	1	5	4	12	2.4	2.07

Recommendations/references from third persons	0	2	1	6	3	12	2.4	2.30
Results of recruitments tests	0	0	1	5	6	12	2.4	2.88
Communication skills	0	0	2	2	8	12	2.4	3.29
Personal presentation	0	0	3	5	4	12	2.4	2.30
Personality and behaviour	0	0	1	2	9	12	2.4	3.78
Candidate's own world view	0	0	4	5	3	12	2.4	2.30

Source: Collected from field data of tracer study, 2021

Table 29 captures the degree of importance of the aspects considered when recruiting TVET Graduates. Results have been taken from a sample of 12 Employers who presently employ TVET graduates. From the analysis of the traced Employers, the mean score was 2.4. This indicates that all recruitment aspects were somewhat not important.

Figure 25: Employers perspective on important recruitment aspects



Source: Collected from field data of tracer study, 2021

3.2.2.5 Employers' Satisfaction with quality of training received by graduates

Using a five-point Likert scale, employers measured their degree of satisfaction with the training received by the Graduates

	1	2	3	4	5	
Not at all Satisfied	()	()	()	()	()	Very Satisfied

3.2.2.5.1 Interpretation of the Employers' Satisfaction with Quality of Training

Using average mean score, the scale has been interpreted as shown below.

Interpretation of Average Mean Score					
Range	1 – 1.4	1.5 – 2.4	2.5 – 3.4	3.5 – 4.4	4.5 – 5.0
Verbalisation	Not at all Satisfied	Somewhat not Satisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
Colour Code					

Table 30: Employers satisfaction with quality of training received by TVET graduates

Satisfaction	Satisfaction with Quality of Training					n	Mean	SD
	1	2	3	4	5			
Frequency	0	0	0	3	9	12	2.4	3.91
Per cent	0	0	0	25%	75%	-	-	-

Source: Collected from field data of tracer study, 2021

Table 30 captures how employers measured their degree satisfaction with the training received. Results have been taken from a sample of the 12 Employers who presently employ TVET graduates 75 percent of the respondents said that they were generally very satisfied with the quality of training.

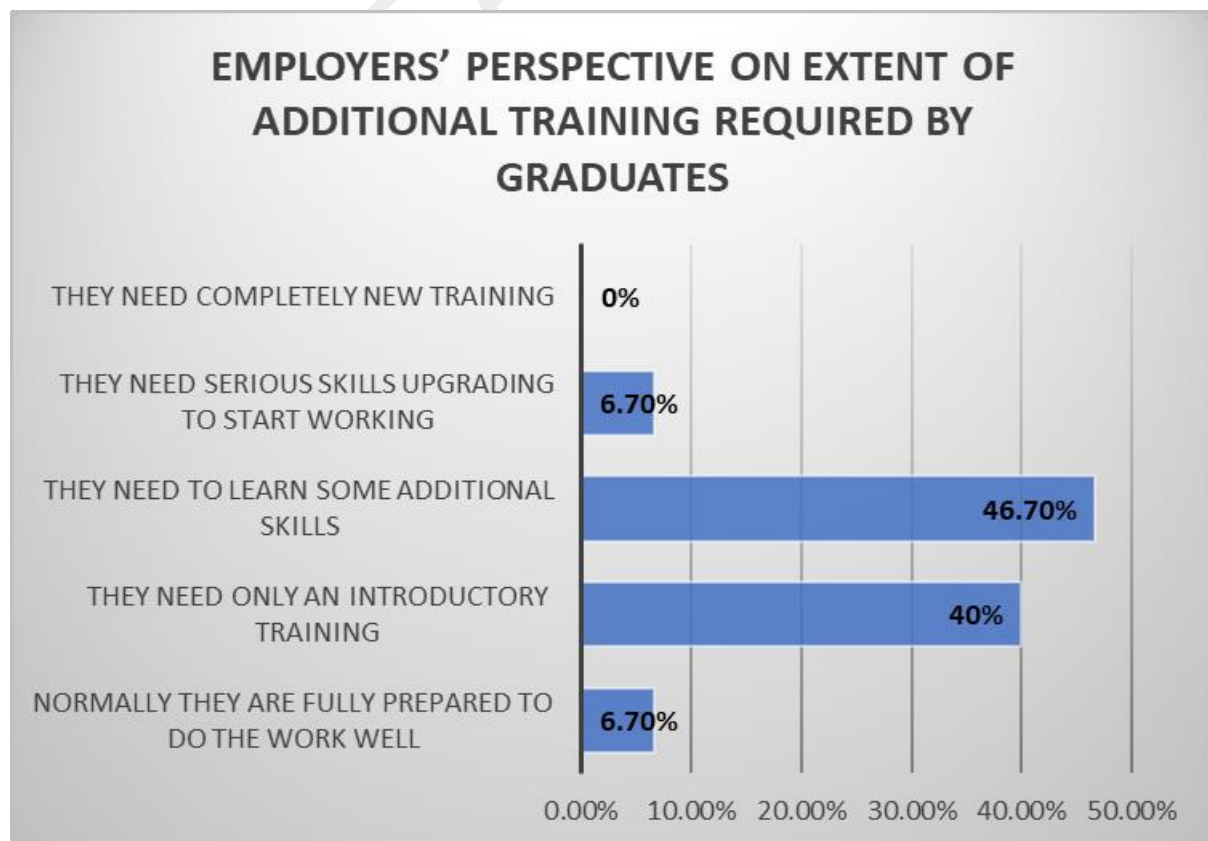
3.2.2.6 The need for additional training of TVET graduates

Table 31: Employers opinion on the need for additional training of KIHBT graduates

EMPLOYERS' PERSPECTIVE ON EXTENT OF ADDITIONAL TRAINING REQUIRED BY KENYA INSTITUTE OF HIGHWAY & BUILDING TECHNOLOGY GRADUATES		
	Frequency	Per cent
Normally they are fully prepared to do the work well	1	6.7%
They need only an introductory training	6	40%
They need to learn some additional skills	7	46.7
They need serious skills upgrading to start working	1	6.7%
They need completely new training	0	-
Total	15	100%

Table 31 summarizes the employers' views of the extent of additional training required by graduates from TVET institutes. The statistics shows that from traced Employers, 40 per cent agree that They need only an introductory training. 6.7 per cent respondent says that normally they are fully prepared to do the work well. While another 46.7 percent respondent says that they need to learn some additional skills".

Figure 26: Employers perspective on extent of additional training required by graduates



3.2.2.7 Gender preference in recruitment

Table 32 summarizes the employers' preference in terms of gender when it comes to recruitment.

Of the 12 traced employer's 99 percent have no gender preference during recruitment. 1 percent prefer recruiting male graduates.

Table 32: Employers gender preference in recruitment

Male	Female	No preference
1	-	11

Reasons for male preference

- i. Involves carrying out activities in hardship regions

Reasons for no preference

- i. Every gender should have a fair and equal opportunity to employment
- ii. No gender is given a preference if he/she performs allocated duties in time
- iii. No preference
- iv. Since it's about how a person has scored and gender balance if need be.

3.2.2.8 Employers' responses to the importance of knowledge and skills of graduates

Using a five-point Likert scale, employers measured their degree satisfaction with the Knowledge and skills aspects as demonstrated by TVET Graduates

	1	2	3	4	5	
Not at all Satisfied	()	()	()	()	()	Very Satisfied

3.2.2.8.1 Interpretation of the Employers' Level of Satisfaction with the Knowledge and Skills of TVET graduates

Using average mean score, the scale has been interpreted as shown below.

Interpretation of Average Mean Score					
Range	1 – 1.4	1.5 – 2.4	2.5 – 3.4	3.5 – 4.4	4.5 – 5.0
Verbalisation	Not at all Satisfied	Somewhat not Satisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
Colour Code					

Table 33: Employers level of satisfaction with the knowledge and skills of graduates

EMPLOYERS' LEVEL OF SATISFACTION WITH THE KNOWLEDGE AND SKILLS OF GRADUATES								
Knowledge and Skills Aspects	Level of General importance					n	Mean	SD
	1	2	3	4	5			
Theoretical training related to the occupation	0	0	1	7	5	13	2.6	3.21
Practical use of computers	1	0	4	6	2	13	2.6	2.41
Practical use of working tools	0	0	2	4	7	13	2.6	2.97
Practical use of machines and equipment	1	1	2	4	5	13	2.6	1.82
Practical use of materials and parts	0	0	4	5	4	13	2.6	2.41
Theory and practice of equipment maintenance	0	0	4	4	5	13	2.6	2.41
Understanding and producing drawings	0	0	2	6	5	13	2.6	2.79
Doing measurements at work	0	0	3	6	4	13	2.6	2.61

Use of written instructions and working guides	0	0	2	6	5	13	2.6	2.79
Communication	0	0	1	6	6	13	2.6	3.13
Working with other people	0	0	1	5	7	13	2.6	3.21
Knowledge of the industry	0	0	2	5	6	13	2.6	2.79
How to work in a safe way	0	0	2	4	7	13	2.6	2.97
How to do high quality work	0	0	1	7	5	13	2.6	3.21
Discipline and accuracy at work	0	0	2	5	6	13	2.6	2.79
How to start a business	0	1	5	4	3	13	2.6	2.07
General education subjects	0	0	4	5	4	13	2.6	2.41
Research and innovation	0	0	4	5	4	13	2.6	2.41
The quality of the TVET graduates in general	0	0	1	6	6	13	2.6	3.13

Source: Collected from field data of tracer study, 2021

Table 33 illustrates the employers' level of satisfaction with the knowledge and skills demonstrated by TVET graduates. The statistics show that the mean satisfaction level was 2.6, indicating they were neither satisfied nor dissatisfied.

Figure 27: Employers level of satisfaction with the knowledge and skills of graduates



3.2.2.8 Employers' Internship Program for Graduates.

Table 34: Statistics of Graduates Undergoing Internship

KENYA INSTITUTE OF HIGHWAY AND BUILDING TECHNOLOGY AND OTHER TVET INSTITUTE GRADUATES THAT ARE UNDERGOING INTERNSHIP		
Internship program	Yes	No
Frequency	1	4
Percentage	20%	80%

Source: Collected from field data of tracer study, 2021

Table 34 summarizes the Employers' Internship Program for Graduates. Results have been taken from a sample of 5 of the 5 Employers who presently employ TVET graduates. The statistics shows that 20 per cent have an internship program for TVET graduates while 80 per cent do not have an internship program for TVET graduates.

3.2.2.9 Challenges experienced with Internship Programs

Table 35 summarizes the responses from employers on the question of challenges experienced with interns from TVET Institutes. Results have been taken from a sample of 6 of the 6 Employers who have had some experiences with interns from TVET graduates. The statistics in Table 35 shows that of the traced Employers, 100 per cent have not experienced some challenges with interns from TVET Institutes.

Table 35: Challenges experienced with interns from Institutes

CHALLENGES EXPERIENCED IN THE INTERNSHIP PROGRAM		
	Yes	No
Frequency	0	1
Per cent	0%	100%

Source: Collected from field data of tracer study, 2021

3.2.2.10 Employers' Perspective on Problems finding employees with the needed skills

Table 36: Problems experienced in finding employees with the needed skills

PROBLEMS EXPERIENCED IN FINDING EMPLOYEES WITH THE NEEDED SKILLS		
	Yes	No
Frequency	1	12
Per cent	7.8%	92.3%

Source: Collected from field data of tracer study, 2021

Figure 28: Problems experienced in finding employees with the needed skills



Source: Collected from field data of tracer study, 2021

Table 36 summarizes the responses from employers on the question of problems experienced in finding employees with the needed skills. Results have been taken from a sample of 1 of the 13 employers who have had some experiences finding employees with the needed skills. The statistics shows that of the traced Employers, 92.3 per cent have not experienced some challenges finding employees with the needed skills. 7.8 per cent have experienced some challenges finding employees with the needed skills.

3.2.2.11 Severity of the skills shortages

Using a five-point Likert scale, employers measured the extent of severity of the skills shortages.

	1	2	3	4	5	
Not at all	()	()	()	()	()	Very high extent

Table 37: Severity of skills shortage

SEVERITY OF THE SKILLS SHORTAGES								
	Frequency					n	Mean	SD
	1	2	3	4	5			
Semi-skilled	1	1	2	0	0	4	0.8	0.84
Skilled worker	0	0	2	0	1	34	0.6	0.89
Technician/ engineer	0	1	1	1	1	4	0.8	0.45
Supervisory/ management	1	0	1	0	1	3	0.6	0.55

Source: Collected from field data of tracer study, 2021

Table 37 summarizes the employers' views of the extent of severity of the skills shortages. The findings indicate that the severity of the skills shortages varies from skill level to skill. The statistics shows that according to traced Employers, the mean scores of the severity of skills shortages vary from 0.6 to 0.8. "5.0" indicates the highest severity while "1.0" shows the least.

From Table 37 Technician/ engineer and Supervisory/management workers are the easiest to find, followed by skilled workers. Semi-skilled workers are the most difficult to find.

3.2.2.12 Occupations in which Skills shortages are commonly experienced

Table 38: Occupations in which Skills shortages are commonly experienced

OCCUPATIONS IN WHICH SKILLS SHORTAGES ARE COMMON EXPERIENCED
1. Design
2. Masons
3. Welders
4. Steel fixers
5. Technical sector

Source: Collected from field data of tracer study, 2021

Table 38 Summarizes the occupations in which skills shortages are commonly experienced. The statistics in Table 38 shows that the occupations with the most common skills shortages according to traced employers are designs, masons, welders, steel fixers and technical sector

3.2.3 Comments and Recommendations

Traced employers share their opinions on the weak areas that require improvement during the study, essentially areas that require professional attention to apply knowledge and skills to perform the job perfectly and efficiently. They also give their comments and suggestions regarding this survey.

3.2.3.1 Important changes recommended for the Institute's programme of study by Employers

Table 39: Important changes recommended for the program of study

IMPORTANT PROGRAM OF STUDY CHANGES RECOMMENDED BY EMPLOYERS	
1	To train for more practical.
2	Should introduce more practicals in their studies.

Source: Collected from field data of tracer study, 2021

Table 39 summarizes the important changes recommended for the TVET Institute's programme of study by Employers. The statistics in Table 39 shows that the most common changes recommended for the Institute's programme of study by traced Employers is the need to introduce more practical work for learners.

Table 40: Employers' Comments and suggestions regarding this survey

COMMENTS AND SUGGESTIONS MADE BY EMPLOYERS	
1.	Practical aspect in each field
2.	They should be more attached to projects while in school to widely know the practical or field work
3.	CAD training
4.	New road technology (Purecrete Road Base System)
5.	The students should be taught how to use design software such as CIVIL 3D AutoCAD
6.	The institution should ensure the students are attached to firms which they get real experience
7.	Hands on practice to students by establishing labs and workshops
8.	Performance Based Contractors courses training
9.	In corporate practice as an aspect in training
10.	Students should get more opportunities in field work to enhance their capability in the industry
11.	Drainage structures

Source: Collected from field data of tracer study, 2021

Table 40 summarizes the comments and suggestions regarding this survey as made by employers. The findings indicate that the most common comments and suggestions regarding this survey are that the survey is nice and that some of the companies are still young and may not have provided adequate feedback.

4. SUMMARY OF FINDINGS AND THE CORRESPONDING RECOMMENDATIONS

The specific and general findings of the tracer study were derived through analysis of quantitative and qualitative data and information obtained from the sample survey as well as literature review of relevant studies. Below we summarise the specific and general findings of the Tracer study.

4.1. GENERAL FINDINGS

4.1.1. Database and Management System of the database

Finding: The institute is doing relatively well on the database of the graduates.

The standard form for data collection should contain the following information: name of the graduate, telephone number, home address, age, sex, type of course pursued, year started, year of graduation, and employment status (employee, self-employed and unemployed). Every year the database administrator should select a sample of TVET graduates that passed out the previous year to find out their employment status and if employed their place of work.

Recommendation:

The database students to be updated biannually and the alumni office to be charged with maintaining current phone numbers of the alumnus

4.2. MAJOR SPECIFIC FINDINGS TVET TRACER STUDY

4.2.1. TVET Graduates

The study reached out to 74 graduates.80 per cent of the graduates are male while 20 per cent were female

4.2.1.1 Gender Balance

There is need to market the technical courses and make them attractive to female students since the enrolment of female students is 20%

Recommendation: The female graduate proposed to the institute to have a gender action plan.

4.2.1.2 Employment Rate

Out of the 74 traced graduates,39.2 percent were employed within six months of graduating,5.4 percent were self-employed,2.7 per cent were in further academic education,4.1% were in further vocational education,21.6 % were unemployed and 27 per cent were unreachable.

100 per cent of the employed graduate earn below KES.51,475

4.2.1.3 Media of employment

Finding: 52.2 percent of the graduates got employed through Industry Linkages ,30.4 per cent got their jobs through relatives, friends, and colleagues,13.0 per cent got their jobs via the internet and 4.3 per cent were through referrals. None of the students reported to have found their jobs via social networks or the newspapers.

The results obtained indicated that industry linkages have been enhanced since that's how half of the employed graduates got their jobs. The findings indicate that there is need to strengthen the Industrial Liaison role within the Institution to further get the graduates more opportunities.

Recommendations: There is need to strengthen Industrial Liaison role within the institution.

4.2.1.4 Reasons for lack of employment

Finding: The study indicates 11.1 per cent of the graduates were on further study, 20 percent reported unsuccessful application, 4.4 percent had lost previous jobs, 13.3 percent lacked opportunities, 6.7 percent were on internship and 44.4 per cent were unreachable.

The unsuccessful applicants were attributed to shortages of jobs in the labour market. Graduates also found it difficult to secure jobs due to lack of relevant level of professional qualification and experience relevant to jobs

Recommendations: Graduates to undergo a mandatory Internship program for a minimum of three months before graduating to acquire some on the job experience.

4.2.1.5 Relationship between Work and Course Followed

Finding: The study revealed that 100 percent of graduate respondents indicated that there is a relationship between work and the course followed as the job opportunities they found are related to their course of study.

4.2.1.6 Participation in Further Training

Finding: 35 percent of the traced TVET Graduates have participated in further training. 65 percent have not participated in further training. 91.7 percent of the traced graduates said the main reason for not participating in further training was due to lack of funds to pay for further training.

Recommendation: The graduates requested the institute to consider offering scholarships and or bursaries to good performing students to enable them further their studies

4.2.1.7 Satisfaction with Present Job

70 percent of the traced TVET graduates were generally satisfied with their present job. When asked to measure satisfaction against 11 individual parameters on a five-point scale, their mean score varied between 3.8 on possibilities for applying what you learned when studying and 4.2 on job security.

4.2.1.8 Teaching-learning conditions and provisions

The mean of the teaching-learning conditions and provisions ranges from 3.8 on Practical use of computers, doing measurements at work and communication to 4.4 on theoretical training related to the acquisition, practical use of working tools and understanding and producing drawings.

4.2.2. Employers perspective

4.2.2.1 Recruitment of KIHBT Graduates

Findings: On a five-point scale, and with a mean score of 2.6, the most important Aspects for the recruitment of KIHBT Graduates were Recommendations/references from various stakeholders. The least important aspects were grades of examinations at the Institute.

Recommendations: Kenya Institute of Highways and Building Technology should work very closely with employers on their concerns. That way they will be able to prepare their graduates well for employment.

4.2.2.2 Additional Training

On the need for additional training of KIHBT graduates 46.7 percent of the Employers believed the KIHBT graduates should learn some additional skills so that they are more equipped whereas 6.7 percent of the employers said they are normally fully prepared to do the work well.

Recommendations: There is a need to regularly liaise with employers to reduce the gap between level of training at TVET level and the requirement by employers.

4.2.2.3 Knowledge and skills

The employers were general satisfied with the quality of TVET graduates. Graduates were disciplined and demonstrated accuracy at work and the quality of the KIHBT graduates in general. The least drivers for employers on level of satisfaction with the knowledge and skills demonstrated by graduates was theoretical training related to the occupation.

Recommendations: Enhance practical use of computers and enhance theoretical training related to the occupation as these are important to employers.

4.2.2.4 Finding Employees with the needed Skills

Only 7.8 percent of the employers have experienced some challenges finding employees with the needed skills. While, another 92.3 percent have not experienced challenges finding employees with the needed skills.

This indicated that KIHBT is producing graduates with the relevant skills to the industry.