THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Directorate of Industrial Training

Assessment and Training Package

For a FISH FARMER

Qualification Level: 1

Occupational Cluster: Agriculture

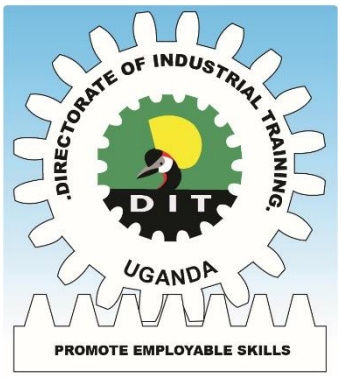
July 2020

Reviewed by:

Qualifications Standards Department
Directorate of Industrial Training

Supported by:

Government of Uganda



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Directorate of Industrial Training
Plot 97/99 Jinja Road/ Corner 3rd Street,
P.O Box 20050, Lugogo, Kampala, Uganda
Tel: +256 414 253 704; +256 312 279 344
E-mail: uvqf.dit@gmail.com
Web: www.dituganda.org

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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 centres.
(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.
(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;
(a) Define occupational standards in the world of work.
(b) Define assessment standards.
(c) Award 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.
(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 recognised 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) Harmonising 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.
(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 organises 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 Kajubi Report (1989) and the Uganda Government White Paper on Education Review (1992) emphasised that the Uganda Secondary School Education should be vocationalised.

The World Bank Report on education in Uganda 2007 observed that although Uganda was experiencing steady economic growth on one hand, the secondary education curriculum was inadequately addressing the social and economic needs of the country on the other. The Report further noted that it is not the very top academic cadres that contribute most to the growth of the GDP but rather the competent middle level technicians that are flexible and technologically literate that the economy needs in the labour market at all levels.

Correspondingly, the NDP III 2020/21- 2024/5 highlights (i) low labour productivity (ii) high youth unemployment (38%) (iii) low transition rates from training to employment (35%) as some of the key challenges to Human Capital Development in Uganda.

In order to overcome these challenges, NDP III 2020/21- 2024/5, under objective 2 peaks the need to train the learners for the urgently needed skills and mainstream a dual education and training system. This paved way for the development of the lower secondary school vocational curriculum which supports both academic and vocational training.

The afore is in line with the Uganda Vision 2040. Under section 261, it emphasises that learners will be accorded opportunities to excel in the skills areas they are placed into. These will range from sports and cut to technical and vocational training. Hitherto, section 262 clearly states that the entire education system will be changed to emphasise practical skills, attitude and moral values.

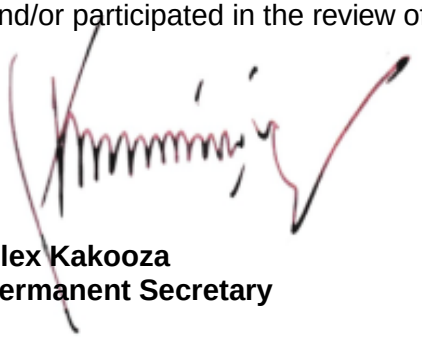
Government of Uganda through the Ministry of Education and Sports rolled out the New Lower Secondary Curriculum in secondary schools countrywide during the first term of the academic year 2020. The overall goal of this curriculum is to produce graduates with employable skills and who are competitive in the labour market. It should be emphasised that vocational training will produce graduates who are employable. In the New curriculum, emphasis will be on equipping learners with employable skills and competencies. This will enable learners perform the requisite duties of the specified occupations. This is the reason why the lower secondary school vocational curriculum was tailored to the assessment requirements of the world of work.

Reading from the Curriculum Framework page 12, it is stated that the learners will be assessed by DIT. Upon assessment and certification, the graduates will be employable and competitive in the labour market. It's against this background that DIT, within its mandate vested in the BTVET Act, 2008 comes on board to take the lead in the development of the requisite Assessment and Training Packages (ATPs) for the various occupations that will be assessed under the Lower Secondary Curriculum.

The ATPs 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 and Training Package for training, assessment and certification of a **FISH FARMER QUALIFICATION LEVEL 1.**

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



Alex Kakooza
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 FISH FARMER.** This Occupational Profile which was reviewed by Fish farmers practicing in the world of work mirrors the duties and tasks that Fish farmers are expected to perform.

0.2 **PART II: Training Modules** in the form of guidelines to train Fish farmers both on the job as well as in training centres (or combinations of both venues of learning). The Training Modules herein have been reviewed 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 FISH FARMER. These assessment instruments were reviewed jointly by job practitioners (Fish farmers) and instructors based on the occupational profile and training modules.

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**.

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 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 centres as well as companies can accommodate more learners in a given period of time.

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 reviewed as follows:

i Part 1: Occupational Profile: ***August 2020***
ii Part 2: Training Modules: ***August 2020***
iii Part 3: Assessment Instruments (initial bank): ***August 2020***

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

DIT takes responsibility of any shortcomings that might be identified in this publication and welcomes suggestions for effectively addressing the inadequacies. The suggestion can be communicated to DIT through P.O. Box 20050, Kampala or through email uvaf.dit@gmail.com.

Patrick Byakatonda
Ag Director

Acknowledgement

The Qualifications Standards Department of DIT acknowledges the valuable contributions to the review of this Assessment and Training Package by the following persons, Institutions and organisations:

- 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 and instructors of Fish farming from various secondary schools.
- Agriculture Curriculum Specialists from NCDC.
- Examination specialists from UNEB.
- The facilitators involved in guiding the development panels in their activities.
- The Government of Uganda for financing the development of this ATP.

Abbreviations and Acronyms

A&C	Assessment and Certification
ATP	Assessment and Training Packages
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

Assessment 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.

Certification 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.

Competence Integration of skills, knowledge, attitudes, attributes and expertise in doing /performing tasks in the world of work to a set standard.

Competency (Occupational) competency is understood as the ability to perform tasks common to an occupation to a set standard.

CBET Competence-Based Education and Training means that programmes:

1. have content directly related to work
2. focus is on 'doing something well'
3. assessment is based upon industry work standards, and
4. curricula are developed in modular form

Duty 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).

Learning-Working Assignment (LWA) 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.

Modules 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.

Occupational Profile (OP) 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. *(Also see: Duty)*

1.0 ATP-PART I

Occupational Profile for a FISH FARMER

1.1 The OCCUPATIONAL PROFILE (OP) for a "FISH FARMER" below defines the ***Duties*** and ***Tasks*** a competent Fish Farmer 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 defined 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 are listed on the following page.

[1] The DACUM-method was used. DACUM is an acronym for 'Develop A Curriculum'

Job Expert Panel
Mulumba Mutema Mathias
NCDC
Naturinda Movadi
Masaka S.S
Biira Yazeri
Local Government Masindi
Sebwato Paul
Prime Fish Farm
Sizoomu George
Racell Uganda
Ninsiima Bonitah
St. Patrick S.S (Ssembabule)
Luyombya Sirajje
Kabali Fish Farm
Nyanzi Flavia
NCDC
Timothy Lubega
Divine Mercy Aquaponics Ltd
Odongo Joseph Oumo
Fisheries Training Institute
Nakacwa Ritah
Ssese Farm Institute
Omukuny James Peter
Tororo Girls School
Isebaiddu William
Mpinge Fish Farm
Kakuru John
Pristine Tours/USAGA
Mwebaza Mable
ACCE Farm
Co-ordinator
Mukyala E. Ruth
Directorate of Industrial Training
Facilitators
Ochwo Richard
Directorate of Industrial Training
Kirabira Yusuf
Directorate of Industrial Training
Nakyobe Safinah
Directorate of Industrial Training
Funded by
The Government of Uganda

THE REPUBLIC OF UGANDA
Ministry of Education and Sports

Directorate of Industrial Training

Occupational Profile

For a

''Fish Farmer''

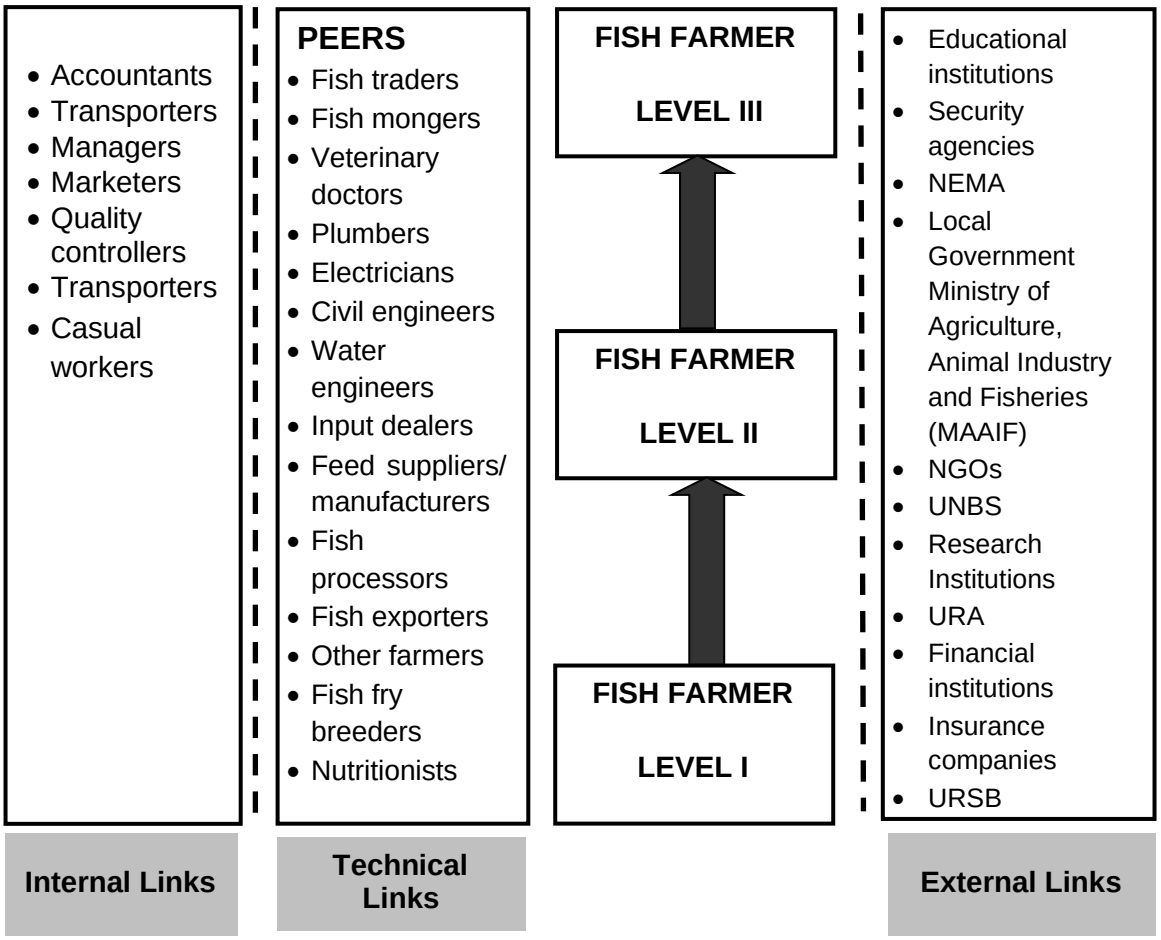
Reviewed by: Qualifications Standards Department of Directorate of Industrial Training

Dates of workshop: 20th- 24th July 2020

NOMENCLATURE FOR THE OCCUPATION OF FISH FARMER

Definition: A Fish Farmer is a person who rears fish for commercial purposes.

JOB ORGANISATION CHART FOR A FISH FARMER



A **Fish Farmer Level I** is an individual who is able to set up a fish pond and carryout routine farm activities to produce a specific breed of fish for commercial purposes.

A **Fish Farmer level II** is an individual who is able to use various fish farming facilities to rear a variety of fish species for commercial purposes.

A **Fish Farmer Level III** is an individual who rears fish on large scale using innovative technologies and breeds fish for commercial purposes.

Duties and Tasks

A. PLAN FISH FARMING WORKS	**A1** Conduct feasibility study	**A1** Select site	**A3** Develop work plan
	A4 Prepare budget	**A5** Assess water quality	**A6** Determine resources
	A7 Participate in the design of farm plan	**A8** Identify tools, equipment and materials	**A9** Procure tools, equipment and material
	A10 Contract works e.g. (technical services)	**A11** Source capital	**A12** Prepare work schedules
	A13 Recruit workers	**A14** Prepare feeding chart	

B. CONSTRUCT FISH FARMING STRUCTURES	**B1** Clear site	**B2** Supervise construction	**B3** Excavate fish pond
	B4 Purchase fish fingerlings	**B5** Level pond bottom	**B6** Excavate drainage
	B7 Compact banks to level	**B8** Shape dykes	**B9** Fit inlet and outlet pipes
	B10 Control erosion (e.g. by planting grass)	**B11** Fabricate fish cage	**B12** Construct fish cage net
	B13 Set a fish cage	**B14** Set up an aquaponic system	**B15** Braid seine nets

C. STOCK FISH	**C1** Fill fish structures with water	**C2** Determine stock density	**C3** Secure fish fingerlings/fries
	C4 Condition fish fingerlings/fish	**C5** Acclimatise fish fingerlings/ fries	**C6** Regulate water levels
	C7 Fertilise fish	**C8** Lime fish pond	**C9** Seed pond
	C10 Feed fish		

D. MAINTAIN WATER QUALITY	**D1** Aerate water	**D2** Test PH	**D3** Measure temperature
	D4 Test transparency of water	**D5** Adjust water temperature	**D6** Test ammonia level
	D7 Test hardness of water	**D8** Soften water	**D9** Test chlorine
	D10 Flush water	**D11** De-chlorinate water	**D12** Filter water
	D13 Remove uneaten food	**D14** Test nitrate level	**D15** Test carbon dioxide

E. CONTROL FISH PREDATORS	**E1** Identify fish predators	**E2** Fence fish structures	**E3** Grow repellant plants e.g. tobacco
	E4 Gazette fish cages	**E5** Drain fish structure	**E6** Trap predators
	E7 Hunt for predators	**E8** Dry fish structure	**E9** Construct diversional channels around fish structures
	E10 Apply repellants around fish structures	**E11** Put nettings around fish structures	**E12** Clear vegetation around fish structures
	E13 Deploy guards	**E14** Install fish predator scare crows	

F. BREED FISH	**D1** Seine pond	**D2** Select brood stock	**D3** Determine quality of eggs
	D4 Transfer fish to holding facility	**D5** Condition brood stock	**D6** Disinfect brood stock
	D7 Induce brood stock	**D8** Strip eggs	**D9** Extract milt
	D10 Fertilise eggs	**D11** Incubate eggs	**D12** Nurse larvae
	D13 Prepare hatchery	**D14** Sex fish	

G. MAINTAIN FISH FARM STRUCTURES	**G1** De-silt pond	**G2** Screen inlet and outlet pipes	**G3** Seal off water leakages
	G4 Clean fish structures	**G5** Plant vegetation around fish structures	**G6** Repair fish structures
	G7 Repair nettings and twines	**G8** Replace fish structure accessories	**G9** Regulate water levels

H. MAKE FEEDS	**H1** Formulate feeds	**H2** Determine fish type and age	**H3** Source for ingredients
	H4 Check quality of ingredients	**H5** Weigh Ingredients	**H6** Mix ingredients
	H7 Prepare pellets	**H8** Store feeds	

I. MANAGE FISH HEALTH	**I1** Monitor fish health	**I2** Diagnose fish	**I3** Isolate sick fish
	I4 Consult Fisheries Technician	**I5** Administer treatment	**I6** Dispose of dead fish

J. HARVEST FISH	**J1** Sample fish	**J2** Prepare harvesting tools and equipment	**J3** Pick fish
	J4 Weigh fish	**J5** Grade fish	**J6** Clean fish
	J7 Preserve fish	**J8** Store fish	

K. PERFORM OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION PRACTICES	**K1** Administer first aid	**K2** Perform fire fighting	**K3** Create awareness on communicable & non-communicable diseases
	K4 Wear protective gear	**K5** Maintain hygiene and sanitation	**K6** Manage waste
	K7 K8 Display safety signs	**K9** Provide bio-security facilities	**K 10** Observe OHSE rules and regulations

L. PERFORM ADMINISTRATIVE TASKS	**L1** Market fish	**L2** Keep records	**L3** Acquire licenses (e.g. trading license)
	L4 Register business	**L5** Communicate with stake holders	**L6** Network with other stakeholders
	L7 Manage finances	**L8** Manage human resources	**L9** Participate in continuous professional development

Additional Information

Generic Knowledge & Skills

1. Water quality tests
2. Interpretation of water quality parameters
3. Pond fertilising skills
4. Fish predator types and control measures
5. Fish handling skills
6. Weighing skills
7. Fish farm tools and equipment usage
8. Stocking density (rates)
9. Pond construction skills
10. ICT skills
11. Literacy and numeracy skills
12. Fish feeding skills
13. Fish drugs
14. Fish diseases and parasites
15. Fish preservation methods
16. Fish harvesting techniques
17. Financial management
18. Fish rearing structures
19. Fish breeding
20. Fish varieties
21. Planning skills
22. Communication skills
23. Fish feeds preparation (e.g. Artemia for fingerlings)
24. Administrative skills
25. Record keeping skills
26. Hygiene and sanitation
27. Occupational health, safety and environmental practice
28. Marketing skills
29. Aquaculture fish species
30. Ideal water quality in the fish structure
31. Soil types for pond sitting

Tools, Equipment and Materials

1. Hand hoe
2. Panga
3. Slasher
4. Pick axe
5. Wheelbarrow
6. Spade
7. Axe
8. Excavator
9. Tape measure
10. String
11. Spirit level
12. Lawn mower
13. Seine net
14. Scoop net
15. Hapas
16. Weighing scale
17. Basin
18. Jerrycan
19. Bucket
20. Cup
21. Bow
22. Arrows
23. Blower
24. Flow meter
25. Manure/fertiliser
26. Lime
27. Stationery
28. Receipts
29. Furniture
30. Power source
31. Rake
32. Dissection kits
33. First aid kits
34. Wire mesh
35. Siphons
36. Syringes and needles
37. Dust bin
38. Telephone
39. Transport facilities
40. Grader
41. Water pump
42. Broom
43. Brush
44. Computer
45. Ruler
46. Saucepan
47. Fish feeds
48. Bowel
49. Strainer
50. Thermometer
51. PH meter
52. DO meter
53. Secchi disc
54. Water testing kits
55. Oxygen cylinder
56. Polythene tube
57. Heater
58. Canoe
59. Water tank
60. Hooks
61. Knives
62. Gum boots
63. Overall
64. Gloves
65. Hammer
66. Salt
67. Potassium permanganate
68. Furadan
69. Regulator
70. Pipes
71. Fry net

Attitudes / Traits / Behaviour	Future Trends and Concerns
1. Perseverance 2. Creativity 3. Hard working 4. Adaptability 5. Flexible 6. Honesty 7. Interest in the business 8. Perfectionism 9. Outgoing 10. Leadership skills 11. Dynamic 12. Enterprising 13. Social 14. Cooperative 15. Committed 16. Reliable 17. Humble 18. Time conscious	1. Lack of cooperative unions/ associations 2. Take the activity as a tourism and recreation asset 3. Limited processing facilities 4. Unfavourable government policies 5. Disease outbreaks 6. Competition from imported fish products 7. Climate change 8. Political instabilities 9. Technological advancements 10. Limited capital resources 11. Limited research 12. Limited market for fish 13. Limited fish feeds supply 14. High cost of operation 15. Insecurity 16. Bench marking 17. Promote internal networking visits among workers

2.0 ATP – PART II

Training Modules for a FISH FARMER

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 Fish Farmer to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration 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 learners 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 FISH FARMER QUALIFICATION LEVEL 1?

A **Level I Fish Farmer** is an individual who is able to set up a fish pond and carryout routine farm activities to produce a specific breed of fish for commercial purposes.

TRAINING MODULES FOR A FISH FARMER UVQ LEVEL 1

Code	Module Title	Average duration	
		Contact hours	**Weeks**
UE/FF/M1.1	Set up Fish Pond	160	04
UE/FF/M1.2	Manage Fish Stock	160	04
UE/FF/M1.3	Manage Fish Health	80	02
UE/FF/M1.4	Maintain Fish Production Facilities	240	06
UE/FF/M1.5	Harvest and Handle Fish	80	02
UE/FF/M1.6	Perform Basic Entrepreneurship Tasks	120	03
Summary	**Training Modules**	**840 hours**	**21weeks**

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 160hours of nominal learning

Information given on the average duration of trainings could 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 instructions, as the minimum exposure.

Prior to summative assessment by recognised Agencies, the users of these Modules 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.

Code	UE/FF/M1.1
Module title	**M1.1: Setup Fish Pond**
Related Qualification	Part of Uganda Vocational Qualification (Fish Farmer UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to construct an operational fish pond.
Learning-Working Assignments (LWAs)	**LWA 1/1: Select Fish Pond Site** **LWA 1/2: Construct Pond** **LWA 1/3: Condition Pond** **LWA 1/4: Perform Occupational Health, Safety and Environmental Protection Practices** **Note:** 1. *The learning exercises may be repeated until the trainee acquires targeted competence;* 2. *The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment*.
Related Practical Exercises (PEXs)	**LWA 1/1: Select Fish Pond Site** PEX 1.1: Determine site topography PEX 1.2: Determine soil type PEX 1.3: Determine water availability (source/ quantity) PEX 1.4: Test water quality PEX 1.5: Determine water depth
	LWA 1/2: Construct Pond PEX 2.1: Clear site PEX 2.2: Lay out fish pond structures PEX 2.3: Excavate pond site PEX 2.4: Shape dykes PEX 2.5: Construct diversion channels PEX 2.5: Compact banks PEX 2.6: Level pond bottom PEX 2.7: Fix inlet and outlet drainage PEX 2.8: Fit inlet and outlet screens PEX 2.9: Plant grass on banks

	LWA 1/3: Condition Pond PEX 3.1: Fertilise pond PEX 3.2: Lime pond PEX 3.3: Fill pond with water PEX 3.4: Test water parameters
	LWA 1/4: Perform Occupational Health, Safety and Environmental Protection Practices PEX 4.1: Administer first aid PEX 4.2: Wear personnel protective gear PEX 4.3: Maintain personal hygiene PEX 4.4: Practice communicable and non-communicable disease prevention PEX 4.5: Manage waste PEX 4.6: Practice bio security
Occupational health and safety	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
Pre-requisite modules	None
Related knowledge/ theory	*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:* • Site selection • Pond types • Fish pond structure layout • Fish pond structure setup • Environmental management practices • Soil types and soil sampling • Topography • Water quality and availability • Tools and equipment usage • Fisheries guidelines and regulations • Occupational health, safety and environmental precautions • Water test parameters • Bio-security principles • Soil test parameters • Historical trends e.g. floods, prevailing winds • Life skills and values
Average duration of learning	160 hours (20 days) of nominal learning suggested to include: • *5 days of occupational theory and* • *15 days of occupational practice*
Suggestions on	The acquisition of competencies (skills, knowledge, attitudes) described in this module may take place at a training centre or

organisation of learning	its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	gumboots, overalls, gloves, pangas, slashers, axes, pick axe, tape measure, screens, hoes, wheelbarrow, pipes, excavator bull dozer, shovels, spades, ropes, spirit level, pegs, gunny bags, compactors, power source, claw hammers, pebbles, water pump
Minimum required materials and consumables or equivalent	timber, cement, sand, bricks, water, twines, cords, floaters, sinkers, plants, fertilisers, bacteria, braiding needle, nets, plastic drums, lime
Special notes	

Code	UE/FF/M1.2
Module title	**M1.2: Manage Fish Stock**
Related Qualification	Part of Uganda Vocational Qualification (Fish Farmer UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to raise fingerlings to table sizes
Learning-Working Assignments (LWAs)	**LWA 2/1: Manage Water Quality** **LWA 2/2: Prepare Fish Structure for Stocking** **LWA 2/3: Stock Fish** **LWA 2/4: Feed Fish** **LWA 2/5: Assess Fish Growth Rate** **LWA 2/6: Perform Health, Safety and Environmental Protection** **Note:** 1. *The learning exercises may be repeated until the trainee acquires targeted competence;* 2. *The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 2/1: Manage Water Quality Parameters** PEX 1.1: Check for turbidity PEX 1.2: Check for pH PEX 1.3: Check for chlorine levels PEX 1.4: Regulate water levels PEX 1.5: Check for ammonia PEX 1.6: Check for oxygen levels PEX 1.7: Check for temperature
	LWA 2/2: Stock Fish PEX 2.1: Determine stocking density PEX 2.2: Prepare fish pond for stocking PEX 2.3: Condition fingerlings PEX 2.4: Transport fingerlings PEX 2.5: Acclimatise fingerlings
	LWA 2/3: Feed Fish PEX 3.1: Weigh feeds PEX 3.2: Serve feeds PEX 3.2: Monitor feeding behavior PEX 3.3: Record food served PEX 3.4: Clear leftovers

	LWA 2/4: Assess Fish Growth Rate PEX 4.1: Sample fish PEX 4.2: Weigh fish PEX 4.3: Measure fish length
	LWA 2/5: Perform Health, Safety and Environmental Protection Practices PEX 5.1: Administer first aid PEX 5.2: Wear personnel protective gear PEX 5.3: Maintain hygiene PEX 5.4: Practice communicable and non-communicable disease prevention PEX 5.5: Manage waste PEX 5.6: Perform bio- security PEX 5.7: Observe OHSE rules and regulations
Occupational health and safety	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
Pre-requisite modules	None
Related knowledge/ theory	*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:* • Stocking rates • Fish species • Composts • Types of feed • Feed preparation • Types of fertilisers • Methods of fertilising • Use of secchi disc • Fingerlings (types, size, species, sources, quality)
	• Sampling gear • Sampling techniques • Feeding techniques • Feeding behavior of fish • Transportation of fish • Food conversion ratios • Nutrition requirements • Occupation health, safety and environmental precautions • Measurement of PH • Use of water quality equipment

Average duration of learning	160 hours (20 days) of nominal learning suggested to include: • *5 days of occupational theory and* • *15 days of occupational practice*
Suggestions on organisation of learning	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.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	transport facilities, pens, pencils, calculator, feeding trays, rakes, pitch forks, strainer, water quality kit, syringes, telephone, weighing scale, measuring tape, a dust bin, fire extinguisher, first aid box
Minimum required materials and consumables or equivalent	reagents, feeds, water, detergents
Special notes	

Code	UE/FF/M1.3
Module title	**M1.3: Manage Fish Health**
Related Qualification	Part of: Uganda Vocational Qualification (Fish Farmer UVQ 1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to raise healthy fish stock.
Learning-Working Assignments (LWAs)	**LWA 3/1: Monitor for Abnormal Appearance** **LWA 3/2: Monitor for Abnormal Fish Behavior** **LWA 3/3: Perform Health, Safety and Environmental Protection Practices** **Note:** 1. *The learning exercises may be repeated until the trainee acquires targeted competence;* 2. *The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 3/1: Monitor for Abnormal Appearance.** PEX 1.1: Inspect for sores PEX 1.2: Check for discolored areas PEX 1.3: Inspect for blood spots PEX 1.4: Inspect for frayed fins PEX 1.5: Inspect for curved back bone PEX 1.6: Inspect for swellings on the eyes and belly PEX 1.7: Inspect for presence of external parasites
	LWA 3/2: Monitor for Abnormal Fish Behavior PEX 2.1: Observe fish for lethargy PEX 2.2: Monitor fish response to stimuli PEX 2.3: Observe piping and gasping PEX 2.4: Check for flashing and scratching PEX 2.5: Monitor fish for convulsions and erratic behavior PEX 2.6: Monitor fish for grouping in shallow water PEX 2.7: Monitor fish for grouping around inlet flowing water PEX 2.8: Observe response to feed

	LWA 3/3: Perform Health, Safety and Environmental Protection Practice PEX 3.1: Administer first aid PEX 3.2: Wear personnel protective gear PEX 3.3: Maintain hygiene and sanitation PEX 3.4: Practice communicable and non-communicable disease prevention PEX 3.5: Manage wastes PEX 3.6: Observe occupational health, safety and environmental rules and regulations PEX 3.7: Display safety signs
Occupational health and safety	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.
Pre-requisite modules	None
Related knowledge/ theory	*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:* • Feeding behavior • Fish handling • Health, safety and environmental precautions • Fish behavior • Fish diseases symptoms and signs • Disease and parasite management techniques • Common fish parasites • Risk management • Treatment drugs • Linkage with the fisheries personnel
Average duration of learning	80 hours (10 days) of nominal learning suggested to include: • *2 days of occupational theory and* • *8 days of occupational practice*
Suggestions on organisation of learning	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.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank

Minimum required tools/ equipment/ implements or equivalent	personnel protective equipment (overall, gumboots, gloves), scoop net, towel, dissection kit, petri dish, magnifying glasses, lifesaving equipment, seine net
Minimum required materials and consumables or equivalent	feeds, stocked pond, drugs,
Special notes	

Code	UE/FF/M 1.4
Module title	**M 1.4: Maintain Fish Production Facilities**
Related Qualification	Part of Uganda Vocational Qualification (Fish Farmer UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to provide and maintain a conducive environment for fish growth
Learning-Working Assignments (LWAs)	**LWA 4/1: Carryout Earthen Pond Condition Survey** **LWA 4/2: Perform Earthen Pond Maintenance** **LWA 4/3: Control Predators** **LWA 4/4: Control Aquatic Weeds** **LWA 4/5: Perform Health, Safety and Environmental Protection Practices** **Note:** *1. The learning exercises may be repeated until the trainee acquires targeted competence;* *2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA4/1: Carryout Earthen Pond Condition Survey** PEX 1.1: Inspect banks for damages PEX 1.2: Inspect depth of water PEX 1.3: Inspect drainage for blockages PEX 1.4: Check for presence and functionality of feeders PEX 1.5: Inspect sanitation of environment around pond PEX 1.6: Check for water leakages
	LWA 4/2: Perform Earthen Pond Maintenance PEX 2.1: De-silt pond and drainage PEX 2.2: Clear pond area PEX 2.3: Repair/replace screens at inlet/outlet PEX 2.4: Repair banks and dykes PEX 2.5: Seal off water leakages

	LWA 4/3: Control Predators PEX 3.1: Cut vegetation and prune trees around pond PEX 3.2: Cover hapas PEX 3.3: Stretch netting over pond PEX 3.4: Perform biological control (geese, repellent plants etc.) PEX 3.5: Trap predators PEX 3.6: Construct barrier/fence PEX 3.7: Install scare crows
	LWA 4/4: Control Aquatic Weeds PEX 4.1: Perform biological control PEX 4.2: Perform manual harvesting PEX 4.3: Maintain recommended water depth
	LWA 4/5: Perform Health, Safety and Environmental Protection PEX 5.1: Administer first aid PEX 5.2: Wear personnel protective gear PEX 5.3: Maintain hygiene and sanitation PEX 5.4: Practice communicable and non-communicable disease prevention PEX 5.5: Manage waste PEX 5.6: Observe OHSE rules and regulations
Occupational health and safety	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
Pre-requisite modules	None
Related knowledge/ theory	*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:* • Predator control • Aquatic Weeds control • Fish pond design • Fish net repair • First aid administration • Tools and equipment usage • Pond maintenance • Risk management

	• Knowledge of communicable and non-communicable diseases • Waste management • De-silting techniques
Average duration of learning	240 hours (30 days) of nominal learning suggested to include: • *8 days of occupational theory and* • *22 days of occupational practice*
Suggestions on organisation of learning	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.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	hoes, spade, pick axe, panga, dip water stick, slasher, lawn mower, wheelbarrow, rake, fork, sacks, trowel, bucket, bow saw, polythene bags, thread, mono filament cables, metallic tins, welding machine, angle bars, twine, protective gear, waste bins
Minimum required materials and consumables or equivalent	cement, sand, water, soil, stones, feeds, repellent planting material (seeds, cuttings etc.), bell, materials for making scare crows, baskets, boxes
Special notes	

Code	UE/FF/M 1.5
Module title	**M 1.5: Harvest and Handle Fish**
Related Qualification	Part of Uganda Vocational Qualification (Fish Farmer UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to harvest and handle fish
Learning-Working Assignments (LWAs)	**LWA 5/1: Prepare Harvesting Tools, Equipment And Materials** **LWA 5/2: Perform Seining** **LWA 5/3: Perform Draining** **LWA 5/4: Perform Cast Netting** **LWA 5/5: Perform Health, Safety and Environmental Protection Practices** **Note:** 1. *The learning exercises may be repeated until the trainee acquires targeted competence;* 2. *The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA5/1: Prepare Harvesting Tools, Equipment and Materials** PEX 1.1: Assemble harvesting tools, materials and equipment PEX 1.2: Clean and disinfect tools, materials and equipment PEX 1.3: Prepare fish holding facilities PEX 1.4: Assemble crew
	LWA 5/2: Perform Seining PEX 2.1: Prepare net PEX 2.2: Set net PEX 2.3: Seine out fish PEX 2.4: Scoop out fish from seine PEX 2.5: Sort fish PEX 2.6: Wash fish PEX 2.7: Condition fish PEX 2.8: Weigh fish PEX 2.9: Clean tools and equipment PEX 2.10: Disinfect tools equipment PEX 2.11: Pack seine

	PEX 2.12: Dry seine PEX 2.13: Store seine
	LWA 5/3: Perform Draining PEX 3.1: Screen outlet PEX 3.2: Close inlet and open outlet PEX 3.3: Drain pond PEX 3.4: Scoop fish PEX 3.5: Lower outlet pipe
	LWA 5/4: Perform Cast Netting PEX 4.1: Prepare cast net PEX 4.2: Cast net into water PEX 4.3: Pull cast net to close sinkers PEX 4.4: Retrieve net out of water PEX 4.5: Release fish into boat
	LWA 5/5: Perform Health, Safety and Environmental Protection Practices PEX 5.1: Administer first aid PEX 5.2: Wear personnel protective equipment PEX 5.3: Maintain hygiene and sanitation PEX 5.4: Practice communicable and non-communicable disease prevention PEX 5.5: Manage waste PEX 5.6: Observe OHSE rules and regulations
Occupational health and safety	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
Pre-requisite modules	None
Related knowledge/ theory	*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:* • Seining • Fish harvesting • Fish handling • Casting • First aid administration • Swimming • Pond drainage • Fish handling and preservation techniques

	• Disinfecting • Cleaning • Conditioning of fish • Safety precautions • Risk management • Assembling of equipment • Tools & equipment usage • Waste disposal
Average duration of learning	80 hours (10 days) of nominal learning suggested to include: • *3 days of occupational theory and* • *7 days of occupational practice*
Suggestions on organisation of learning	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.
Assessment	Assessment to be conducted according to established regulations by a recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	Plastic/stainless steel spade, buckets, baskets, boxes, fish holding tanks, weighing scale, plastic scrubbing brush, screening net, scoop net, Metallic rods, wooden blocks, seine net, first aid box, chest warder, personal protective equipment
Minimum required materials and consumables or equivalent	salt, ice, detergent, disinfectant, water, twines, braiding needles
Special notes	

Code	UE/FF/M1.6
Module title	**M1.6: Establish a Fish Farming Enterprise**
Related Qualification	Part of Uganda Vocational Qualification (Fish Farmer UVQ1)
Qualification Level	1
Module purpose	After completion of this module, the trainee shall be able to establish and operate a viable fish farming business
Learning-Working Assignments (LWAs)	**LWA 6/1: Plan Fish Farming Works** **LWA 6/2: Market Fish** **LWA 6/3: Perform Administrative Tasks** **LWA 6/4: Perform Health, Safety and Environmental Protection Practices** **Note:** 1. *The learning exercises may be repeated until the trainee acquires targeted competence;* 2. *The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning working assignment.*
Related Practical Exercises (PEXs)	**LWA 6/1: Plan Fish Farming Works** PEX 1.1: Conduct a feasibility study PEX 1.2: Select farm site PEX 1.3: Determine fish variety PEX 1.4: Source for farm inputs PEX 1.5: Identify labour requirements PEX 1.6: Determine production methods PEX 1.7: Develop site structural plan PEX 1.8: Prepare financial plan PEX 1.9: Prepare budget PEX 1.10: Prepare procurement plan PEX 1.11: Conduct environmental impact assessment
	LWA 6/2: Market Fish PEX 2.1: Weigh fish PEX 2.2: Grade fish PEX 2.3: Preserve fish PEX 2.4: Package fish PEX 2.5: Brand fish PEX 2.6: Price fish PEX 2.7: Advertise fish

	PEX 2.8: Store fish PEX 2.9: Transport fish PEX 2.10: Sell fish
	LWA 3/3: Perform Basic Administrative Tasks PEX 3.1: Manage finances PEX 3.2: Recruit workers PEX 3.3: Train workers PEX 3.4: Supervise works PEX 3.5: Motivate workers PEX 3.6: Attend meetings PEX 3.7: Keep records PEX 3.8: Remunerate workers PEX 3.9: Communicate with stakeholders PEX 3.10: Manage conflicts PEX 3.11: Monitor and evaluate business PEX 3.12: Register business PEX 3.13: Obtain operational license PEX 3.14: Procure farm inputs
	LWA 6/4: Perform Health, Safety and Environmental Protection Practices PEX 4.1: Administer first aid PEX 4.2: Wear personnel protective gear PEX 4.3: Maintain hygiene and sanitation PEX 4.4: Manage waste PEX 4.5: Sensitise workers on key health issues PEX 4.6: Train workers on health and safety issues PEX 4.7: Observe Occupation Health, Safety and Environmental (OHSE) rules and regulations
Occupational health and safety	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
Pre-requisite modules	None

Related knowledge/ theory	*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:* • Pricing strategies • Promotional methods/ techniques • Customer care • Communication skills • Negotiation skills • Research methods • Environmental factors affecting business operations • Occupational health and safety measures • Knowledge ICT • Risk management • Preservation techniques • Record keeping • Communicable and non-communicable disease awareness • Marketing • Feasibility analysis • Budgeting • Environmental Impact Assessment • Government policies • Business registration procedures
Average duration of learning	120 hours (15 days) of nominal learning suggested to include: • *5 days of occupational theory and* • *10 days of occupational practice*
Suggestions on organisation of learning	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.
Assessment	Assessment to be conducted according to established regulations by recognised assessment body using related practical and written test items from item bank.
Minimum required tools/ equipment/ implements or equivalent	computer, calculator, pens, pencils, file folders, filing cabinets, printer, telephone, table document tray, basket, first aid box, packaging materials, fridges, freezers, knife, public speakers, apron, ledger book

Minimum required materials and consumables or equivalent	paper, cartridges, salt, spices, firewood, charcoal
Special notes	

3.0 ATP- PART III

Assessment Instruments for a Fish Farmer

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.

3.2 Assessment of occupational competence should comprise of both practical (performance) testing and written (theory/knowledge) testing.

3.3 Based on the Occupational Profile and Training Modules, a combined panel of job practitioners and Instructors reviewed 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 the Directorate of Industrial Training.

3.4 Performance (Practical) Test Items (PTI) are closely related to typical work situations in Ugandan business enterprises. They comprise of 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
- 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 a FISH FARMER are included.

3.9 Overview of Test Item Samples Included

No	Type of test Items	Numbers included
1	Written (Theory)- short answer	2
2.	Written (Theory)- multiple choice	2
3.	Written (Theory)- matching with generic	2
4.	Written (Theory)- matching cause and effect	1
5.	Written (Theory)- matching work sequence	2
6.	Performance (Practical) test items	1
Total		**10**

WRITTEN TEST ITEMS (SAMPLES)

DIT/ QS	Test Item Database Written (Theory) Test Item- No. 1
Occupational Title:	Fish Farmer
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:	July 2020
Related modules:	M1.1
Time allocation:	3 minutes

Test Item	Outline any four activities carried out during earthen fish pond construction
Answer spaces	(i) …… (ii) …… (iii) …… (iv) ……
Expected key (answers)	(i) Clearing site (ii) Laying out pond (iii) Excavating/ digging pond (iv) Shaping dykes (v) Compacting dykes (vi) Leveling pond bottom (vii) Constructing inlet and outlet drainage (viii) Fitting inlet and outlet screens (ix) Planting grass on banks (x) Compacting pond bottom (xi) Constructing harvesting basins (xii) Fitting inlet and outlet pipes

<table>
<tr><th>DIT/ QS</th><th>Test Item Database
Written (Theory) Test Item- no. 2</th></tr>
<tr><td>Occupational Title:</td><td>Fish Farmer</td></tr>
<tr><td>Competence level:</td><td>Level 1</td></tr>
<tr><td>Code no.</td><td></td></tr>
<tr><td>Test Item type:</td><td>
<table>
<tr><td>Short answer</td><td colspan="3">√</td></tr>
<tr><td>Multiple choice</td><td colspan="3"></td></tr>
<tr><td rowspan="2">Matching item</td><td>Generic</td><td>Cause-Effect</td><td>Work-sequence</td></tr>
<tr><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Complexity level:</td><td>C2</td></tr>
<tr><td>Date of OP:</td><td>July 2020</td></tr>
<tr><td>Related modules:</td><td>M1.1</td></tr>
<tr><td>Time allocation:</td><td>3 minutes</td></tr>
</table>

Test Item	Outline any four factors to consider when choosing an earthen fish pond site
Answer spaces	(i) …… (ii) ……... (iii) ……... (iv) .....
Expected key (answers)	(i) Site topography (ii) Availability of reliable water source (iii) Soil type (iv) Water quality (v) Proximity to market (vi) Security (vii) Accessibility (viii) Legal issues (ix) Available infrastructure/ power

<table>
<tr><th>DIT/ QS</th><th>Test Item Database
Written (Theory) Test Item- No. 3</th></tr>
<tr><td>Occupational Title:</td><td>Fish farmer</td></tr>
<tr><td>Competence level:</td><td>Level 1</td></tr>
<tr><td>Code no.</td><td></td></tr>
<tr><td>Test Item type:</td><td>
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<tr><td>Short answer</td><td colspan="3"></td></tr>
<tr><td>Multiple choice</td><td colspan="3">√</td></tr>
<tr><td rowspan="2">Matching item</td><td>Generic</td><td>Cause-Effect</td><td>Work-sequence</td></tr>
<tr><td></td><td></td><td></td></tr>
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</td></tr>
<tr><td>Complexity level:</td><td>C1</td></tr>
<tr><td>Date of OP:</td><td>July 2020</td></tr>
<tr><td>Related modules:</td><td>M1.1</td></tr>
<tr><td>Time allocation:</td><td>2 minutes</td></tr>
</table>

Test Item	Which of the following factors is considered during fish pond site selection?
Distracters and correct answer	A. Vegetation cover B. Soil type C. Pond size D. Predators

Key (answer)	B

<table>
<tr><th>DIT/ QS</th><th>Test Item Database
Written (Theory) Test Item- No. 4</th></tr>
<tr><td>Occupational Title:</td><td>Fish Farmer</td></tr>
<tr><td>Competence level:</td><td>Level 1</td></tr>
<tr><td>Code no.</td><td></td></tr>
<tr><td>Test Item type:</td><td>
<table>
<tr><td>Short answer</td><td></td></tr>
<tr><td>Multiple choice</td><td>√</td></tr>
<tr><td rowspan="2">Matching item</td><td>Generic</td><td>Cause-Effect</td><td>Work-sequence</td></tr>
<tr><td></td><td></td><td></td></tr>
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<tr><td>Complexity level:</td><td>C1</td></tr>
<tr><td>Date of OP:</td><td>July 2020</td></tr>
<tr><td>Related modules:</td><td>M1.1</td></tr>
<tr><td>Time allocation:</td><td>3 minutes</td></tr>
</table>

Test Item	Which of the following is a purpose for liming a fish pond?
Distracters and correct answer	A. To regulate ammonia B. To control predators C. To increase oxygen D. To regulate water pH

Key (answer)	D

DIT/QS	Test Item Database Written (Theory) Test Item- no. 5
Occupational Title:	Fish Farmer
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:	July 2020
Related Modules:	M1.1, M1.2
Time allocation:	3 minutes

Test Item	Match the following fish farming activities with their corresponding outcomes

Activity	
1	Pond liming
2	Grading fish
3	Pond fertilization
4	Conditioning fish

Outcome	
A	Hasten fish growth
B	Value addition
C	Facilitation of natural feeds growth
D	Prevention of stress
E	Prevention of cannibalism
F	Regulate water pH

Key (answer)	1: F, 2: E, 3: C, 4: D

DIT/QS	Test Item Database Written (Theory) Test Item- no. 6
Occupational Title:	Fish Farmer
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:	July 2020
Related modules:	M1.4
Time allocation:	3 minutes

Test Item	Match the following pond maintenance activities to their purpose

	Activity
1	De-silting pond
2	Sealing of leakage points
3	Repairing dykes
4	Clearing pond area

	Purpose
A	Prevent water loss
B	Prevent fungal and bacterial infections
C	Prevent erosion
D	Prevent fish from escaping
E	Maintain pond depth
F	Prevent intruders
G	Prevent predators

Key (answer)	1-E, 2-A, 3-C, 4-G

DIT/QS	Test Item Database Written (Theory) Test Item- no. 7
Occupational Title:	Fish Farmer
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:	July 2020
Related modules:	M1.3
Time allocation:	3 minutes

Test Item	Match the following scenarios to their effects on fish health

Scenario	
1	Outbreak of external parasites
2	Reduction of oxygen
3	Feeding of unbalanced feed
4	Cannibalism

Effect	
A	Deprived appetite
B	Frayed fins
C	Rubbing against objects in water
D	Gasping
E	High feeding rates
F	Curved back bone
G	Stunted growth

Key (answer)	1-C, 2-D, 3-G, 4-B

DIT/QS	Test Item Database Written (Theory) Test Item- no. 8
Occupational Title:	Fish Farmer
Competence level:	Level 1
Code no.	
Test Item type:	Short answer Multiple choice Matching item: Generic / Cause-Effect / Work-sequence (√)
Complexity level:	C 2
Date of OP:	July 2020
Related Modules:	M1.1
Time allocation:	4 minutes

Test Item	Arrange the following steps of constructing an earthen fish pond in their chronological order

Column A (chronology	Column B (work steps) in wrong chronology order	
1st	A	Laying out pond
2nd	B	Shaping dykes
3rd	C	Leveling pond bottom
4th	D	Planting grass on banks
5th	E	Compacting banks
6th	F	Clearing site
7th	G	Excavating pond

Key (answer)	1: F, 2: A, 3: G, 4: B, 5: C, 6: E, 7: D

DIT/QS	Test Item Database Written (Theory) Test Item- no. 9
Occupational Title:	Fish Farmer
Competence level:	Level 2
Code no.	
Test Item type:	Short answer:
	Multiple choice:
	Matching item: Generic: ; Cause-Effect: ; Work-sequence: √
Complexity level:	C 2
Date of OP:	July 2020
Related Modules:	M 2.5
Time allocation:	5 minutes

Test Item	Arrange the steps of hot smoking fish in their chronological order

Column A (chronology	Column B (work steps) in wrong chronology order	
1st	A	Smoking
2nd	B	Washing
3rd	C	Gutting
4th	D	Scaling
5th	E	Brining
6th	F	Deep drying
7th	G	Preliminary washing
8th	H	Freezing

Key (answer)	1: G, 2: D, 3: C, 4: B, 5: E, 6: F, 7: A, 8: H

PERFORMANCE TEST ITEMS (Samples)

DIT/ QS	Test Item Database Performance Test Item- no. 10
Occupational Title:	Fish Farmer
Competence level:	Level 1
Code no.	
Test Item:	Test soil and construct a model earthen pond of 3metres×1.5metres, and 0.5metres at the shallow end and 0.7metres at the deep end with a slope of 1metre
Complexity level:	P 2
Date of OP:	July 2020
Related module:	M1.1
Related skills and knowledge:	site selection procedures, soil types, pond design, pond construction procedures, orientation of pond/pond layout
Required tools, Materials and Equipment:	Assembled tools i.e. panga, tape measure, hoe, spade, spirit level pegs, strings, water testing kit, pick axe, shovel, wheel barrow timber, netting, mesh, 4''PVC pipes
Time allocation:	24 contact hours
Preferred venue:	Site
Remarks for candidates	♦ Candidates must have personnel protective equipment
Remarks for assessors	♦ Provide helpers for the candidates

#	Assessment criteria	Scoring guide	Max Score	
			Process	Result
1	Preparation for the task	Wore protective gear (gum boots, overall, gloves, head gear)		4
		assembled tools (i.e. panga, tape measure, hoe, spade, water level, pegs, strings, water testing kit, pick axe, shovel, wheel barrow, timber, netting, mesh, 2''PVC pipes, builders' square, hand rammer, dibber, bends, screen)		3
2	Selection of site (testing of soils for firmness and water retention)	Scooped soil sample between 0.5metres – 1.5metres deep		2
		Sample rolled into a ball	2	
		Dropped ball from a height of 1metre – 2metres to the ground	2	

		Interpreted the observation		3
		Filled the dug hole with water and covered	1	
		Left to stand for 4-6 hours	1	
		Interpreted the results		2
3	Construction of pond	Cleared site	1	
		Clear ground observed (no vegetation, tree stumps, stones observed)		3
		Laid out pond		
		Set reference point	2	
		Marked reference lines	1	
		Squared reference lines	2	
		4 Corners of 90^0observed		2
		Excavation of pond		
		Excavated soil	4	
		Soil excavated to 0.5m shallow end and 0.7m deep end		2
		Shaped dykes	2	
		Gently sloping dykes observed		3
		Heaps of excavated soil observed on dyke tops		2
		Shaped bottom	2	
		Gently sloping bottom towards outlet observed		3
		Compacted dykes	2	
		Firmness of dykes verified		2
		Smooth dykes' surfaces observed		2
		A depth of 0.5m at shallow end verified		2
		A depth of 0.7m at deep end verified		2
		A pond length of 3m verified		2
		A pond width of 1.5m verified		2
		Firm bottom observed		2
		Inner pond position is verified using slope		3
4	Finishing	Fixed inlet and outlet pipes 20cm-30cm above water level	3	
		Firm pipes observed		2

		Fixed 2”PVC at the outlet	2	
		No water seepage at the bend of the outlet		2
		Stand pipe bends		2
		Firm horizontal pipe observed		2
		Fitted screen onto in/outlets		3
		Firmness of screens verified		2
		Planted grass around pond		2
5	Demobilisation of tools and unused materials	Cleaned tools and equipment	2	
		Dirt free tools and equipment observed		2
		Stored tools and equipment	2	
		No tools left on site		2
		Cleaned pond environment	2	
		No excavated soils and residual materials observed		2
	Total		**33**	**67**
	Maximum score (Y)	**X/Y**	**100**	

4.0 ATP- PART IV

INFORMATION ON REVIEW PROCESS

4.1 Occupational Profile Review (July 2020)

The Occupational Profile was exclusively reviewed by job practitioners who were working in the Fish Farmer occupation. 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 Review (July 2020)

Based on the Occupational Profile for a Fish Farmer of July 2020, Training Modules were reviewed by job practitioners, guided by UVQF Facilitators.

4.3 Test Item Review (July 2020)

Based on the Occupational Profile for a Fish Farmer of July 2020, and Training Modules, Test Items were reviewed by combined panels of instructors and job practitioners, guided by UVQF Facilitators.

4.4 Methodology

The rationale for the Assessment and Training Package development 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 development philosophy.

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

4.5 Review Panel

The participating panels of Job Practitioners required at different stages were constituted by members from the following organisations:

	Review Panel	
	Name	**Institution/ Organisation**
1.	Mulumba Mutema	National Curriculum Development Centre
2.	Nnyanzi Flavia	National Curriculum Development Centre
3.	Naturinda Movadi	Masaka S.S
4.	Biira Yazeri	Masindi Local Government
5.	Sebwato Paul	Prime Fish Farm
6.	Sizoomu George	Racell Uganda
7.	Ninsiima Bonitah	St. Patrick's S.S
8.	Luyombya Sirajje	Kabali Fish Farm
9.	Timothy L. Lubega	Divine Mercy Aquaponics
10.	Odongo Joseph Oumo	Fisheries Training Institute
11.	Kakuru John	Fisheries Training Institute
12.	Nakachwa Ritah	Ssese Farm Institute
13.	Omukuny James Peter	Tororo Girls' School
14.	Isebaiddu William	Mpinge Fish Farm
15.	Mwebaza Mable	ACCE Farm

4.6 Facilitator team

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

1. **Team Leader:** Ms. Mukyala E. Ruth Ag. Deputy Director/QS Department, DIT
2. **Facilitators**: Ms. Nakyobe Safinah PQO/TMD, DIT
   Mr. Kirabira Yusuf QO/OPD, DIT
   Mr. Ochwo Richard, Ag. SQO/TMD
3. **Data Entrants:** Ms. Nakimuli Patra
   Ms. Atai Sarah
   Ms. Nakisendo Fatuma
4. **Compiled by:** Ms. Nakimuli Patra
   Ms. Atai Sarah
   Ms. Nakisendo Fatuma Data Entrants DIT
5. **Edited by:** Ms. Mukyala E. Ruth, Ag. Deputy Director QS Dept. DIT
6. **Coordinated by**: Mr. Byakatonda Patrick, Ag. Director, DIT;

4.7 Reference time:

The Assessment and Training Package was compiled in July 2020 and may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

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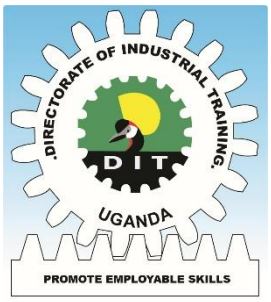

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