

# NATIONAL OCCUPATIONAL STANDARD FOR FISH SEED GROWER





## APPROVING AUTHORITY

This National Occupational Standard has been prepared and published under the authority of the Zambia Qualifications Authority Board on 30<sup>th</sup> September, 2020.

## ZAMBIA QUALIFICATIONS AUTHORITY

The Zambia Qualifications Authority Act No. 13 of 2011 was enacted by the Government of the Republic of Zambia to ***“provide for the development and implementation of a national qualifications framework; establish the Zambia Qualifications Authority; provide measures to ensure that standards and registered qualifications are internationally comparable; and provide for matters connected with, or incidental to the foregoing”***. Among other functions, ZAQA is responsible for *determining national standards for any occupation*, through various sector specific National Occupational Standards Development Teams (NOSDTs).

## REVISION OF NATIONAL OCCUPATIONAL STANDARDS

National Occupational Standards shall be revised every after **5 years**, or whenever necessary, by the issue of either amendments or of revised editions. It is important that users of National Occupational Standards (NOS) should ascertain that they are in possession of the latest amendments or editions.

## NOS DEVELOPMENT TEAM RESPONSIBLE

This National Occupational Standard was prepared by the Agriculture National Occupational Standards Development Team, upon which the following organisations were represented:

1. University of Zambia (UNZA);
2. Zambian Aquaculture Cooperative Society (ZACOSO);
3. Aquaculture Development Association of Zambia (ADAZ);
4. Natural Resources Development College (NRDC);
5. Ministry of Agriculture (MoA);
6. Zambia Agriculture Research Institute (ZARI);
7. Zambian Forum for Agricultural Extension and Advisory Services (ZAFAAS);
8. Zambia Qualifications Authority (ZAQA) – Secretariat.

## ACKNOWLEDGEMENT

The Zambia Qualifications Authority would like to acknowledge the invaluable support of the following stakeholders that participated in the development of this National Occupational Standard:

1. Dr. Wilson Mwenya (University of Zambia);
2. Mr. Freznarnd Simfukwe (Zambian Aquaculture Cooperative Society);
3. Mr. Baldwin Chibuta (Aquaculture Development Association of Zambia);
4. Mr. Masautso E. Sakala (Natural Resources Development College);
5. Mr. Katupa Chongo (Ministry of Agriculture);
6. Dr. Batiseba Tembo (Zambia Agriculture Research Institute);
7. Mr. Vincent M. Akamandisa (Zambian Forum for Agricultural Extension and Advisory Services).

The Authority wishes to also acknowledge the efforts of all stakeholders that took time to review and submit comments on this NOS and those that participated in the national validation process.

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## FOREWORD

The Zambia Qualifications Authority (ZAQA) is a statutory body under the Ministry of Higher Education established by ZAQA Act No. 13 of 2011 to “**provide for the development and implementation of a national qualifications framework; provide measures to ensure that standards and registered qualifications are internationally comparable; and provide for matters connected with, or incidental to the foregoing**”.

Among other functions, ZAQA is responsible for “*determining national standards for any occupation*”, through various sector specific National Occupational Standards Development Teams (NOSDTs) of experts composed of representation from appropriate authorities, government departments, industry, academia, regulators, consumer associations and non-governmental organisations, etc.

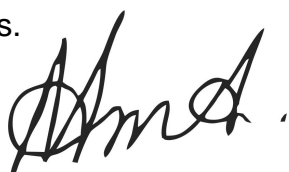
This National Occupational Standard (NOS) has been developed by the Agriculture National Occupational Standards Development Team in accordance with the procedures and guidelines of ZAQA. All users should ensure that they have the latest edition of this publication as National Occupational Standards are revised from time to time.

This NOS shall be used by, among others, industry, employers, quality assurance bodies, awarding and professional bodies and education and training institutions, as a benchmark to identify training needs, develop job profiles/descriptions, develop curricula and learning programmes, in various sectors where the occupation exists. In the Agriculture sector, demonstration of competence against this NOS may be required in order to run a business or practice a craft or profession.

Aquaculture is one of the fastest growing food production systems worldwide and is particularly important in bridging the gap between fish demand and supply in Zambia. The major input in culture fishery is quality fish seed and the expansion and development of aquaculture production depend mainly on the availability of seed.

However, inadequate fish seed supply has been one of the major constraints to aquaculture development in Zambia. The supply of quality fish seed is a key factor to the expansion of fish farming in the country. In Zambia, fish seed demand at present is high, unsatisfied and expected to expand. As a result, the importance of fish seed farming in the country cannot be ignored. Fish seed farming will ensure availability of quality fish seed in adequate quantities, which is one of the most important factors for a sustainable and profitable fish farming. It is for this reason that Fish Seed Growers need to be equipped with a number of management practices and skills in the maintenance of quality broodfish in adequate numbers and also ensure good care of the seed from the spawn to larvae stage, all the way to the fry and fingerling stages.

This National Occupational Standard highlights core knowledge, skills, competences and personal attributes that Fish Seed Growers must possess to be successful in their work roles.



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**Mirriam M. A Chiyaba (Mrs)**  
**Director and Chief Executive Officer**

## ACRONYMS AND ABBREVIATIONS

CS	Core Skill
FSG	Fish Seed Grower
OK	Organisational Knowledge
NOS	National Occupational Standard
NOSDT	National Occupational Standards Development Team
PC	Performance Criteria
PS	Professional Skill
RPL	Recognition of Prior Learning
TK	Technical Knowledge
ZAQA	Zambia Qualifications Authority
ZQF	Zambia Qualifications Framework

## GLOSSARY OF TERMS

For the purposes of this NOS, the following terms and definitions shall apply:

**Core Skills/Generic Skills:** are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the NOS, these include communication related skills that are applicable to most job roles.

**Function:** is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of NOS.

**Job Role:** defines a unique set of functions that together form a unique employment opportunity in an organisation.

**Knowledge and Understanding:** are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

**National Occupational Standards (NOS):** are statements of the standards of performance individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding. They are precise descriptions of what an individual is expected to be able to do in his/her work role.

**National Occupational Standards (NOS) Code:** is a unique reference code that identifies a NOS.

**National Occupational Standards Development Team (NOSDT):** means an established group of national stakeholders/experts responsible for the development of National Occupational Standards within a specific economic sector or occupation.

**Occupation:** is a set of job roles, which perform similar/related set of functions in an industry.

**Organisational Context:** includes the way the organisation is structured and how it operates, including the extent of operative knowledge that managers have in their relevant areas of responsibility.

**Performance Criteria:** are statements that together specify the standard of performance required when carrying out a task.

**Scope:** is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.



**Sector:** is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.

**Sub-Sector:** is derived from a further breakdown based on the characteristics and interests of its components.

**Technical Knowledge:** is the specific knowledge needed to accomplish specific designated responsibilities.

**Unit Title:** gives a clear overall statement about what the incumbent should be able to do.

## 1. OVERVIEW

This is an introductory section providing a brief summary and specific information or commentary about the content of the NOS and the targeted sector and occupation to help the user judge whether it is relevant to them.

<b>NOS Code</b>	NOS.FSG.01
<b>Occupation</b>	Aquaculture
<b>Job Title</b>	Fish Seed Grower
<b>Job Description</b>	Fish Seed Grower is responsible for the seed production of aquatic organisms cultured in water aquaculture habitat
<b>Job Purpose</b>	Raising the spawn to different stages such as fry, fingerling and stunted juvenile habitats
<b>ZQF Level</b>	5
<b>Sector</b>	Agriculture
<b>Sub sector</b>	Fisheries and Aquaculture
<b>Other Economic Sector(s) in which the Occupation is Practiced</b>	N/A
<b>Other Similar Jobs Performed in the Occupation</b>	Aquaculture Farmer, Aquaculture Assistant, Fisheries Assistant, Fisheries Extension Officer, etc.
<b>Minimum Educational Job Entry Qualification(s)</b>	Senior Secondary Education (Grade 12) Certificate or equivalent
<b>Practicing License Requirements (if any)</b>	N/A
<b>Training/RPL (Optional)</b>	On the job training/Prior work in fish seed rearing operations
<b>Minimum Job Entry Age</b>	18
<b>Prior Experience (Optional)</b>	6 months to 1 year in fish seed rearing
<b>Performance Criteria</b>	As described in the Units under Section 4

## **2. SCOPE**

This National Occupational Standard specifies the fundamental knowledge and understanding, skills and competences that Fish Seed Growers must possess to be successful in their job roles. It is applicable to Fish Seed Growers working in agriculture or fisheries, governmental or non-governmental organisations, etc.

## **3. PERSONAL ATTRIBUTES (VALUES, ETHICS AND ATTITUDES)**

A Fish Seed Grower must possess leadership qualities and managerial skills. He/she must have the ability to plan, organise, prioritise, calculate, concentrate and handle pressure. The individual must possess reading, writing and communication skills. In addition, the individual must have mechanical aptitude and trouble shooting skills. He/she must be physically fit and be able to swim.

## **4. UNITS AND ELEMENTS**

This National Occupational Standard is divided into 3 Units representing the tasks that a job holder should undertake in his/her day to day work. Each Unit is further broken down into elements depicting the number of activities to be carried out for the successful execution of a particular task.

**UNIT 1** [This Unit is about carrying out seed production of water cultured species].

<b>Unit No.</b>	<b>01</b>
<b>Unit Title (Task)</b>	<b>Carry out Fish Seed Production</b>
<b>Description</b>	This Unit is about carrying out fish seed production of water cultured species
<b>Scope</b>	This Unit covers the following: <ul style="list-style-type: none"> <li>• Prepare ponds for seed rearing of selected species</li> <li>• Collect and stock seeds of selected species</li> <li>• Identify and carry out various activities involved in seed rearing system</li> <li>• Ensure proper harvesting and packing of seed</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria (PC)</b>
<b>Prepare Ponds for Seed Rearing of selected species</b>	To be competent, the individual must be able to: PC1. prepare ponds as per requirement of the respective stages of seed to be grown, i.e., spawn to fry, fry-fingerling (post larvae to juvenile in water habitats) or fingerling to stunted juveniles PC2. decide on types and dosages of basal manuring, liming and soil treatment in case of new pond PC3. choose method of application of the inputs PC4. determine appropriate methods of eradication of aquatic weed and advise the workers on the safety measures while applying the chemicals PC5. apply appropriate method of eradicating predatory and weed fishes PC6. determine different types of liming material and its method of application in pond to be used at various stage of culture operation PC7. determine types of fertilisers to be applied to the pond at different stage of culture operation PC8. determine appropriate measures for controlling aquatic insects prior to seed stocking
<b>Collect and stock seeds of selected species</b>	To be competent, the individual must be able to: PC9. identify the species (tilapia, bream, catfish, etc.) to be used for seed rearing PC10. identify the source of quality seed of the desired organisms PC11. ensure seed transportation with minimum stress PC12. ensure proper seed stocking after due acclimatisation and at appropriate density and species ratio PC13. administer proper-rearing methods for the variety of organisms
<b>Identify and carry out various activities involved in seed rearing system</b>	To be competent, the individual must be able to: PC14. maintain desirable water depth in the pond/tank PC15. ensure suitable environment for the rearing of specific species or group of species PC16. identify culture activities of each variety of organisms in rearing system PC17. use appropriate feed, in right quantity and with appropriate feeding schedule PC18. carry out periodic sampling, first to check occurrence of

	pathogens, abnormalities and infections in the seed; and to monitor growth of the seed in order to determine proper feeding
<b>Ensure proper harvesting and packing of seed</b>	To be competent, the individual must be able to: PC19. use appropriate methods for seed harvesting PC20. select appropriate mesh size of net for seed harvesting PC21. ensure proper conditioning of the seed prior to transportation PC22. identify appropriate method of seed transportation (open or closed system) and the suitable container to be used PC23. determine the density of packing
<b>Knowledge and Understanding (K)</b>	
<b>A. Organisational Context (Knowledge of the company/ organisation and its processes)</b>	The individual on the job must demonstrate knowledge and understanding of: OK1. organisation's adopted methods for seed transport OK2. organisation's protocol for seed rearing for varied stages
<b>B. Technical Knowledge</b>	The individual on the job must demonstrate knowledge and understanding of: TK1. seed rearing protocol TK2. water quality management in seed rearing ponds TK3. types of feed and their management in seed rearing pond TK4. disease diagnosis and control TK5. seed packing and transport TK6. mono sexing methods TK7. artificial propagation of fish
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	The individual on the job must be able to: CS1. read and interpret and process flowchart for all species CS2. read equipment manuals and process documents in order to understand the equipments operation and process requirement CS3. read information documents sent by the teams
	<b>Writing Skills</b>
	The individual on the job must be able to: CS4. note down the information communicated CS5. note down observations (if any) related to the process CS6. write information documents/reports to internal departments/teams/supervisors
	<b>Oral Communication (Listening and Speaking skills)</b>
	The individual on the job must be able to: CS7. discuss task lists/assignments, schedules and activities CS8. effectively communicate with the team members CS9. question in order to understand the nature of the problem and to clarify queries CS10. attentively listen and comprehend the information given by the speaker CS11. clearly communicate with cross department teams

<b>B. Professional Skills</b>	<b>Decision Making Skills</b>
	The individual on the job must be able to: PS1. analyse critical points in day to day tasks through experience and observation and identify control measures to solve the issues PS2. handle issues that arise in the day to day functioning
	<b>Plan and Organise</b>
	The individual on the job must be able to: PS3. mobilise materials and equipments required PS4. plan and prioritise the work PS5. effectively utilise time and equipment PS6. organise all process/equipment manuals so as to access information easily
	<b>Customer Centricity</b>
	The individual on the job must be able to: PS7. demonstrate knowledge and understanding of customer requirements and their priority in order to respond as per their needs
	<b>Problem Solving Skills</b>
	The individual on the job must be able to: PS8. solve problems by detailing them out PS9. discuss the possible solutions for problems
	<b>Analytical Thinking</b>
	The individual on the job must be able to: PS10. apply the domain information about maintenance processes and technical knowledge of the tools and equipment
<b>Critical Thinking</b>	
The individual on the job must be able to: PS11. use common sense and make judgments on day to day basis PS12. use reasoning skills to identify and resolve basic problems PS13. use intuition to detect any potential problems which could arise during operations PS14. use acquired knowledge of the process for identifying and handling issues	

**UNIT 2** [This Unit is about manpower planning and providing training].

<b>Unit No.</b>	<b>02</b>
<b>Unit Title (Task)</b>	<b>Ensure Personnel Management</b>
<b>Description</b>	This Unit is about manpower planning and providing training
<b>Scope</b>	This Unit covers the following: <ul style="list-style-type: none"> <li>• Carry out manpower planning</li> <li>• Provide training</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria (PC)</b>
<b>Carry out manpower planning</b>	To be competent, the individual must be able to: PC1. determine manpower demand required for <ul style="list-style-type: none"> <li>• transportation</li> <li>• stocking</li> <li>• survival and growth monitoring</li> </ul> PC2. define the roles and responsibilities of all personnel PC3. assess the manpower requirement for a single culture period PC4. prepare a backup plan for manpower allocation in case of unforeseen circumstances PC5. coordinate work hours including scheduling, approving time off requests, tracking absences, timekeeping
<b>Provide training</b>	To be competent, the individual must be able to: PC6. provide training to workers on important policies and procedures on an ongoing basis PC7. ensure that the workers are well trained in their respective lines of work
<b>Knowledge and Understanding (K)</b>	
<b>A. Organisational Context (Knowledge of the company/ organisation and its processes)</b>	The individual on the job must demonstrate knowledge and understanding of: OK1. organisation's methods and procedures for manpower planning OK2. tools and methods used by the organisation to provide training
<b>B. Technical Knowledge</b>	The individual on the job must demonstrate knowledge and understanding of: TK1. staff roster management TK2. leave and attendance management TK3. how to carry out numerical calculations and basic statistical analysis
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	The individual on the job must be able to: CS1. read and interpret and process flowchart for all species CS2. read equipment manuals and process documents to understand the equipments operation and process requirement CS3. read internal information documents sent by internal teams/supervisors

	<b>Writing Skills</b>
	The individual on the job must be able to: CS4. note down the information communicated CS5. note down observations (if any) related to the process CS6. write information documents/reports to internal departments/teams/supervisors
	<b>Oral Communication (Listening and Speaking skills)</b>
	The individual on the job must be able to: CS7. discuss task lists, schedules and activities CS8. effectively communicate with the team members CS9. question in order to understand the nature of the problem and to clarify queries CS10. attentively listen and comprehend the information given by the speaker CS11. clearly communicate with cross department teams
<b>B. Professional Skills</b>	<b>Decision Making Skills</b>
	The individual on the job must be able to: PS1. analyse critical points in day to day tasks through experience and observation and identify control measures to solve the issue PS2. handle issues related to day to day functioning
	<b>Plan and Organise</b>
	The individual on the job must be able to: PS3. mobilise materials and equipments required PS4. plan and prioritise the work PS5. effectively utilise time and equipment PS6. organise all process/equipment manuals so as to access information easily
	<b>Customer Centricity</b>
	The individual on the job must be able to: PS7. demonstrate knowledge and understanding of customer requirements and their priority and respond as per their needs
	<b>Problem Solving Skills</b>
	The individual on the job must be able to: PS8. solve problems by detailing out PS9. discuss the possible solutions for problems
	<b>Analytical Thinking</b>
	The individual on the job must be able to: PS10. apply the domain information about maintenance processes and technical knowledge of the tools and equipment
<b>Critical Thinking</b>	
The individual on the job must be able to: PS11. use common sense and make judgments on day to day basis PS12. use reasoning skills to identify and resolve basic problems PS13. use intuition to detect any potential problems which could arise during operations	



**UNIT 3** [This Unit is about following safety, hygiene and sanitation practices for culture operations].

<b>Unit No.</b>	<b>03</b>
<b>Unit Title (Task)</b>	<b>Ensure safety, hygiene and sanitation practices for culture operations</b>
<b>Description</b>	This Unit is about following safety, hygiene and sanitation practices for culture operations
<b>Scope</b>	This Unit covers the following: <ul style="list-style-type: none"> <li>• Ensure safety measures in culture operations</li> <li>• Maintain biosecurity and safety</li> <li>• Maintain the health of fish at various levels of growth</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria (PC)</b>
<b>Ensure safety measures and upkeep of water bodies used in fish culture</b>	To be competent, the individual must be able to: PC1. ensure suitable measures for protection of cultured organisms from natural and unnatural calamities PC2. prevent the escaping of cultured organisms PC3. identify common predators and preying organisms in water bodies PC4. apply suitable methods for keeping away predators in water bodies to protect fish culture PC5. restrict entry of unauthorised persons into the premises PC6. know the dosage, toxicity level and method of application of chemicals/medicines used for fish culture PC7. ensure all chemicals are adequately labelled and stored safely PC8. identify a quarantine area and implement protocols of quarantine
<b>Maintain personal hygiene and safety</b>	To be competent, the individual must be able to: PC9. keep in mind the possibilities of bacterial (water borne, air borne, fomite borne) and other contamination from human handling PC10. apply effective systems and routines to ensure healthy and hygienic conditions during all stages of fish culture including transportation and marketing PC11. ensure that the fish culture premises are constantly monitored/inspected for breaches in the protection provided by health and hygiene measures PC12. undertake basic safety checks before operation of any equipments PC13. know and adhere to safety guidelines PC14. report potential hazards to the supervisor immediately PC15. follow standard procedures to deal with accidents and emergency situations PC16. use first aid kit as and when required and provide appropriate treatment in case of any injuries
<b>Maintain health of fish at various level of growth</b>	To be competent the individual must be able to: PC17. ensure maintenance of suitable soil and water quality parameters at all times with frequent tests

	<p>PC18. ensure specified feed is provided to organisms at regular intervals and excess feeding is avoided</p> <p>PC19. carry out regular inspection of organisms for possible presence of parasites, pathogenic infections, any phenotypic disorder, spot, etc. which are usually the signs of ailments or disease outbreak</p> <p>PC20. ensure all nets, utensils and vessels used are sterilized and clean</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organisational Context (Knowledge of the company/ organisation and its processes)</b>	<p>The individual on the job must demonstrate knowledge and understanding of:</p> <p>OK1. organisation's standards and procedures followed safety, hygiene and sanitation</p> <p>OK2. personal hygiene and fitness requirements</p> <p>OK3. job responsibilities/duties for following safety, hygiene and sanitation</p> <p>OK4. safe methods to use materials and equipment</p> <p>OK5. housekeeping methods and importance</p> <p>OK6. safe disposal methods for waste</p> <p>OK7. methods for minimising environmental damage</p> <p>OK8. importance of following health, hygiene and safety standards and the impact of not following the standards</p>
<b>B. Technical Knowledge</b>	<p>The individual on the job must demonstrate knowledge and understanding of:</p> <p>TK1. prevention of infections</p> <p>TK2. personal hygiene requirement</p> <p>TK3. method of maintaining safety checklists</p> <p>TK4. routine physicochemical testing of water</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading Skills</b>
	<p>The individual on the job must be able to:</p> <p>CS1. read internal information documents sent by internal teams/supervisor</p> <p>CS2. read equipment manuals and process documents to understand the equipment operation and process requirements</p>
	<b>Writing Skills</b>
	<p>The individual on the job must be able to:</p> <p>CS3. record information on water treatment and fertilisation of ponds and other important aspects</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The individual on the job must be able to:</p> <p>CS4. effectively communicate with the technicians and labourers regarding all important aspects</p>
<b>B. Professional Skills</b>	<b>Decision Making Skills</b>
	<p>The individual on the job must be able to:</p> <p>PS1. handle tasks on a day to day basis</p> <p>PS2. handle the minor issues in case the supervisor is not available and report major issues to management</p>

	<b>Plan and Organise</b>
	The individual on the job must be able to: PS3. plan and use suitable techniques for the work assigned PS4. plan and prioritise the work based on the instructions received PS5. effectively utilise time and equipment
	<b>Customer Centricity</b>
	The individual on the job must be able to: PS6. maintain good relationships with the manager and farm staff
	<b>Problem Solving Skills</b>
	The individual on the job must be able to: PS7. study the problem and report to concerned authority PS8. follow instructions to solve the problem
	<b>Analytical Thinking</b>
	The individual on the job must be able to: PS9. monitor condition of aquatic organisms and suggest improvements, if any
<b>Critical Thinking</b>	
The individual on the job must be able to: PS10. use common sense and make judgments on day to day basis PS11. use reasoning skills to identify and resolve basic problems	

## 5. EQUIPMENT, TOOLS AND CONSUMABLE MATERIALS

These include water source, ponds, broodfish, boats and docks, submersible cages and nets, aerators and diffusers, filters and tanks, fish feed, chemicals and medicines, fish seed storage and transportation equipment and facilities, note pads and pens, protective equipment, company's standard operating procedures, reporting templates, etc.

## 6. DILEMMAS/CHALLENGES AND COMPLEXITIES FOR A JOB HOLDER

Dilemmas associated with the job of Fish Seed Grower include working in dangerous areas, handling dangerous chemicals and medicines, long working hours, pressure from fish farmers and supervisors, language barriers, working in extreme weather conditions such as rainy and cold conditions, resistance by fish farmers to adopt new fish species, and technologies etc.

### 6.1 Alternative Choices (Solutions) to Dilemmas and Complexities

Solutions to dilemmas include exercising regularly to maintain physical fitness, learning local languages, undertaking training in customer service and team management, wearing protective clothing, sticking to company's standard operating procedures at all times, consulting extensively within and outside one's department/team, etc.

## **7. WORKING CONDITIONS/ENVIRONMENT**

Working conditions include working/moving on lakes, rivers or swampy areas, working in rural areas, slippery areas, cold, hot and rainy conditions, stand/walk for long hours for field visits, dealing with donors/funders, etc.

## **8. PARTIES INVOLVED/INTERACTING WITH THE JOB HOLDER OR TRAINEE**

### **8.1 Internal/Within the Organisation**

Trainers, supervisors, technicians, colleagues, etc.

### **8.2 External/Outside the Organisation**

Fish farmers/fishermen, trainers, government regulators, suppliers of equipment/tools/consumables, fish feed growers from other organisations, donor agencies/non-governmental organisations, etc.

## **9. PHYSICAL DEMANDS ON THE BODY**

- Be able to walk and stand for long periods of time;
- Bend, stretch, twist, or reach out;
- Be able to lift relatively heavy materials, tools and equipment;
- Coordinate movement of several parts of the body, such as arms and legs, while the body is moving;
- Be able to withstand feelings of wetness, itching, or coldness on the body;
- Etc.

## **ANNEX A**

### **Criteria for Assessments based on this NOS**

#### **A.1 Guidelines for Assessment**

**A.1.1** Criteria for assessment for curricula and learning programmes based on this NOS will be created by curricula and programmes developers. Each Performance Criteria (PC) will be assigned marks proportional to its importance in the NOS. Curricula and programmes developers will also lay down proportion of marks for theory and practical skills for each performance criteria, giving more weight to practical skills.

There shall be allocated the 'Total Mark', which will be the sum of all marks in each Unit, distributed across the number of PCs in that particular Unit. The 'Out Of' mark will be the mark allocated to each PC, which will be shared between theory and practical skills assessments.

**A.1.2** Awarding/assessment bodies or institutions and other users of the NOS will create unique question papers for the theory part and evaluations for skill practical part for their respective candidates.

## ANNEX B NOS Version Control

This Annex gives details necessary for the tracking of the NOS versions based on the number of revisions.

<b>NOS Code</b>	DNOS.FSG.01		
<b>ZQF Level</b>	5	<b>Version Number</b>	01
<b>Sector</b>	Agriculture	<b>Date of Approval</b>	September, 2020
<b>Sub-sector</b>	Fisheries and Aquaculture	<b>Date of Last Review</b>	N/A
<b>Occupation</b>	Aquaculture	<b>Date of Next Review</b>	October, 2025



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