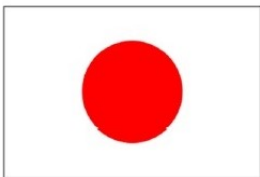


KITWE VOCATIONAL TRAINING
CENTRE

2023



HEO HANDOUT PRODUCTION WORKSHOP REPORT



HITACHI

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Table of Contents

GLOSSARY.....	2
WORKSHOP PARTICIPANTS.....	3
1.0 INTRODUCTION.....	4
2.0 PURPOSE OF THE WORKSHOP	5
3.0 OBJECTIVES OF THE WORKSHOP.....	5
4.0 INSTITUTIONS, ORGANIZATIONS AND COMPANIES PRESENT.....	5
5.0 FOREWORD-KVTC.....	6
6.0 REMARKS-UNIDO	6
7.0 Module 467-01-A Occupational Safety Health Environment.....	6
8.0 Module 467-01-A Occupational Safety Health Environment.....	7
9.0 Module 467-02-A Excavator Inspections	7
10.0 Module 467-03-A Excavator OPERATIONS.....	8
11.0 HANDOUT PRODUCTION WORKSHOP TWO	8
12.0 RECOMMENDATIONS AND TAKE-HOME POINTS	9
13.0 PICTURE FOCUS (HIGHLIGHTS).....	9

GLOSSARY

AFC	African Future College
CAMCO	Capital Acquisitions and Management Corp.
EIZ	Engineering Institution of Zambia
HCMJ	Hitachi Construction Machinery Japan
HCMZ	Hitachi Construction Machinery Zambia
HEO	Heavy Equipment Operator
KVTC	Kitwe Vocational Training Centre
NORTEC	Northern Technical College
TEVETA	Technical Education, Vocational and Entrepreneurship Training Authority
TVTC	Technical and Vocational Teacher's College
UNIDO	United Nations Industrial Development Organization

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1.0 INTRODUCTION

This report highlights the activities of the Excavator handouts production workshop, held from 30th January to 3rd February, 2023, in Kitwe, Zambia, and hosted various stakeholders from training institutions, regulatory organization and the industry.

The aforementioned workshop, falls under project activity 1.5. which specifies obtaining national accreditation for the three skills curricula. Following the reception of a formal accreditation letter for the skills curricula from TEVETA, the next step within the pipeline is to develop training handouts as per the modules of the curricula.

The handouts are essential to facilitating classroom training and providing both trainers and students with detailed course information that is relevant for teaching and studying respectively. The workshop focused primarily on the development of handouts for the Excavator operations skills award curricula,

following the decision to begin beneficiary training for Excavator operations in quarter 3 of 2023, during the first project steering committee meeting in December, 2022.

2.0 PURPOSE OF THE WORKSHOP

The purpose of the Excavator handouts production workshop was to bring together experts from the mining and construction industry, training institutions and regulatory institutions to formulate detailed handouts that supplement the abstract modules of the excavator operator syllabus. The handouts developed make up part of the overall training materials that will be used to facilitate excavator operator training.

3.0 OBJECTIVES OF THE WORKSHOP

The objectives of the workshop were to develop detailed handouts for:

- Module 467-01-A Occupational Safety Health Environment;
- Module 467-02-A Excavator Inspections;
- Module 467-03-A Excavator Operations.

4.0 INSTITUTIONS, ORGANIZATIONS AND COMPANIES PRESENT

The following were the institutions, organizations and companies whose representatives were present at the workshop:

- ❖ **KVTC:** Workshop facilitator - KVTC is a Zambian, government owned, TVET institution that is the key beneficial of the project. KVTC, in liaison with UNIDO, were the main facilitators of the Excavator handout production workshop.
- ❖ **TVTC:** Expert Consultant - TVTC was established to provide Vocational Teacher education. It was enacted by parliament and mandated by the Technical Education, Vocational and Entrepreneurship Training Act, to provide diploma training for teachers in natural sciences, social sciences, mathematics and ICT. TVTC took the lead in the development of excavator module handouts.
- ❖ **HCMZ:** Project Partner - HCMZ is a subsidiary of HCMJ, they are a construction equipment manufacturing company, and they are responsible for providing technical specifications for equipment and infrastructure necessary to establish the regional training centre of excellence at KVTC.
- ❖ **EIZ:** Regulatory Body - Is a statutory professional regulatory body enacted by parliament and mandated by the EIZ Act, to promote and regulate the engineering profession in Zambia.
- ❖ **NCC:** Training Provider - NCC is a statutory body governed by the National Council for Construction Act, and are charged with the responsibility of providing for the promotion, development, training and regulation of the Construction Industry in Zambia.

- ❖ **Nortec:** Training provider - Nortec is a TEVETA registered training institution, with a particular focus on engineering, technical and applied sciences training. Currently, NORTEC is the leading technical institution in Zambia.
- ❖ **AFC:** Training Provider - Like NCC, AFC is training provider currently facilitating HEO training programs, they are an established college, under the Republic of Zambia Company Act, with a Mission to Produce quality and productive Skilled Personnel for the industry.
- ❖ **Barloworld Equipment LTD:** Industry Player - Barloworld is an industrial processing, distribution, and services company with two primary areas of focus: Industrial Equipment & Services and Consumer Industries.
- ❖ **CAMCO:** Industry Player - CAMCO Group is involved in Agriculture, Construction, Heavy-Duty Equipment, Mining, Power Generation Equipment, Pump and irrigation Equipment's distribution and after-sales service. The Group has four subsidiaries in Africa, including Zambia, Malawi, Kenya and Cameroon.

5.0 FOREWORD-KVTC

The workshop commenced with opening remarks outlined by the principal-KVTC. During his debrief, he thanked the members for taking part in the development of the handouts. He further, highlighted the objectives of the workshop and gave a short introduction of the representatives from TVTC who were charged with spearheading the development of handouts.

He concluded his remarks with an emphasis on unity, objectivity and encouraged all members to work together towards the overall goal of the workshop.

6.0 REMARKS-UNIDO

The second remarks were given by UNIDO Project coordinator. He gave a more detailed overview of the purpose and objectives of the workshop. He also urged the participants to work in unity and align development of the handouts with the guidelines provided TVTC to achieve set objectives.

7.0 MODULE 467-01-A OCCUPATIONAL SAFETY HEALTH ENVIRONMENT

A preliminary session was to jump start handout development. This was led by the two representatives from TVTC. They first began by giving a detailed description on the differences between modules and handouts and specifying that the top-down approach would be used to execute the task of developing the handouts.

During preliminary, the workshop team developed focused on one unit from the excavator modules. The team also established a format that would be used for the rest of the units of corresponding modules. The following unit was developed during this session:

- **Module 467-02-A Excavator Inspections:** Describing machine specifications and layout.

After the development of the above-named unit, the workshop team were split into three groups, which each group tackling one of the three excavator modules.

8.0 MODULE 467-01-A OCCUPATIONAL SAFETY HEALTH ENVIRONMENT

Group 1 was tasked with developing a detailed handout for the occupational safety health environment module handout¹. The group was led by the AFC representative. The module consisted of a total of 7 units and 19 specific learning outcomes for which detailed descriptions were required. The group successfully completed development of all units were successfully completed during the workshop. Below is a summary of the units developed;

UNIT	STATUS	REMARKS/COMMENTS
UNIT A1.1 Applying Occupational Safety and Health Principles	Complete	NA
UNIT A1.2 Organizing Workstation	Complete	NA
UNIT A1.3 Demonstrating Safe Work Practices	Complete	NA
UNIT A1.4 Demonstrating Safety Practices in the Workspace	Complete	NA
UNIT A1.5 Observing Fire Safety in Excavator Operations	Complete	NA
UNIT A1.6 Applying Environmental Awareness	Complete	NA
UNIT A1.7 Applying Wellness Practices	Complete	NA

9.0 MODULE 467-02-A EXCAVATOR INSPECTIONS

Group 2, led by EIZ Representative, developed the handout for the excavator inspections module². The first unit was developed during preliminary with the rest of the workshop team. The remainder of the units were developed by the group. The module has a total of 6 units and 22 specific learning outcomes. Below is a summary of the unit development;

UNIT	STATUS	REMARKS/COMMENTS
UNIT A2.1 Describing Machine Specifications and Layout	Incomplete	Incomplete referencing materials due to time limitation.
UNIT A2.2 Describing Excavator Classification and Application	Complete	NA

¹ <https://shorturl.at/hknX6>

² <https://shorturl.at/cxz13>

UNIT A2.3 Explaining Operational Principles	Complete	NA
UNIT A2.4 Carrying out Inspection of Ground Level Components	Complete	NA
UNIT A2.5 Carrying out Inspection of Upper Deck Components	Incomplete	Unable to commence unit development due to Inadequate time/duration of workshop.
UNIT A2.6 Carrying out Inspection of Operator Cabin/Station	Incomplete	Unable to commence unit development due to Inadequate time/duration of workshop

10.0 MODULE 467-03-A EXCAVATOR OPERATIONS

The last module; Excavator operations handout³ was tasked to group 3 and was led by HCM representative. The module has a total of 8 units and 28 specific learning outcomes. The following is a summary of the development works performed by the group;

UNIT	STATUS	REMARKS/COMMENTS
UNIT A3.1 Applying Health and Safety Measures	Complete	NA
UNIT A3.2 Carrying out Pre-operational Inspections	Complete	NA
UNIT A3.3 Using Operator Station Features and Controls	Incomplete	Unable to commence unit development due to Inadequate time/duration of workshop.
UNIT A3.4 Operating the Engine	Incomplete	Unable to commence unit development due to Inadequate time/duration of workshop.
UNIT A3.5 Driving the Excavator	Incomplete	Unable to commence unit development due to Inadequate time/duration of workshop.
UNIT A3.6 Applying Machine Operation Techniques	Incomplete	Unable to commence unit development due to Inadequate time/duration of workshop.
UNIT A3.7 Transporting the Excavator	Incomplete	Unable to commence unit development due to Inadequate time/duration of workshop.
UNIT A3.8 Carrying out Excavator Maintenance	Incomplete	Unable to commence unit development due to Inadequate time/duration of workshop.

11.0 HANDOUT PRODUCTION WORKSHOP TWO

As can be seen from the tables above, some of the units that comprise the excavator modules did not complete development due to duration limitations. Out of 21 overall units, a total of 12 units have been completed and 11 pending, giving a completion percentage of 57%. For this reason, the members

³ <https://shorturl.at/cBDMV>

decided that the remainder of the modules be completed in a second meeting. This then implies that a second workshop must be added to the pipeline of developmental activities, leading to the formulation of handouts. All incomplete units are envisioned to be completed in the follow up workshop, subject to confirmation by KVTC, HCMZ, UNIDO and TEVETA. It was also noted that more allocation will be required as such deliberations require brainstorming and more discussions in order to come up with a quality document.

12.0 RECOMMENDATIONS AND TAKE-HOME POINTS

The following were the recommendations cited by the workshop team:

- Explore the possibilities of including student presentations as a form of continuous assessment upon commencement of beneficiary training.
- Much emphasize is given on the safety module of the curricula to ensure students are trained to care for the safety of the work environment.
- Consider the possibility of increasing duration of such workshops to at least 10 days.
- Explore the possibilities of hiring experts to complete development of the remaining handouts which will ensure the document is produced in time and with the expected quality.

13.0 PICTURE FOCUS (HIGHLIGHTS)



Figure 1: Workshop participants during a preliminary Session



Figure 2: Group 1 developing excavator operator module 1 handout



Figure 3: Group 2 developing excavator operator module 2 handout



Figure 4: Group 3 developing excavator operator module 3



Figure 5: Group photo of workshop participants