



**THE REPUBLIC OF UGANDA**  
Ministry of Education and Sports

**Business, Technical, Vocational Education and Training [BTVET] Subsector Reform**



**Assessment and  
Training Package**

**For**

**VEGETABLE SEED  
PROCESSOR**

**Qualification Level: 1**

**Occupational Cluster: Agriculture, Natural  
Resources and Environment**

**January 2022**

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**Developed by:**

**Qualifications Standards Department  
Directorate of Industrial Training**

**Funded by:**

**Government of Uganda**

## **DIRECTORATE OF INDUSTRIAL TRAINING**

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Under BTVET Act, 2008 the functions of the Directorate of Industrial Training are:

- (a) To identify the needs of the labour market for occupational competencies that fall under the UVQF;
- (b) To regulate apprenticeship schemes;
- (c) To foster and promote entrepreneurial values and skills, as an integral part of the UVQF;
- (d) To secure adequate and sustainable financing for the efficient operations of the Directorate;
- (e) To accredit training institutions or companies as assessment centers;
- (f) To determine fees payable under the Act;
- (g) To develop, apply, expand and improve the purposeful application of Uganda Vocational Qualifications defined in the UVQF;
- (h) To assess and award Uganda Vocational Qualifications;
- (i) To promote on-the-job training in industry for apprenticeship, traineeship and indenture training and for other training such as further skills training and upgrading; and
- (j) To prescribe the procedure for the making of training schemes

Further to the above provisions, there is an established Uganda Vocational Qualifications Framework (UVQF), under part V of the BTVET Act, 2008. It is stated that:

The purpose of the UVQF is to define:

- (a) Occupational standards in the world of work;
- (b) Assessment standards;
- (c) Vocational qualifications of learners who meet the set standards of different studies;
- (d) Provide guidelines for modular training.

The UVQF shall follow principles of Competence Based Education and Training (CBET) which include:

- (a) Flexible training or learning modules;
- (b) Positive assessment and Certification;
- (c) Assessment of Prior Learning;
- (d) Recognition of formal and non-formal training;
- (e) Self-paced or individual learning; and
- (f) Work place learning

For award and recognition of certificates, the BTVET Act, 2008 provides that:

- (1) The Directorate and other examination boards established under the Act shall award certificates and diplomas for Business, Technical or Vocational education and training under the UVQF;
- (2) The Certificates and Diplomas to be awarded shall be in the form prescribed by the Minister on the recommendation of the Industrial Training Council;
- (3) The Certificates and Diplomas awarded under the Act shall be recognized in the Uganda education system and by the labour market.

Under the TVET Implementation Standards 2020, the proposed new mandate of the Directorate of Industrial Training shall be restricted to promoting the highest standards in the quality and efficiency of industrial training in the country and ensuring an adequate supply of properly trained manpower at all levels in the industry and the world of work.

The functions shall include:

- a) Regulating Industrial training and trainers,
- b) Developing industrial training curricula,
- c) Harmonizing curricula and certificates of competence,
- d) Assessing industrial training,
- e) Development of occupational standards and Assessment and Training Packages (ATPs) for Trade Testing for the industry and world of work and
- f) Awarding certificates in that respect.

At operational level in the Directorate, the Qualification Standards Department performs development tasks related to concepts, procedures and instruments for establishment of the UVQF in close collaboration with both public and private stakeholders in vocational training.

In particular, the Department organizes and coordinates the development of Assessment and Training Packages for use in competence-based vocational training as well as standards-based assessment and certification.

The Directorate has therefore produced this Assessment and Training Package for use in implementing Competence-Based Education and Training mechanisms.

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## Word from Permanent Secretary

The Ministry of Education and Sports (MoES) through the Directorate of Industrial Training conducts Competence Based Assessment.

The foreseen advantages of CBA include improved access, equity and relevance of skills development, reduced unit costs of training, and recognition of Prior Learning (or on-the-job-training), among others.

As the Ministry executes its obligation of ensuring quality in training standards, the public-private partnership is being strengthened to improve occupational competence of the country's workforce without gender bias.

To achieve the set-out targets, the Directorate embarked on the anticipated UVQF design and development piloting its instruments and mechanisms in order to effectively enhance Competence-Based Assessment (CBA) in Uganda.

To date, the Qualifications Standards Department of DIT has produced Assessment and Training Packages (ATP) for various occupations. Each ATP contains 3 parts namely:

1. Occupational/job Profile
2. Training modules and
3. Assessment instruments Banks

The ATP can be used by any training provider and/or those who wish to present themselves for Occupational Assessment and Certification.

Herewith, the Directorate of Industrial Training presents the "Assessment & Training Package (ATP)" for training, assessment and certification of **VEGETABLE SEED PROCESSOR – QUALIFICATION LEVEL 1**

Finally, I thank all individuals, organizations and development partners who have contributed and/or participated in the review of this noble document

**Ketty Lamaro**  
**Permanent Secretary**

## Executive Summary

This Assessment and Training Package is a Competence-Based Education and Training (CBET) tool and consists of three major parts:

- 0.1 **PART I: The “Occupational Profile” (OP) of a VEGETABLE SEED PROCESSOR.**  
This Occupational Profile which was developed by Vegetable seed processors practicing in the world of work, mirrors the duties and tasks Vegetable seed processors are expected to perform in the world of work.
- 0.2 **PART II: “Training Modules”** in the form of guidelines to train **VEGETABLE SEED PROCESSORS** both on the job as well as in training centers (or combinations of both venues of learning). The Training Modules herein have been developed basing on the Occupational Profile and hence are directly relevant for employment.
- 0.3 **PART III: “Assessment Instruments”** in the form of performance (Practical) and written (theory) test items that can and should be used to assess whether a person complies with the requirements of employment as a **VEGETABLE SEED PROCESSOR**. These assessment instruments were developed jointly by job practitioners (Poultry Farmer) and teachers based on the occupational profile and training modules<sup>1</sup>.
- 0.4 While the Occupational Profile (OP) contained in PART I of this document provides the information on **What a person is expected to do** competently in the world of work, the test items, -including performance criteria- of PART III qualify the **How and/or How well a person must do the job.**

In combination, both parts -the OP and the test items- constitute the relevant Assessment STANDARDS' for competence-based assessment and certification for acquiring a credible Qualification for –VEGETABLE SEED PROCESSOR Qualification Level 1.

- 0.5 The modular format of the curriculum (PART II) allows learners to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration of time allowing flexibility for learners to move directly into an entry level job, go for further modules or advance to higher levels of training. Modular courses allow more learners to access the training system because training centers as well as companies can accommodate more students in a given period of time.

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<sup>1</sup>In this document, only sample test items for assessing (practical) performance and occupational knowledge (theory) are included. A larger selection of test items can be obtained from an electronic Test Item Bank at Directorate of Industrial Training

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- 0.6 In addition to improved access, equity and relevance of BTVET, the UVQF will also enable people who are convinced to have acquired competencies laid down in this ATP through prior training and on-the-job experience to access assessment and certification directly; be it on the basis of a single module, a group of modules or all modules pertaining to the occupation at once. This achievement will facilitate Recognition of Prior Learning (RPL).
- 0.7 The parts of this Assessment and Training Package were sequentially developed as follows:
- i Part 1: Occupational Profile: **January 2022**
  - ii Part 2: Training Modules: **January 2022**
  - iii Part 3: Assessment Instruments (initial bank): **January 2022**

This ATP (or parts of it) may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

**Patrick Byakatonda**  
**Ag Director**

## Acknowledgement

The Qualifications Standards Department of DIT wishes to sincerely acknowledge the valuable contributions to the review of this Assessment and Training Package by the following persons, Institutions and organizations:

- Members of the DIT Industrial Training Council;
- The Director and staff of DIT,
- Ministry of Education and Sports;
- The practitioners from the world of work;
- Teachers of Agriculture in various Secondary schools;
- Agriculture Curriculum Specialists from NCDC;
- Examination Specialist from UNEB;
- The facilitators involved in guiding the practitioners in their activities;
- The Government of Uganda for financing the review of this ATP;

## Abbreviations and Acronyms

A&C	Assessment & Certification
ATP	Assessment & Training Packages
BTVET	Business, Technical and Vocational Education and Training
CBET	Competency Based Education and Training
DIT	Directorate of Industrial Training
ITC	Industrial Training Council
GoU	Government of Uganda
LWA	Learning-working Assignment
MC	Modular Curriculum
MoES	Ministry of Education and Sports
OP	Occupational Profile
PEX	Practical Exercise
PTI	Performance (Practical) Test Item
QS	Qualification Standards
RPL	Recognition of Prior Learning
TIB	Test Item Bank
TVET	Technical, Vocational, Education and Training
UVQ	Uganda Vocational Qualification
UVQF	Uganda Vocational Qualifications Framework
WTI	Written (Theory) Test Item

## Key Definitions

<b>Assessment</b>	Assessment is the means by which evidence is gathered and judged to decide if an individual has met the stipulated assessment standards or not. Testing is a form of formal assessment.
<b>Certification</b>	Certification is a formal procedure to issue a certificate (qualification) to an individual that has demonstrated during formal assessment that he/she is competent to perform the tasks specified in the occupational profile.
<b>Competence</b>	Integration of skills, knowledge, attitudes, attributes and expertise in doing /performing tasks in the world of work to a set standard.
<b>Competency</b>	(Occupational) competency is understood as the ability to perform tasks common to an occupation to a set standard.
<b>CBET</b>	Competence-based education and training means that programmes: <ol style="list-style-type: none"><li>1. have content directly related to work</li><li>2. focus is on 'doing something well'</li><li>3. assessment is based upon industry work standards, and</li><li>4. curricula are developed in modular form</li></ol>
<b>Duty</b>	A Duty describes a large area of work in performance terms. A duty serves as a title for a cluster of related Tasks (see also: TASK).
<b>Learning-Working Assignment (LWA)</b>	LWA are simulated or real job situations / assignments that are suitable for learning in a training environment (e.g. "small projects"). In a working environment LWAs are real work situations /assignments.
<b>Modules</b>	Modules are part(s) of a curriculum. Modules can be considered as "self-contained" partial qualifications which are described by learning outcomes or competencies and which can be assessed and certified individually.
<b>Occupational Profile (OP)</b>	An Occupational Profile is an overview of the duties and tasks a job incumbent is expected to perform competently in employment. Occupational Profiles developed by practitioners from the world of work enhance the relevance of training and learning to the requirements of the world of work.

Occupational Profiles define WHAT a person is supposed to do in performance terms. It also contains generic information regarding related knowledge and skills, attitudes/behavior, tools, materials and equipment required to perform as well as trends/ concerns in the occupation.

Occupational profiles are the reference points for developing modular curricular and assessment standards

**Qualification**

A qualification is a formal recognition for demonstrating competence, based on formal assessment against set standards. A qualification is provided to the individual in form of a certificate specifying the nature of the competence.

**Task**

Job TASKS represent the smallest unit of job activities with a meaningful outcome. Tasks result in a product, service, or decision. They represent an assignable unit of work and have a definite beginning and ending point. Tasks can be observed and measured. *(see also: Duty)*

## 1.0 ATP-PART I

### Occupational Profile for a VEGETABLE SEED PROCESSOR

- 1.1 The OCCUPATIONAL PROFILE (OP) for “VEGETABLE SEED PROCESSOR” below defines the **Duties** and **Tasks** a competent VEGETABLE SEED PROCESSOR is expected to perform in the world of work (on the job) in Uganda and the East African region today.
- 1.2 Since it reflects the skill requirements of work life, the Occupational Profile is the reference document for the subsequent development of training modules and assessment instruments (test items) which are directly relevant to employment in Ugandan and the East African businesses and industries.
- 1.3 To ensure that the Occupational Profile is relevant for employment in Uganda and East Africa, the DIT used the method of “occupational/job profiling.

This approach involves the brainstorming of a panel of 8 to 12 competent job practitioners guided by trained and experienced facilitators. During a two-day workshop the panelists define the duties and tasks performed in employment, as well as the prerequisite skills, knowledge, attitudes, tools and equipment, and the future trends and concerns in the occupation/job.

- 1.4 The panelists, facilitators and coordinators who participated in developing this Occupational Profile for VEGETABLE SEED PROCESSOR are listed on the following page.

<sup>1</sup> The DACUM-method was used. DACUM is an acronym for 'Develop A Curriculum'

**Expert Panel**

**Cherotin Caroline**

MoES

**Nandutu Grace**

NCDC

**Kisakye George**

UNEB

**Atoke Lucy**

Makerere College School

**Kabasomi Emily**

Nabisunsa Girls School

**Nakagimu Victoria Mwazi**

Kololo S.S.S

**Mutonerwa Joyce Kakete**

Bishop Senior School Mukono

**Nsaba Aggrey**

Seed of Peace Enterprises  
Limited Kampala

**Akongu Stella Jacqueline**

Soigne Enterprise

**Ainebyona Pretty**

Esco Uganda Limited Mukono

**Facilitators**

**Ninsiima Isabella**

Directorate of Industrial Training

**Mugisha Edson**

Directorate of Industrial Training

**Co-ordinator**

**Elizabeth Ruth Mukyala**

Directorate of Industrial Training

**Funded by**

Government of Uganda

**Funded by**

The Government of Uganda



**THE REPUBLIC OF UGANDA**  
**Ministry of Education and Sports**

Business, Technical and Vocational  
Education and Training (BTJET) Sub sector Reform

**Occupational Profile**

For a

**“VEGETABLE SEED  
PROCESSOR”**

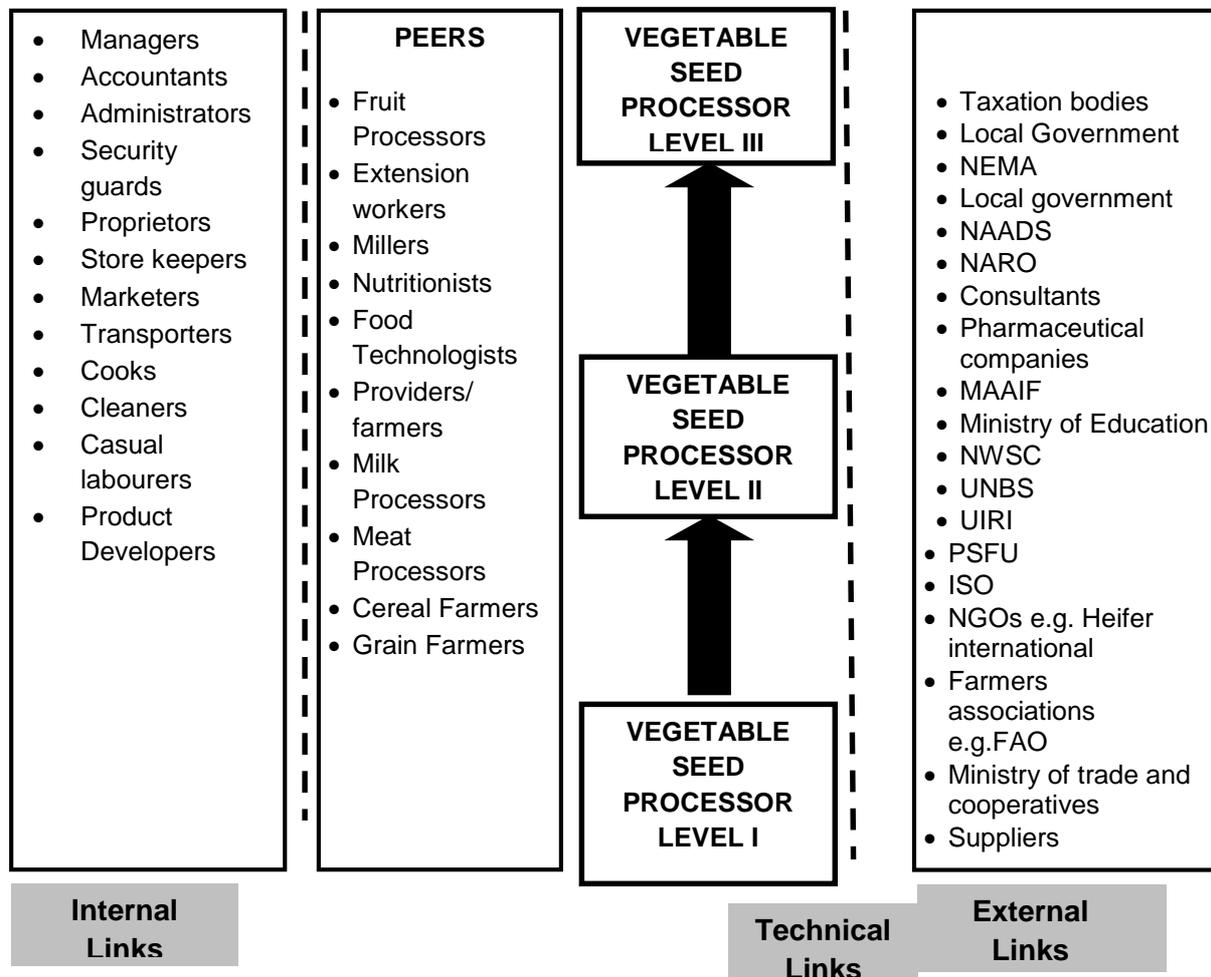
Developed by: **Qualifications Standards  
Department of the Directorate  
of Industrial Training**

Date of workshop: 10<sup>th</sup> – 14<sup>th</sup> January 2022

## NOMENCLATURE - VEGETABLE SEED PROCESSOR

**Definition:** A vegetable seed processor is a person who adds value to the vegetable seeds and improves on the shelf life of a product for household consumption and commercial purposes.

### JOB ORGANISATION CHART FOR A VEGETABLE SEED PROCESSOR



**UVQ Level I vegetable seed processor:** is a person who uses basic preserving skills to add value to process vegetable seeds.

**UVQ Level II vegetable seed processor:** is a person who adds value to vegetable seeds using improved technology to produce quality products.

**UVQ Level III vegetable seed processor:** is a person who uses improved technology to produce internationally acceptable valuable products of vegetable seeds for commercial purposes.

### Duties and Tasks

<b>A. ESTABLISH WORK STATION</b>	<b>A1</b> Carryout feasibility study.	<b>A2</b> Determine production type	<b>A3</b> Prepare a financial plan
	<b>A4</b> Mobilize resources	<b>A5</b> Setting up equipment	<b>A6</b> Develop a proto type

<b>B. PERFORM ADMINSTRATIVE TASKS</b>	<b>G1</b> Recruit workers	<b>G2</b> Generate records	<b>G3</b> Train workers
	<b>G4</b> Supervise works	<b>G5</b> Network with stake holders	<b>G6</b> Carry-out research
	<b>G7</b> Provide security	<b>G8</b> Market products and services	<b>G9</b> Manage finances
	<b>G10</b> Prepare reports	<b>G11</b> Organize meetings	<b>G12</b> Appraise workers
	<b>G13</b> Communicate with clients	<b>G14</b> Mentor workers	<b>G15</b> Register business
	<b>G16</b> Pursue continuous professional development	<b>G17</b> Assign duties	

<b>C. MANAGE SEED PROCESSING MACHINES AND EQUIPMENT</b>	<b>C1</b> Install tools and equipment	<b>C2</b> Test run tools and equipment	<b>C3</b> Operate tools and equipment
	<b>C4</b> Maintain tools and equipment	<b>C5</b> Monitor tools and equipment	<b>C6</b> Store tools and equipment

<b>D. PROCESS VEGETABLE SEEDS</b>	<b>D1</b> Identify product	<b>D2</b> Prepare raw materials	<b>D3</b> Choose the method of processing
	<b>D4</b> Process vegetable seeds	<b>D5</b> Add additives	<b>D6</b> Add preservatives

	<b>D7</b> Pack product	<b>D8</b> Label product	<b>D9</b> Store product
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<b>E. MARKET PRODUCTS</b>	<b>E1</b> Package products	<b>E2</b> Brand product	<b>E3</b> Cost products
	<b>E4</b> Advertise product	<b>E5</b> Sell products	<b>E6</b> Transport products
	<b>E7</b> Perform customer care		

<b>F. PERFORM OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION PRACTICES</b>	<b>H1</b> Administer first aid	<b>H2</b> Manage waste	<b>H3</b> Perform fire fighting
	<b>H4</b> Display safety signs	<b>H5</b> Sensitize workers on health safety and environmental practices	<b>H6</b> Use personal protective gears
	<b>H7</b> Maintain personal hygiene	<b>H8</b> Comply with regulation and policies	

### Additional Information

<p><b>Related knowledge &amp; skills</b></p> <ol style="list-style-type: none"><li>1. Marketing skills</li><li>2. Communication skills</li><li>3. Store management skills</li><li>4. Conflict resolution skills</li><li>5. Customer care</li><li>6. Financial literacy</li><li>7. Personal management skills</li><li>8. Computer skills</li><li>9. Knowledge about costing</li><li>10. Nutrition knowledge</li><li>11. Store management skills</li><li>12. Budgeting skills</li><li>13. Product knowledge</li><li>14. Business plan skills</li><li>15. Proper use of equipment</li><li>16. Human resource skills</li><li>17. Knowledge on waste management</li><li>18. Security awareness</li><li>19. Pest control methods</li><li>20. Record keeping</li><li>21. Cleaning and sterilization</li></ol>	<ol style="list-style-type: none"><li>22. Preservation</li><li>23. Hazard analysis critical control points</li><li>24. Knowledge about packaging</li><li>25. Environmental management skills</li><li>26. Operation skills</li><li>27. Health knowledge</li><li>28. Insurance</li><li>29. Legal framework</li><li>30. Negotiation skills</li><li>31. Procurement</li><li>32. Health and safety precautions</li><li>33. Accounting record keeping knowledge</li></ol>
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### Tools, Materials and Equipment

1. First aid box
2. Vegetable seeds
3. Weighing scales
4. Grinder
5. Blender
6. Food Processor
7. Brooms
8. Packaging material
9. Sieve
10. Miller
11. Water
12. Bucket
13. Disinfectants
14. Soap
15. Pans
16. Heating equipment
17. Gum boots
18. Over coats
19. Aprons
20. Gloves
21. Head gear
22. Spoons
23. Computers and telephones
24. Vehicles
25. Stationery
26. Furniture
27. Branding rod
28. Additives
29. Fire extinguishers
30. Generator and fuel
31. Knives
32. Waste bins
33. Preservatives
34. Cling films
35. Refrigerator
36. Aluminium foils
37. Trolleys

**Attitudes/ Traits/ Behaviour**

1. Self-motivated
2. Trustworthy
3. Honest
4. Tolerant
5. Hardworking
6. Team player
7. Disciplined
8. Good time manager
9. Committed
10. Good listener
11. Flexible
12. Result oriented
13. Curious
14. Competitive
15. cooperative
16. Innovative and creative
17. Physically fit
18. Knowledgeable
19. Skillful
20. Patient
21. Polite
22. Social
23. Vigilant
24. Calm
25. Respectful
26. Confident
27. Intelligent
28. Logical
29. Trainable
30. Hygienic
31. Kind/ Empathetic
32. Integrity
33. Healthy
34. Entrepreneurial skills
35. Risk taker
36. Negotiator

**Future Trends and Concerns**

1. Advancement in technology
2. Introduction of new products on market
3. Competitive new products
4. Political climate
5. Pandemic outbreaks
6. Climate change
7. Price fluctuations
8. Counterfeit of agricultural inputs
9. Pests and diseases
10. Cultural dynamics
11. Collaboration between different sectors
12. High taxation
13. Government policies
14. Fuel price fluctuations
15. Foreign currency exchange rates
16. Infrastructure development
17. Market dynamics
18. Foreign policies
19. Inflation
20. Research and product development
21. Digital marketing
22. Need for further training
23. Forming of associations
24. Language barrier
25. Lack of gene banks for indigenous seeds
26. Lack of skilled labor
27. Production of GMO's
28. Labor turnover
29. High cost of operation

## 2.0 ATP – PART II

### Training Modules for A VEGETABLE SEED PROCESSOR

- 2.1 A curriculum is a “guide /plan for teaching and learning” which provides a guide to teachers, instructors and learners. In the envisaged system of competence-based or outcome-oriented education and training (CBET), Curricula are no longer the benchmark against which assessment is conducted. It is rather the Occupational Profile that provides the benchmark for Curriculum development as well as assessment.
- 2.2 This modular format of the curriculum allows learners of vegetable seed processor to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration of time allowing learners to move directly into an entry level job, do further modules and advance to higher levels of training. Modular courses allow more learners to access the training system because training centres, as well as companies can accommodate more students in a given period of time.
- 2.3 The modules were developed jointly by both instructors and job practitioners. They were developed using the Occupational Profile as a reference point and taking into account the specifications of training and learning outcomes.
- 2.4 The modules contain “Learning-Working Assignments” (LWAs) and related “Practical Exercises” (PEXs) as key elements.

LWAs are simulated or real job situations/assignments that are suitable for learning in a training environment (e.g. “small projects”). In a working environment, LWAs are real work situations.

PEXs are therefore sub-sets of a LWA.

- 2.5 In principle, and following the philosophy of Competence-Based Education and Training (CBET), the modules can be used as a guide for learning in a training Centre, at the workplace; or a combination of both.

## **WHO IS A VEGETABLE SEED PROCESSOR QUALIFICATION LEVEL 1?**

A **Vegetable Seed Processor level1** . Is a person who uses basic processing skills to preserve and add value to vegetable seed products.

## **TRAINING MODULES FOR VEGETABLE SEED PROCESSOR UVQ LEVEL 1**

Code	Module Title	Average duration	
		Contact hours	Weeks
UE/VS/M 1.1	Establish Vegetable Seed Enterprise	240	08
UE/VS/M 1.2	Process vegetable seeds	320	16
UE/VS/M 1.3	Maintain vegetable seed processing enterprise	160	06
UE/VS/M 1.4	Perform entrepreneurship skills	240	06
<b>Summary</b>	<b>4 Training Modules</b>	<b>960 hours</b>	<b>24 weeks</b>

**Note: Average duration is contact time but NOT calendar duration**

It is assumed that:

- 1 day is equivalent to 8 hours of nominal learning and
- 1 month is equivalent to 160 hours of nominal learning.

Information given on the average duration of training should be understood as a guideline. Quick learners may need less time than indicated or vice versa.

At completion of a module, the learner should be able to satisfactorily perform the included Learning Working Assignments, their Practical Exercises and attached theoretical instruction, as the minimum exposure.

Prior to summative assessment by recognized Agencies, the users of these Module Guides are encouraged to carefully consider continuous assessment using samples of (or similar) performance (practical) and written test items available in part 3 of this ATP for **Vegetable Seed Processor**.

<b>Module title</b>	<b>M1.1: Establish Vegetable Seed Enterprise</b>
<b>Related Qualification</b>	<u>Part of:</u> Uganda Vocational Qualification (VEGETABLE SEED PROCESSOR UVQ1)
<b>Qualification Level</b>	1
<b>Module purpose</b>	By the end of this module the trainee should be able to establish a Vegetable Seed enterprise.
<b>Learning-Working Assignments (LWAs)</b>	<p><b>LWA 1/1: Plan Vegetable Seed Enterprise</b></p> <p><b>LWA 1/2: Mobilize Resources</b></p> <p><b>LWA 1/3: Setup a Vegetable Seed work area</b></p> <p><b>LWA 1/4: Perform Occupational Health and Environmental Protection Practices</b></p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li><i>The learning exercises must be repeated till the trainee acquires a targeted competence.</i></li> <li><i>The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.</i></li> </ol>
<b>Related Practical Exercises (PEXs)</b>	<p><b>LWA 1/1: Plan vegetable seed processing enterprise</b></p> <p>PEX 1.1: Carry out Feasibility Study</p> <p>PEX 1.2: Carry out market survey</p> <p>PEX 1.3: Determine Required resources</p> <p>PEX 1.4: Prepare Financial Plan</p> <p>PEX 1.5: Prepare procurement Plan</p> <p>PEX 1.6: Determine enterprise location</p> <p>PEX 1.7: Schedule production activities</p> <p>PEX 1.8: Insure Vegetable seed processing Enterprise</p> <p>PEX 1.9: Formalize Vegetable seed processing Enterprise</p> <hr/> <p><b>LWA 1/2: Mobilize Resources</b></p> <p>PEX 2.1: Secure finance</p> <p>PEX 2.2: Secure human resources</p> <p>PEX 2.3: Secure tools, equipment and materials</p>

	<p><b>LWA 1/3: Setup a Vegetable Seed work area</b></p> <p>PEX 3.1: Select work area                  PEX 3.2: Determine work area layout                  PEX 3.3: Determine work area design                  PEX 3.4: Install utilities                  PEX 3.5: Fix accessories                  PEX 3.6: Inspect work area</p>
	<p><b>LWA 1/4: Perform Occupational Health and Environmental Protection Practices</b></p> <p>PEX 4.1: Maintain Personal Hygiene and Sanitation                  PEX 4.2: Display Safety Signs                  PEX 4.3: Observe Occupational Health, Safety and Environmental protection practices                  PEX 4.4: Observe Hazard Analysis Critical Control Points(HACCP)                  PEX 4.5: Sensitize workers on health and safety                  PEX 4.6: Use personal protective equipment                  PEX 4.7: Practice bio-safety measures                  PEX 4.8: Perform fire fighting                  PEX 4.9: Administer first aid                  PEX 4.10: Manage waste</p>
<b>Occupational health and safety</b>	Precautions, rules and regulations on occupational health, safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs.

<b>Pre-requisite modules</b>	None
<b>Related knowledge/ theory</b>	<p><i>For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognized reference materials as appropriate:</i></p> <ul style="list-style-type: none"> <li>• Feasibility study &amp; Market survey</li> <li>• Budgeting</li> <li>• Structural design</li> <li>• Sanitation criteria</li> <li>• Firefighting techniques</li> <li>• Resource mobilization</li> <li>• Procurement procedures</li> </ul>

	<ul style="list-style-type: none"> <li>• Fixing vegetable seed house accessories</li> <li>• Installing vegetable seeds house utilities</li> <li>• Tools and equipment &amp; Tools storage and maintenance</li> <li>• Measurements and Numeracy</li> <li>• Communication skills</li> <li>• Record keeping</li> <li>• Communication &amp; ICT</li> <li>• Mentoring</li> <li>• Research methods</li> <li>• Time management</li> <li>• Team work and cooperation</li> <li>• Regulations and policies</li> <li>• Quality control</li> <li>• Waste disposal and management</li> </ul>
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<b>Average duration of learning</b>	240hrs (30 days) of normal learning suggested. <ul style="list-style-type: none"> <li>• 10 days of occupational theory.</li> <li>• 20 days of occupational practice.</li> </ul>
<b>Suggestions on organization of learning</b>	The acquisition of competencies (skills, Knowledge, attitudes) described in this module may take place at a training center or its equivalent provided all equipment and materials required for training are in place.
<b>Assessment</b>	Assessment to be conducted according to established regulations by recognized assessment body using related practical and written test items from Item bank.
<b>Minimum required tools/ equipment/ implements or equivalent</b>	Computers, furniture, First Aid Kit, Fire Extinguishers, telephones, vehicles, motorcycles.
<b>Minimum required materials and consumables or equivalent</b>	Stationery, airtime.
<b>Special notes</b>	The theory must be integrated into the practice during training.

<b>Code</b>	<b>UE/VS/M1.2</b>
<b>Module title</b>	<b>Process vegetable seeds</b>
<b>Related Qualification</b>	<u>Part of:</u> Uganda Vocational Qualification (VEGETABLE SEED PROCESSOR UVQ1)
<b>Qualification Level</b>	1
<b>Module purpose</b>	By the end of this module, the trainee should be able to process a variety vegetable seeds and get quality products.
<b>Learning-Working Assignments (LWAs)</b>	<p><b>LWA2/1: Prepare tools and equipment</b></p> <p><b>LWA2/2: Prepare roasted seed products</b></p> <p><b>LWA2/3: Process soya</b></p> <p><b>LWA2/4: Process G.nuts and simsim</b></p> <p><b>LWA2/5: Process beans</b></p> <p><b>LWA2/6: Preserve products</b></p> <p><b>LWA2/7: Perform occupational health, safety and environmental protection practices</b></p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. The learning exercises may be repeated till the trainee acquires a targeted competence.</li> <li>2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.</li> </ol>
<b>Related Practical Exercises (PEXs)</b>	<p><b>LWA2/1: Prepare tools and equipment</b></p> <p>PEX 1.1: Source tools and equipment</p> <p>PEX 1.2: Identify tools and equipment</p> <p>PEX 1.3: Assemble tools and equipment</p> <p>PEX 1.4: Check working condition of tools and equipment</p> <p>PEX 1.5: Clean and disinfect tools and equipment</p>
	<p><b>LWA2/2: Prepare roasted seed products</b></p> <p>PEX 2.1: Identify seeds</p> <p>PEX 2.2: Weigh seeds</p> <p>PEX 2.3: Grade seeds</p> <p>PEX 2.4: Wash seeds</p> <p>PEX 2.5: Roast seeds</p> <p>PEX 2.6: Pack products</p>

	<p><b>LWA2/3: Process soya</b></p> <p>PEX 3.1: Identify seeds</p> <p>PEX 3.1: Identify seeds</p> <p>PEX 3.2: Weigh soya beans</p> <p>PEX 3.3: Weigh soya beans</p> <p>PEX 3.4: Wash soya beans</p> <p>PEX 3.5: Soak soya beans</p> <p>PEX 3.6: Blend/ pound soya beans</p> <p>PEX 3.7: Strain blended soya beans</p> <p>PEX 3.8: Extract soya milk</p>
	<p><b>LWA2/4: Process G.nuts and simsim</b></p> <p>PEX 4.1: Identify seeds</p> <p>PEX 4.2: Weigh seeds</p> <p>PEX 4.3: Wash seeds</p> <p>PEX 4.4: Roast seeds</p> <p>PEX 4.5: Grind seeds</p> <p>PEX 4.6: Extract G.nut powder</p> <p>PEX 4.7: Extract paste</p>
	<p><b>LWA2/5: Process beans</b></p> <p>PEX 5.1: Identify beans</p> <p>PEX 5.2: Wash beans</p> <p>PEX 5.3: Boil beans</p> <p>PEX 5.4: Fry beans</p> <p>PEX 5.5: Mash beans</p> <p>PEX 5.6: Dry beans</p> <p>PEX 5.7: Grind beans</p> <p>PEX 5.8: Collect Instant bean powder</p>
	<p><b>LWA2/6: Preserve products</b></p> <p>PEX 6.1: Add additives</p> <p>PEX 6.2: Add preservatives</p> <p>PEX 6.3: Pack products</p> <p>PEX 6.4: Store products</p> <p>PEX 6.5: Refrigerate product</p>

	<p><b>LWA2/7: Perform occupational health, safety and environmental protection practices</b></p> <p>PEX 7.1: Wear personal protective gear                  PEX 7.2: Manage waste                  PEX 7.3: Administer first aid                  PEX 7.4: Display safety signs                  PEX 7.5: Install enough lighting                  PEX 7.6: Maintain general sanitation                  PEX 7.7: Observe health, safety and environmental practices                  PEX 7.8: Train workers on safety management                  PEX 7.9: Comply with safety policies and regulations</p>
<b>Occupational health and safety</b>	<p>Precautions, rules and regulations of applications safety and environmental protection, included in the listed related Knowledge should be observed and demonstrated during LWAs and PEXs.</p>
<b>Pre-requisite modules</b>	None

<b>Related knowledge/ theory</b>	<p><b><i>For Occupational theory suggested for instruction/ demonstration, the Trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognized reference materials as appropriate:</i></b></p> <ul style="list-style-type: none"> <li>• Procurement skills</li> <li>• Management skills</li> <li>• Procurement skills</li> <li>• Finance and accounting</li> <li>• Quality control skills</li> <li>• Machine operating skills</li> <li>• Seed handling skills</li> <li>• Storage skills</li> <li>• Compliance</li> <li>• Preservation skills</li> <li>• Fortification skills</li> <li>• Packaging skills</li> <li>• Branding skills</li> <li>• Innovation skills</li> <li>• Product knowledge</li> <li>• Extraction skills</li> </ul>
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	<ul style="list-style-type: none"> <li>• Waste management skills</li> <li>• Nutritional knowledge</li> <li>• Food safety and handling</li> </ul>
<b>Average duration of learning</b>	320hours (80days) of nominal learning suggested to include: <ul style="list-style-type: none"> <li>• 20 days of occupational theory and</li> <li>• 60 days of occupational practice</li> </ul>
<b>Suggestions on organization of learning</b>	The acquisition of competencies (Skills-Knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
<b>Assessment</b>	Assessment to be conducted according to established regulations by recognized assessment body using related practical and written test items from Item bank
<b>Minimum required tools/ equipment/ implements or equivalent</b>	Vehicles, wheel barrows, drums, inspection machines, gloves, aprons, headgears, overalls, masks, head gears, weighing scales, extraction machines, grinders, blenders, packaging materials, branding materials, lifters, trolleys, food processor, miller, buckets, roasters, saucepans, heating equipment, generator, sealing machine, tins, furniture, mixers
<b>Minimum required materials and consumables or equivalent</b>	Water, fuel, gas, additives, preservatives,
<b>Special notes</b>	All clarifications of vegetable seed processing should be taught

<b>Code</b>	<b>UE/VS/M1.3</b>
<b>Module title</b>	<b>Maintain Vegetable seed Processing enterprise</b>
<b>Related Qualification</b>	Part of: Uganda Vocational Qualification (VEGETABLE SEED PROCESSOR UVQ1)
<b>Qualification Level</b>	1
<b>Module purpose</b>	By the end of this module, the trainee will be able to manage and maintain a vegetable seed processing enterprise
<b>Learning-Working Assignments (LWAs)</b>	<p><b>LWA3/1: Maintain tools and equipment</b></p> <p><b>LWA3/2: Manage resources</b></p> <p><b>LWA3/3: Control pests and rodents</b></p> <p><b>LWA3/4: Occupational health, safety and environmental protection practices</b></p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. <i>The learning exercises may be repeated till the trainee acquires a targeted competence.</i></li> <li>2. <i>The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.</i></li> </ol>
<b>Related Practical Exercises (PEXs)</b>	<p><b>LWA3/1: Maintain tools and equipment</b></p> <p>PEX 1.1: Prepare maintenance schedule</p> <p>PEX 1.2: Clean tools and equipment</p> <p>PEX 1.3: Test tools and equipment</p> <p>PEX 1.4: Inspect equipment</p> <p>PEX 1.5: Ensure proper storage</p> <p>PEX 1.6: Identify worn out tools and equipment</p> <p>PEX 1.7: Replace tools and equipment</p> <p>PEX 1.8: Ensure hygiene</p> <p>PEX 1.9: Proper disposal of old stock</p> <p>PEX 1.10: Service tools and equipment</p> <p>PEX 1.11: Train workers on equipment use</p> <p>PEX 1.12: Engrave tools and equipment</p> <p>PEX 1.13: Calibrate tools and equipment</p> <p>PEX 1.14: Repair tools and equipment</p>

	<p><b>LWA3/2: Manage raw materials</b></p> <p>PEX 2.1: Acquire raw materials                  PEX 2.2: Sort raw materials                  PEX 2.3: Grade raw materials                  PEX 2.4: Clean raw materials                  PEX 2.5: Weigh raw materials                  PEX 2.6: Store raw materials</p> <p><b>LWA3/3: Control pests and rodents</b></p> <p>PEX 3.1: Choose method of controlling pests and rodents                  PEX 3.2: Select pesticide                  PEX 3.3: Apply pesticide                  PEX 3.4: Manage waste                  PEX 3.5: Clean work area</p> <p><b>LWA3/4: Perform occupational health, safety and environmental protection practices</b></p> <p>PEX 4.1: Wear personal protective gear                  PEX 4.2: Manage waste                  PEX 4.3: Administer first aid                  PEX 4.4: Display safety signs                  PEX 4.5: Install enough lighting                  PEX 4.6: Maintain general sanitation                  PEX 4.7: Observe health, safety and environmental practices                  PEX 4.8: Train workers on safety management                  PEX 4.9: Comply with safety policies and regulations</p>
<b>Occupational health and safety</b>	Precautions, rules and regulations on occupational health, safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs.
<b>Pre-requisite modules</b>	None

<p><b>Related knowledge/ theory</b></p>	<p><i>For occupational theory suggested for instruction/ demonstration, the trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> <li>• Repair and maintenance knowledge</li> <li>• Pesticide knowledge</li> <li>• Management skills</li> <li>• Communication skills</li> <li>• Financial and accounting knowledge</li> <li>• Product knowledge</li> <li>• Procurement and disposal knowledge</li> <li>• Knowledge on product use</li> <li>• Storage knowledge</li> <li>• Health and safety</li> <li>• Firefighting knowledge</li> <li>• Waste management knowledge</li> <li>• Tools and equipment use</li> </ul>
<p><b>Average duration of learning</b></p>	<p>160hours (20days) of nominal learning suggested to include</p> <ul style="list-style-type: none"> <li>• 05days of occupational theory and</li> <li>• 15days of occupational practice</li> </ul>
<p><b>Suggestions on organization of learning</b></p>	<p>The acquisition of competencies (skills, Knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.</p>
<p><b>Assessment</b></p>	<p>Assessment to be conducted according to established regulations by recognised assessment body using related practical and written test items from Item bank</p>
<p><b>Minimum required tools/ equipment/ implements or equivalent</b></p>	<p>Screw driver, spray pump, , Jerri cans, drums, pipes, wheel barrows, water can, buckets, scrubbing brushes, mopeds, wiping towels, waste bin, storing can, gum boots, aprons, gumboots, gloves, firefighting equipment, first aid box, stationery,</p>
<p><b>Minimum required materials and consumables or equivalent</b></p>	<p>Pesticides, water, disinfectant, detergents, lubricants</p>
<p><b>Special notes</b></p>	<p>Candidates should be taught to maintain vegetable seed processing enterprise.</p>

<b>Code</b>	<b>UE/VS/M1.4</b>
<b>Module title</b>	<b>Perform entrepreneurship skills</b>
<b>Related Qualification</b>	<u>Part of:</u> Uganda Vocational Qualification (VEGETABLE SEED PROCESSOR UVQ1)
<b>Qualification Level</b>	1
<b>Module purpose</b>	By the end of this module, the trainee should be able to market and sell vegetable seed products.
<b>Learning-Working Assignments (LWAs)</b>	<p><b>LWA4/1: Prepare business plan</b></p> <p><b>LWA4/2: Market products</b></p> <p><b>LWA4/3: Manage records</b></p> <p><b>LWA4/4: Perform occupational health, safety and environmental protection practices</b></p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. The learning exercises may be repeated till the trainee acquires a targeted competence.</li> <li>2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.</li> </ol>
<b>Related Practical Exercises (PEXs)</b>	<p><b>LWA1/1: Prepare business plan</b></p> <p>PEX 1.1: Make budgets</p> <p>PEX 1.2: Make production plan</p> <p>PEX 1.3: Prepare company profile</p> <p>PEX 1.4: Make a financial plan</p> <p>PEX 1.5: Make a SWOT analysis</p> <p>PEX 1.6: Prepare work schedules</p> <p><b>LWA1/2: Market products</b></p> <p>PEX 2.1: Brand products</p> <p>PEX 2.2: Cost products</p> <p>PEX 2.3: Exhibit products</p> <p>PEX 2.4: Advertise products</p> <p>PEX 2.5: Sell products</p> <p>PEX 2.6: Transport products</p> <p>PEX 2.7: Distribute products</p> <p>PEX 2.8: Communicate with clients</p>

	<p><b>LWA1/3: Manage records</b></p> <p>PEX 3.1: Generate financial records</p> <p>PEX 3.2: Prepare inventory</p> <p>PEX 3.3: Prepare human records</p> <p>PEX 3.4: Generate production records</p> <p>PEX 3.5: Manage compliance records</p>
	<p><b>LWA1/3: Perform occupational health, safety and environmental protection practices</b></p> <p>PEX 3.1: Wear personal protective gear</p> <p>PEX 3.2: Manage waste</p> <p>PEX 3.3: Administer first aid</p> <p>PEX 3.4: Display safety signs</p> <p>PEX 3.5: Install enough lighting</p> <p>PEX 3.6: Maintain general sanitation</p> <p>PEX 3.7: Observe health, safety and environmental practices</p> <p>PEX 3.8: Train workers on safety management</p> <p>PEX 3.9: Comply with safety policies and regulations</p>
<p><b>Occupational health and safety</b></p>	<p>Precautions, rules and regulations of applications safety and environmental protection, included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs.</p>
<p><b>Pre-requisite modules</b></p>	<p>None</p>

<p><b>Related knowledge/ theory</b></p>	<p><i>For Occupational theory suggested for instruction/ demonstration, the Trainer is not limited to the outline below. In any case, related knowledge/ theory may be obtained from various recognized reference materials as appropriate:</i></p> <ul style="list-style-type: none"> <li>• Business skills</li> <li>• measurements</li> <li>• Tool storage and maintenance</li> <li>• Financial management skills</li> <li>• Business plan knowledge</li> <li>• Record keeping skills</li> <li>• Laws and regulations</li> <li>• Store management skills</li> <li>• Communication skills</li> <li>• Marketing skills</li> <li>• Management skills</li> <li>• Insurance knowledge</li> <li>• Negotiation skill</li> </ul>
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<p><b>Average duration of learning</b></p>	<p>240hours (30 days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> <li>• 10 days of occupational theory and</li> <li>• 20 days of occupational practice</li> </ul>
<p><b>Suggestions on organization of learning</b></p>	<p>The acquisition of competencies (Skills-Knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.</p>
<p><b>Assessment</b></p>	<p>Assessment to be conducted according to established regulations by recognised assessment body using related practical and written test items from Item bank</p>
<p><b>Minimum required tools/ equipment/ implements or equivalent</b></p>	<p>Bookshelves, cameras, computers, furniture, phones, storage containers, Refrigerator, processing equipment, trolleys, packaging materials, pallets, cleaning materials, , weighing scales, calibrated volumetric cans,</p>
<p><b>Minimum required materials and consumables or equivalent</b></p>	<p>Disinfectants, water, stationery</p>
<p><b>Special notes</b></p>	<p>The theory must be integrated into the practice during delivery.</p>

## 3.0 ATP- PART III

### Assessment Instruments for VEGETABLE SEED PROCESSOR

- 3.1 **Assessment** of occupational competence is the procedure by which evidence is gathered and judged to decide if an individual (candidate) has met the stipulated assessment standards or not. In this ATP the **standards** to assess occupational competences are reflected in the form of the Occupational Profile and related Test Items.
- 3.2 Assessment of occupational competence should comprise both practical (performance) testing and written (theory/knowledge) testing.
- 3.3 Based on the Occupational Profile, a combined panel of job practitioners and Instructors developed a substantial number of test items for assessing (practical) performance as well as items for assessing occupational knowledge (theory) all stored in an electronic Test Item Bank (TIB) at Directorate of Industrial Training.
- 3.4 Performance (Practical) Test Items (PTI) are closely related to typical work situations in Ugandan business and manufacturing enterprises. They comprise a test assignment for candidates and assessment criteria and/or scoring guides for assessors' use.
- 3.5 Written Test items (WTI) for written testing of occupational theory, (knowledge) are presented in different forms which include:
- Short answer test items.
  - Multiple choice test items and,
  - Matching test items,
- These WTIs herein focus on functional understanding as well as trouble-shooting typically synonymous with the world of work.
- 3.6 Composition of assessment / test papers will always require good choices of different types of WTI in order to ensure the assessment of relevant occupational knowledge required of candidates to exhibit competence.
- 3.7 The test items contained in the Test Item Bank may be used for continuous / formative assessment during the process of training as well as for summative assessment of candidates who have acquired their competences non-formally/or informally.
- 3.8 In this document, samples of test items for assessing both performance (practical) and occupational knowledge (theory) of Vegetable Seed Processor are included.

3.9 Overview of test item samples included:

No.	Type of Test Item	Numbers included
1	Written (Theory)- Short Answer	2
2.	Written (Theory)- Multiple Choice	2
3.	Written (Theory)- Matching item- Generic	2
4.	Written (Theory)- Matching item (Work sequence)	2
5.	Performance (Practical) Test Items	2
	<b>Total</b>	<b>10</b>

### WRITTEN TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 1			
Occupational Title:	Vegetable Seed Processor			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer	√		
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C1			
Date of OP:	January 2022			
Related module:	M1.2			
Time allocation:	2 minutes			

Test Item	Identify four products that can be processed from vegetable seeds
Answer spaces	1. .... 2. .... 3. .... 4. ....
Expected key (answers)	1. Soya milk 2. Instant bean powder 3. Instant whole beans 4. Simsim paste 5. Ground nut paste 6. Roasted groundnuts 7. Simsim balls 8. Ground nut balls 9. Roasted simsim 10. Roasted soya beans

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 2			
Occupational Title:	Vegetable Seed Processor			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer	√		
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C1			
Date of OP:	January 2022			
Related module:	M1.1			
Time allocation:	2 minutes			

Test Item	List four ingredients used in processing soya milk
Answer spaces	i ..... ii ..... iii ..... iv .....
Expected key (answers)	i. Soya beans ii. Water iii. Sugar iv. Preservative v. Flavors

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 3			
Occupational Title:	Vegetable Seed Processor			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C1			
Date of OP:	January 2022			
Related module:	M1.3			
Time allocation:	2 Minutes			

Test Item	Which of the following is used to grind vegetable seeds during processing?
Distractors and correct answer	A. Grater B. Food processor C. Masher D. Spoon

Key (answer)	B
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DIT/ QS	Test Item Database Written (Theory) Test Item- no. 4			
Occupational Title:	Vegetable Seed Processor			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C1			
Date of OP:	January 2022			
Related module:	M1.3			
Time allocation:	2 Minutes			

Test Item	The following are examples of vegetable seed products <b>EXCEPT</b>
Distractors and correct answer	A. Instant beans B. Coconut oil C. Ground nut paste D. Soya milk

Key (answer)	B
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DIT/ QS	Test Item Database Written (Theory) Test Item- no. 5			
Occupational Title:	Vegetable Seed Processor			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause-Effect	Work-sequence
			√	
Complexity level:	C2			
Date of OP:	January 2022			
Related module:	M1.2			
Time allocation:	4 Minutes			

<b>Test Item</b>	Match the following effects to their causes
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Column A (Vegetable)	
A	Lack of sweetener
B	Preservative added
C	Excess water added
D	Poor drying of seeds

Column B (Classification)	
1	High moisture content
2	Diluted product
3	Flat taste
4	Very clean seeds
5	Very sweet taste
6	Long shelf life
7	Root

<b>Key (answer)</b>	1:C, 2:F, 3:B 4:A
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DIT/ QS	Test Item Database Written (Theory) Test Item- no. 6			
Occupational Title:	Vegetable Seed Processor			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work- sequence
		√		
Complexity level:	C1			
Date of OP:	January 2022			
Related module:	M1.3			
Time allocation:	3 Minutes			

<b>Test Item</b>	Match the possible tools and equipment to their use in vegetable seed processing.
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Column (A) Diseases	
A	Oven
B	Food processor
C	Wooden spoons
D	Crates

Column (B) Causal Agents	
1	Storing
2	Measuring temperature
3	Draining off liquids
4	Drying
5	Mixing
6	Grinding

<b>Key (answer)</b>	1:D , 2:F , 3:E , 4:A
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DIT/ QS	Test Item Database Written (Theory) Test Item- no. 7			
Occupational Title:	Vegetable Seed Processor			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work- sequence
				√
Complexity level:	C2			
Date of OP:	January 2022			
Related module:	M1.1			
Time allocation:	5 Minutes			

Test Item	Arrange the steps followed in cleaning a working area in chronological order
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Column A (chronology)	Column B (Work steps) in wrong chronology	
1 <sup>st</sup>	A	Rinse with clean water
2 <sup>nd</sup>	B	Unplug machines from power supply
3 <sup>rd</sup>	C	Scrub the floor
4 <sup>th</sup>	D	Mix water with detergents
5 <sup>th</sup>	E	Switch off power supply
6 <sup>th</sup>	F	Squeeze to remove all water
7 <sup>th</sup>	G	Dust, Sweep and remove fallen materials
8 <sup>th</sup>	H	Dry the floor and Organize work area
9 <sup>th</sup>	I	Open windows and doors
10 <sup>th</sup>	J	Wet the floor

Key (answer)	1:I, 2:E, 3:B, 4:G, 5:D, 6:J, 7:C, 8:F, 9:A, 10:H
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DIT/ QS	Test Item Database Written (Theory) Test Item- no. 8			
Occupational Title:	Vegetable Seed Processor			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work- sequence
				√
Complexity level:	C2			
Date of OP:	January 2022			
Related module:	M1.1			
Time allocation:	5 Minutes			

Test Item	Arrange the following steps of preparing groundnut paste In chronological order
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Column A (chronology)	Column B (work steps) in wrong chronological order	
1 <sup>st</sup>	A	Store the product
2 <sup>nd</sup>	B	Pack and weigh the product
3 <sup>rd</sup>	C	Spread to cool
4 <sup>th</sup>	D	Seal and label product
5 <sup>th</sup>	E	Select and sort the groundnut seeds
6 <sup>th</sup>	F	Grind the groundnut seeds into paste
7 <sup>th</sup>	G	Skin and winnow the roasted groundnut seeds
8 <sup>th</sup>	H	Assemble materials, tools and equipment
9 <sup>th</sup>	I	Roast groundnut seeds
10 <sup>th</sup>	J	Prepare working area

Key (answer)	1-J, 2-H, 3-E, 4-I, 5-C, 6-G, 7- F, 8-B; 9-D, 10-A
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## PERFORMANCE TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Performance Test Item- No. 9
<b>Occupational Title:</b>	Vegetable seed processor
<b>Competence level:</b>	1
<b>Code no.</b>	
<b>Test Item:</b>	Prepare and Package 2kg of instant bean powder for sale to a nursery school.
<b>Complexity level:</b>	P3
<b>Date of OP:</b>	January, 2022
<b>Related modules:</b>	M1.2
<b>Related skills and knowledge:</b>	Measurements and numeracy, safety precautions, storage, financial literacy, marketing ,communication skills, packaging skills, preservation, procurement skills, waste management, equipment operating skills, nutritional knowledge, manipulation skills, laws and regulations, management skills
<b>Required tools, Materials and Equipment:</b>	gloves, clean towels, soap, overall, head gear, brush, scrubs, sauce pans, drying trays, bowels, mortar, weighing scales, heat source, packaging materials, waste bins, oven/solar drier, work surface, Calculator, stationary, wooden spoons, Beans, water, preservatives, aprons,
<b>Time allocation:</b>	4 hours
<b>Preferred venue:</b>	Food lab
<b>Remarks for candidates</b>	Observe food, health, safety and environmental precautions
<b>Remarks for assessors</b>	<ul style="list-style-type: none"> <li>• Provide all the tools, equipment and materials listed above</li> <li>• Avail protective gear</li> </ul>

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
1	Preparation for task	Observed personal hygiene		2
		<ul style="list-style-type: none"> <li>• Washed hands</li> <li>• Trimmed nails</li> </ul>		
		wore protective gear		1
		<ul style="list-style-type: none"> <li>• Overall/over coat</li> <li>• Gloves</li> <li>• Head gear</li> </ul>		1
				1
		Cleaned work area	2	
		No rubbish observed		1
		Cleaned tools and equipment	3	
		No dirt observed on equipment		1
		Assembled equipment and tools	2	
2.	Prepared product	Selected ingredients	2	
		Right ingredients selected		1
		Observed soaked/fresh beans		1
		Boiled the beans	3	
		Ready boiled beans observed		1
		Mashed beans	3	
		Mashed beans observed		1
		Added other ingredients to improve flavour	3	
		Mixed well		1
		Added preservative	2	
Preservative well mixed in the mashed beans		2		

		Spread the mixture on drying trays	1	
		Spread mixtures on drying trays observed		1
		Dried product	3	
		Dried product observed		1
3.	Packaged products	Measured products	3	
		Correct measurement recorded		1
		Packed products	3	
		product well packed		1
		Labeled products	3	
		Well labeled products observed		1
4	Cost product	Determined production costs		3
		Determined profit margin		3
		Determined the selling price		2
5	Cleared work area	Cleaned tools and equipment	3	
		Cleaned tools and equipment observed		1
		Cleaned work area	3	
		Cleaned work area observed		1
		Stored tools and equipment		2
		Managed wastes		2
	<b>TOTAL</b>		39	33
	<b>MAXIMUM SCORE (Y)</b>		$\frac{X}{Y} \times 100$	

DIT/ QS	Test Item Database Performance Test Item- No. 10
<b>Occupational Title:</b>	Vegetable seed processor
<b>Competence level:</b>	1
<b>Code no.</b>	
<b>Test Item:</b>	Make soya milk from 1kg of soya beans to be delivered to a nursery school
<b>Complexity level:</b>	P3
<b>Date of OP:</b>	January, 2022
<b>Related modules:</b>	M1.2
<b>Related skills and knowledge:</b>	Product knowledge, marketing skills, Packaging skills, food security, nutritional knowledge, preservation knowledge, laws and regulations, safety precaution skills, Sanitation knowledge, management skills, communications kills, financial literacy, record keeping skills.
<b>Required tools, Materials and Equipment:</b>	Soya beans, blender, containers, buckets, mortar and pastel, wooden spoon, strainer, packaging materials, water, mopes, trays, waste bin, working table, jerry can, fridge, weighing scale, cleaning detergent, preservatives, additives, bottles, thermometers, wall watch, Overalls, gum boots, saucepans, heating, equipment, calibrated volumetric cans,
<b>Time allocation:</b>	2 hour
<b>Preferred venue:</b>	Food lab
<b>Remarks for candidates</b>	Observe food, health, safety and environmental precautions
<b>Remarks for assessors</b>	<ul style="list-style-type: none"> <li>• Provide all the tools, equipment and materials listed above</li> <li>• Avail protective gear</li> </ul>

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
1	Preparation for task (post rationing activities)	Cleaned work area	2	
		Observed personal hygiene <ul style="list-style-type: none"> <li>• Washed hands</li> <li>• Trimmed nails</li> </ul>		2
		wore protective gear <ul style="list-style-type: none"> <li>• Safety shoes</li> <li>• over coat/apron/lab coat</li> <li>• Gloves</li> <li>• Head gear</li> <li>• Mask</li> </ul>		3
2	Preparation of soya milk	Assembled materials and tools	1	
		Sorted soya beans observed		1
		Weighed the soya beans	2	
		1kg of soya beans observed		1
		Washed the soya beans	2	
		Well soaked beans observed		2
		Drained the soaking water and skinned the soya beans	2	
		Added 10ltrsof boiled cold water and Blended/ Pounded and added water	4	
		Strained blended/pounded soya bean mixture	2	
		7-8 litres of Soya milk extracted observed		2
		Added additives and preservatives	2	
		Pasteurized at 72 degrees for 15minutes	3	

		Rapidly Cooled the soya milk		1
<b>3</b>	Package and Storage	Packed soya milk rationed ingredients	2	
		Tightly sealed packed soya milk observed		1
		Labelled packed soya milk	2	
		7-8 litres of soya milk observed		1
		Cleaned tools and equipment		2
		Stored soya milk	2	
		Stored soya milk in a cool place observed		1
		Clean cool place observed		1
		Managed waste	2	
		Cleaned dirt free working area observed		1
	<b>TOTAL</b>		28	19
	<b>MAXIMUM SCORE(Y)</b>	$\frac{X}{Y} \times 100$		

## 4.0 ATP- PART IV

### INFORMATION ON DEVELOPMENT PROCESS

#### 4.1 Occupational Profile Developed (January, 2022)

The Occupational Profile was exclusively developed by job practitioners who were working in the Vegetable Seed Processor occupation, Secondary school teachers who double as examiners of Agriculture with the Uganda National Examination Board (UNEB) and Curriculum Development Specialists working with the National Curriculum Development Centre (NCDC).

The job expert panel, guided by UVQF Facilitators defined duties and tasks performed and provided additional generic information regarding the occupation.

#### 4.2 Training Module Development (January, 2022)

Based on the Occupational Profile for a Vegetable seed processor of January 2022, Training Modules were developed by job practitioners, guided by UVQF Facilitators.

#### 4.3 Test Item Development (January, 2022)

Based on the Occupational Profile for Vegetable Seed Processor of January 2022, and Training Modules, Test Items were developed by combined panels of instructors and job practitioners, guided by UVQF Facilitators.

#### 4.4 Methodology

The rationale for the Assessment and Training Package review was to link Vocational Education and Training to the real world of work by bridging Occupational Standards to Training Standards through industry-led Standards-Based Assessment.

Active participation of both instructors and job practitioners' panels consolidated the review philosophy.

The panelists worked as teams in workshop settings complemented by off-workshop field research and literature review activities including international benchmarking.

#### 4.5 Developing Panel

The participating panel of Job Practitioners required for different stages of the assessment training package i.e., occupational profile, training modules, assessment instruments were constituted by members from the following;

No.	Name	Institution/ Organization
1.	Mrs.Nandutu Grace	NCDC
2.	Mr.Kisakye George	UNEB
3.	Mrs. Atoke Lucy	Makerere College School
4.	Mrs.Kabasomi Emilly	Nabisunsa Giorls School
5.	Mrs.Nakagimu Victoria Mwazi	Kololo S.S.S
6.	Mrs.Mutonerwa Joyce Kakete	Bishop Senior School Mukono
7.	Mr.Nsaba Aggrey	Seed of Peace enterprises limited Kampala
8.	Mr.Akongo Stella Jacqline	Soigne Enterprise
9.	Mrs.Ainebyona Pretty	Esco Uganda Limited Mukono
10.	Mrs.Caroline Cherotin	Ministry of Education and Sports

#### 4.6 Facilitator team

This Assessment and Training Package was developed by a Facilitator team listed below:

1. **Team Leader** – Ms. Mukyala Ruth, Ag Deputy Director, DIT
2. **Facilitators** Ms. Ninsiima Isabella, Mr. Mugisha Edson.
3. **Compiled** by Ms. Ninsiima Isabella DIT, Mr. Mawata Grace Data entrants, DIT assisted by Matovu Brian on IT and edited by Ms. Mukyala Ruth Ag. DD, DIT, Qualification Standards Dept. DIT
4. **Coordinated** by – Mr Byakatonda Patrick, Ag. Director, DIT;

#### 4.7. Reference time:

The Assessment and Training Package was compiled in January 2022 and may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions:

#### References

1. Food and Nutrition by Deidre Madden
2. The Recipe book developed by NCDC
3. The Learners' book and Teachers' guides developed by publishing houses contracted by Government under MOES.
4. Dev Raj(2004) Food Science and Technology.
5. V Ravishankar Rai V and Jamuna A Bai(2014) Microbial Food Safety and Preservation Techniques.
6. Quality seed production in vegetable crops book – Indian MART