

REPUBLIC OF SOUTH SUDAN

**TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING
NON FORMAL COMPETENCY BASED TVET CURRICULUM**

**CERTIFICATE OF PROFICIENCY
IN
AGRIBUSINESS**

SEPTEMBER 2019

DISCLAIMER

This Curriculum has been produced by the EMPOWER project with financial support from the European Union. Its content are the sole responsibility of the EMPOWER consortium and do not necessarily reflect the views of the European Union.

FOREWORD

This Technical and Vocational Education and Training competence-based training syllabus is the product of a long consultative journey from a number of South Sudan TVET sector stakeholders. During this journey, I was privileged to officiate the opening and closing sessions of the first TVET sector stakeholders working group workshop that was held in August 2018. This workshop contributed to prioritization of seven trades, from a list of 32 trades those were identified by the Labour Market Assessment conducted jointly by UNESCO and EMPOWER Project in 2018.

The process involved consultations with different TVET stakeholders in South Sudan, including government ministries. The Subject Experts and other industry stakeholders participated in the review and validation of the Curriculum. Again, I was privileged to officiate the closing ceremony of the Curriculum Validation Workshop that was held in June 2019. This workshop approved the Curriculum for publication and launch. It is against this background, that I present this version of the Curriculum for the launch and use in South Sudan. This product illustrates the commitment of the TVET sector stakeholders in improving TVET in South Sudan.

Developing a competence-based curriculum is one of the milestone I transforming the education system of the country. This is because the competence-based curriculum guide planning, the conducting and the assessment of the flexible and modularized learning process that result in the provision of basic employable skills training. The MoGEI, MoLPSHRD and the MoYC&S are aware of the system requirements and the ecosystem for operating a competence-based education and training curriculum.

The Curriculum is available for use by all the TVET providers across South Sudan. These providers could be government, private sector, faith based organizations, NGOs, Community based vocational skills training and on the job training institutions. It is my wish that this Curriculum will be used by all the technical and vocational education and training providers across the Republic of South Sudan. The Curriculum is relevant for the DDR programmes and sustainable livelihood skills support programme. The Curriculum has been designed to ensure that the trainees of the programme acquire the necessary knowledge, skills, competencies, values and attitudes that will stimulate them to view lifelong training journey as part of livelihood skills development. The Curriculum is learner-centered and provides opportunities for the out-of- school youth as well.

The Curriculum has been supported with Learner's Books, Trainer's Guides and working life skills. We thank the European Union who funded this programme, the Consultant, EMPOWER Consortium, UNDP, UNESCO, the various subjects experts and all those who played a role in one way or the other in making this assignment come to fruition.



Hon. Deng Deng Hoc Yai
Minister of General Education and Instruction

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Development of this curriculum and its associated trainer's guide and learner's book has been a consultative process with participation from different stakeholders. The Ministry of General Education and Instruction wishes to thank everyone who played a role in one way or the other in the process of developing this harmonized National Technical and Vocational Skills Competency-based training curriculum for South Sudan.

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We wish to appreciate the role played by the Minister of General Education and Instruction, Hon. Deng Deng Yai Hoc, The Minister for Labour and Human Resource Development, Hon. James Hoth Mai, The Minister of Youth, Culture and Sports, Hon. Nadia Arop Dudi, for their commitment throughout the entire curriculum development process. Their commitment and visionary messages for strengthening TVET delivery in South Sudan kept the team on course.

We wish to recognize the great involvement and participation of the Director Generals in the MoGEI, MoLPSHRD, Ministry of Culture, Youth and Sports, and all the technical teams in the above ministries. We thank in a special way, contributions of trainers/instructors from Juba Multi-Purpose Training Centre (MTC), Juba Technical School, SSOPO, St. Vincent, and Don Bosco vocational centres, all of whom played a key role in revising and making the curriculum module content relevant to the South Sudan Context.

Appreciation is extended to development partners and private actors who participated throughout this curriculum development process. Specifically, we recognize the contributions from United Nations Development Programme (UNDP), EMPOWER Consortium members (NRC, FCA, ACROSS, Nile Hope, BBC Media Action & VOSDO), Academy for Professional Development, World Vision, Save the Children, AAH and Dorcas Aid International. Through this curriculum, we look forward to a great future for the South Sudanese youths.

ACRONYMS AND ABBREVIATION

AAH	Action Africa Help International
ACROSS	Association of Christian Resource Organisation Serving Sudan
BBC MA	BBC Media Action
CBET	Competence Based Education and Training
DACUM	Developing A Curriculum
ICT	Information Communication Technology
FCA	Finn Church Aid
MoGEI	Ministry of General Education and Instruction
MOG	Module Outcome Guide
MoLPSHRD	Ministry of Labour, Public Service and Human Resource Development
MTC	Multi-Purpose Training Centre
NGO	Non-Governmental Organization
NRC	Norwegian Refugee Council
NVQF	National Vocational Qualifications Framework
OJT	On-The-Job training (OJT)
OHS	Occupational Health and Safety
PLAR	Prior Learning Assessment and Recognition
RPL	Recognition of Prior Learning
SSOPO	South Sudan Older People's Organization
TAR	Training Achievement Record
TVET	Technical Vocational Education and Training
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
VOSDO	United Nations Educational, Scientific and Cultural Organization

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SECTION ONE: GENERAL INTRODUCTION

Countries across the world are facing a problem of lack of employable skills and tackling the growing rate of unemployment among its populations and especially women, adolescents and out of school youth. According to UNESCO (2018), 2.2 million children are out of school in South Sudan and the number is expected to rise due to the ongoing conflict situation. This is a wakeup call for South Sudan Technical and Vocational Education and Training (TVET) sector skills development stakeholders to look for innovative and sustainable ways of developing and improving the employability position of the TVET systems trainees. The solution lies with the development of a Competency-based Education and Training (CBET) curriculum.

This model of curriculum delivery has emerged as one of the best models for developing skilled, knowledgeable and employable TVET skills trainees. The focus of CBET approach to technical and vocational skills training lies on its concentration on learning outcomes that should be demonstrated by the trainees of the program. It focuses on the development of the right Attitude, Skills and Knowledge (ASK) that is needed in the concerned industry of employment in practicing the acquired trade skills. The challenge with this kind of approach is on the movement towards the definition of what the trainees need to learn in order to perform to the standards required in an employment position. In this approach, there is a changing role of the teacher who serves as a coach, mentor, trainer and instructor. He is therefore a facilitator of learning.

This document is the unified and harmonised National Competency-Based Education and Training curriculum. This has been developed as a complete package that has the associated trade module syllabus for the training of modularized short courses for technical and vocational skills development in South Sudan. The curriculum can be used in offering those vocational skills development training programs that last for a time period of one month, three months, six months and nine months.

On completion of these prescribed modules, the learners would qualify for Prior Learning Assessment and Recognition (PLAR) when joining level I Certificate of Proficiency training in Agribusiness trade within the vocational training skills development programs in various TVET centres, Institutes and schools across the Republic of South Sudan. These modules have been designed to serve as the preparatory courses for Non-formal Technical and vocational skills training aimed at promoting Basic Employable Skills Training (BEST), giving second chance education opportunity to out of school youths through the lifelong learning journey, promotion of decent work, development of portable skills and strengthening the sustainable livelihood skills of the trainees of the program.

1.1 THE CURRICULUM AIM AND OBJECTIVE

1.1.1 Aim of agribusiness trade training curriculum

The main aim of this curriculum is to develop a holistic, multi-skilled, and proficient Agribusiness sector professional. The modularised certificate which will impart right knowledge, skills, and attitudes will lead to the award of certificate of proficiency in Agribusiness upon successful completion of all the prescribed modules. The certificate holder will be able to work under supervision in Agribusiness related work environment and be able to progress with learning in the trade to acquire higher levels of qualification in a progressive manner under the lifelong learning journey.

1.1.2 Specific objectives of certificate of proficiency in agribusiness trade training curriculum

1. To inculcate knowledge, skills and attitude for the practice of the profession of doing agriculture as a business of creating employment, generation of income and sustainable livelihood support.
2. To equip the trainees with trade theory, tools, equipment and occupational health and safety skills relevant to the practice of the Agribusiness trade within South Sudan and beyond.
3. To offer self-contained modularised job oriented skills and gradual certification where by each module is an employable skill within the profession of Agribusiness offered under the premise of Basic Employable Skills Training program.
4. To equip the trainees with Employability and working life skills that would be useful for them in their life after the training institution. This includes literacy, numeracy, basic English, communication skills, digital literacy and entrepreneurship and small business operation skills within

the trade area of Agribusiness.

5. To Promote and give a recognition to prior learning experience within the Agribusiness Technical and vocational skills training system, promotion of decent work, labour mobility, and prepare the trainees for a lifelong learning experience in the Agribusiness trade within South Sudan and across the region.
6. To equip the trainees of the Certificate of proficiency training in Agribusiness trade with the skills of making a contribution to the attainment of Sustainable Development Goals (SDGs) 1,2,3,4,5,6,7,8,10 and 16 in South Sudan.

1.2 CURRICULUM DEVELOPMENT THEORY AND PHILOSOPHY

Skills proficiency of a country's workers depends on the quality of its Technical and Vocational Skills Training (TVST) system. Globally there are three systems of pursuing vocational skills training program. These TVST can be acquired through formal, informal and non-formal training. Each of these systems requires its own curriculum that guides the development of competencies required in terms of knowledge, skills and attitude for effective work delivery.

The thinking and idea of having a competency-based education and training (CBET) curriculum has been there in the key sources of TVET information and education materials for South Sudan. Curriculum for formal training in TVET exists with the Ministry of General Education and Instruction (MoGEI) and with the Ministry of Labor, Public Service and Human Resource Development (MoLPSHRD).

The level I training under the MoGEI takes one year and is equal to Secondary School SI which is form one or first year of Secondary School Education. The level I Curriculum of MoLPSHRD is a combination of Level I and Level II of the MoGEI Curriculum. Their main target is the provision of formal TVST education with an entry criterion of being primary

school leavers or those with alternative education system qualification and with the ability of having basic literacy and numeracy skills.

The informal TVET sector skills development is majorly being provided directly in the industry though on the job training. There is no proper system put in place to govern the provision of this important Enterprise-Based Technical and Vocation Education and Training (EBTVET) in terms of the On-The-Job training curriculum (OJTC), the learning assessment guide and certification, and Recognition system. Very little data documents this system of TVET training in South Sudan.

Thus, there is a need for developing on-the-job training curriculum that will harmonise recognition of the acquisition of technical skills through this direct industry-training model for TVET professionals.

This will also increase the role and participation of the private sector in the provision of technical and vocational skills training in South Sudan. Just like in other countries, South Sudan private sector through the Chamber of Commerce and Industry, MoGEI and MoLPSHRD should be supported to come up with South Sudan industry/occupational standards for each trade covering level I-VI.

This will make it easy in development of any curriculum, and for carrying out industry training and assessment. This is because curriculum development, training and assessment, depends on the stated elements of competency that will be indicated in the industry or occupational Standards for each of the trade under consideration.

The independence of South Sudan on 9th July 2011 saw the emergence of a number of Non-Governmental Organizations (NGOs) and development partners coming in to provide sustainable livelihood skills development programs. These are provided through vocational skills training in different states

where these NGOs operate. Some NGOs issue certificates on their own, while others issue certificates that are endorsed by the State Ministries of Labor (SMoL).

At the time of developing this curriculum, there were over 120 NGOs offering Non-formal vocational skills development training programs. Many of them are offering similar programs with different content and curricula. This occurrence necessitated the need for developing a nationally unified and harmonised South Sudan Non-formal Education Technical and Vocational Skills Training (NFETVST) curriculum with content that is agreeable with the 21 Line Ministries and Departments that engage in the provision of technical and vocational skills development in South Sudan.

This non-formal vocational skills education training curriculum has been organised to allow for open entry with the minimum entry requirement being age of 14 years. The curriculum is competency-based and modularised with each module being a self-contained Basic employable skill training (BEST).

The trainees get continuous certification, and on successful completion of each module, they are awarded with Module Completion Certificate (MCC), while on completion of all the prescribed modules, they are then awarded with certificate of proficiency in Agribusiness trade. This certification gives the trainees strength to continue with their lifelong livelihood and learning journey.

They may join the employment market to put in to practice their learnt skills, and / or could also wish to continue for further learning by progressing to level 2,3,4 of the formal, non-formal and informal TVET learning systems. Those joining the formal and Informal TVET learning systems will benefit through Recognition of Prior Learning experience (RPLE). The admitting institution will recognise the

competencies gained and be exempted from those modules where they are already competent in.

This Non-Formal TVET certificate of proficiency curriculum is wider in scope as it is meant to develop the interest of the trainees in the profession. The other progressive levels will be narrowed down to single specialisation skills training areas using BEST principle. This will make the trainees to acquire specific skills in the trade area of interest within the larger sector of the trade. Efforts have been made throughout this curriculum to acknowledge and recognise prior learning experience (PLE).

This gives the opportunity for those who had been trained before on some modules and those who were trained on-the-job to join this program and get their skills and experience recognised and certified. The curriculum also gives opportunity for lifelong learning and obtaining decent work for all the trainees that is in line with ILO guidelines on decent work for all by 2030.

This curriculum is developed with the provision of offering 3 months, 6 months, 9 months to 12 months training depending on the funding and time availability. Since a module is an employable skill training (EST), the trainees will be able to get job in the industry even on completion of only one module and then later on, he/she can proceed with the study of other modules to enable them acquire more skills and competencies.

This curriculum is a public document and is freely available for use in offering TVET and Vocational Skills training across South Sudan. This being the first National Non-formal TVET curriculum in South Sudan, it is open and can be used by the industry sector, 21 Ministries offering related TVET skills programs, Private TVET training providers, Non-Governmental Organisations, TVET sector skills development partners, Oil companies, as well

as in Nile petroleum training programs.

The certificate obtained with the use of this training curriculum is nationally recognised as its content has been certified by the MoGEI Directorate for Curriculum Development, TVET Quality Assurance and Standards, TVET, MoLPSHRD, MoCYS, and Ministry of Agriculture (MoA)

The development of this curricula took into consideration the recommendations of the UNESCO Rapid assessment report of 2018, EMPOWER project Report on South Sudan Labor Market Assessment conducted by NRC in 2018, the African Union TVET Strategy, regional similar curricula for the same trade from Kenya, Sudan, Ethiopia, South Africa, Rwanda, Uganda, Egypt, Morocco and Tanzania, MoLPSHRD Tracer Study of 2014 conducted by JICA, the Sustainable Development Goals (SDGs) and especially SDG Goal 4, and existing TVET curriculum and documents available with the MoGEI, MoLPSHRD, Ministry of Culture, Youth and Sports (MoCYS), Ministry of Agriculture (MoA), and those of other NGOs offering similar vocational skills training development programs in South Sudan.

The approach used in designing of this curriculum is on the development of trade specific knowledge, skills and attitudes. During the skills development process, the training provider is encouraged to include the Employability and Working Life Skills module, which has also been developed as a standalone module, and further consult with the Ministry of Education for a curriculum on Literacy and Numeracy.

This curriculum gives weight to 80% Practical and 20% theory in total for the entire three training places of Module theory training classes, Training Institution practical workshop training hours and On-the-job training hours. The ratio for Institution Based Technical and Vocational Education Training (IBTVET) is a portioned in the ration of 30% to 70%



for Theory and practical training sessions. The time put here is just a guideline for completion of the training by an average learner.

Since in CBET, the learning is learner centered and passed, the learners can take a shorter time or a longer time to demonstrate the acquisition of the skill learned. It is mandatory that at the end of each module of training, the trainees are expected to be attached to industry for 1-2 weeks in case of one module training and 1-3 months OJT in case of the completion of all the prescribed modules.

This will enable them to acquaint themselves with the state of the art in the practice of those trades' modules related skills.

The curriculum output has been influenced by the outcome based and employability theories of curriculum design and development. These have been used in developing modules as a self-contained employable skills training program and in setting the learning outcomes and elements with the use of blooms taxonomy action verbs. It is expected that the users of this curriculum will find it suitable and user friendly in developing sustainable livelihood skills among the Non-formal education TVET and vocational centers trainees in South Sudan.

The curriculum will be piloted for a complete cycle of three months and based on the expressed experiences of the users, its content will be adjusted accordingly. It is further recommended that this curriculum should be reviewed after every five years

to make its content current with the rapidly changing technology that requires new skills development and practice.

1.3 WHY DEVELOP A CURRICULUM FOR AGRIBUSINESS?

Agricultural sector plays a very important role in South Sudan's economy. South Sudan is among global leaders in livestock production per capita. It is ranked 2nd in Africa after Egypt (Andy Gatley 2018). A great number of South Sudanese communities are pastoralist in nature. The country is endowed with a number of rivers including river Nile and Bar-el Ghazal. A part from the availability of water resources, the country lies on equatorial climate and is the home to Sudd swamp, which is the second largest swamp in the world after the Amazon in USA. The prevailing climatic conditions are favorable for the practice of Agriculture. Additionally, the country receives an average of 2000mm of rainfall in a year. It has the longest sunshine time, which makes crops to grow faster.

Thus, Agriculture has a huge potential of creating employment, supporting livelihood and reducing poverty in South Sudan. Despite this huge potential in agricultural production, South Sudan still imports foodstuff from the neighboring countries such as Uganda, Ethiopia, Sudan and Kenya. Although there is a growing number of large Agricultural farms in South Sudan, majority of skilled workers employed in these farms come from the neighboring countries.

Therefore, provision of training in vocational skills in Agribusiness is required to create employment and sustainable source of income for the locals.

This curriculum aims to develop skilled workers with practical hands-on experience in doing agriculture as a business venture or be employed at junior level in

Agribusiness. The course has modularised the employable skills needed for the Agricultural sector in line with the training needs assessment. The trainees of this program will find ready employment, and / or could venture into their own farming to support their livelihood and those of their families.

1.4 AN OVERVIEW OF SOUTH SUDAN VOCATIONAL QUALIFICATION LEVELS AND DESCRIPTORS.

There is a set of descriptors that set out the expectations of each level as outlined in Table 1.4:

Table 1.4: South Sudan Vocational Qualification Levels and Descriptors

Level	Certificate Types	Level Descriptors			
		Problem Solving Capabilities/ Information Processing	Level of Accountability, Responsibility and Autonomy	Level of Knowledge and Skills	Level of Tasks/ Operational Environment
Short Term Training	Foundation	<ul style="list-style-type: none"> Carry out routine tasks 	<ul style="list-style-type: none"> Work under guidance 	<ul style="list-style-type: none"> Basic knowledge and skill 	<ul style="list-style-type: none"> No complexity of work, very routine level
Intermediate					
1	Proficient	<ul style="list-style-type: none"> Carry out simple tasks 	<ul style="list-style-type: none"> Work under direct supervision 	<ul style="list-style-type: none"> Basic general knowledge Ability to apply basic skills 	<ul style="list-style-type: none"> Competence to work on a defined range of activities under routine and predictable conditions Low value of complexity, interconnection, in-transparency and dynamics; high degree of stability
2.	Artisan	<ul style="list-style-type: none"> Use relevant information; solve routine problems using simple rules and tools 	<ul style="list-style-type: none"> Some autonomy; work under supervision 	<ul style="list-style-type: none"> Basic factual knowledge of a field of work Ability to apply basic cognitive and practical skills 	<ul style="list-style-type: none"> Competence to work on a range of varied activities in a clearly defined context Average value of interconnection; low value of dynamics
3.	Crafts person	<ul style="list-style-type: none"> Solve problems by selecting and applying basic methods, materials and information 	<ul style="list-style-type: none"> Responsibility for completion of work tasks; some leadership in 	<ul style="list-style-type: none"> Knowledge of facts, principles, processes and general concepts in a field of work Ability to apply a range of cognitive and practical skills 	<ul style="list-style-type: none"> Competence to adapt own behaviour to circumstances in solving problems; competence to work in a range of roles in a variety of contexts High value of interconnection, in-transparency and dynamics
4.		<ul style="list-style-type: none"> Generate solutions to specific problems in a field of work 	<ul style="list-style-type: none"> Supervise the routine work of others; some responsibility for evaluation and improvement of work activities; leadership and guidance in organising activities of self and others 	<ul style="list-style-type: none"> Factual and theoretical knowledge in broad contexts within a field of work Ability to apply expertise in a range of cognitive and practical skills 	<ul style="list-style-type: none"> Competence in self-management within the guidelines of work contexts which are usually predictable, but subject to change; competence to work on a broad range of varied activities and in a wider variety of contexts, most of which are complex and non-routine Considerably high degree of interconnection, in-transparency and dynamics

1.5 ORGANISATION AND PRESENTATION OF THE CURRICULUM

This curriculum document is presented in six sections namely:

SECTION ONE:	General Introduction
SECTION TWO:	Curriculum Program Structure and Information
SECTION THREE:	Organization of the Training Course Content
SECTION FOUR:	Modules Syllabus for Agribusiness
SECTION FIVE:	Curriculum Development Process and Team
SECTION SIX:	Appendices

SECTION TWO: CURRICULUM PROGRAM STRUCTURE

The aim of this Level I course is to provide knowledge, positive attitudes and practical skills to people who would like to enter the world of work as employees or be self-employed in the Agriculture sector. This course has been designed and developed to achieve its objectives of providing multi-skills in agribusiness.

2.1 CODE

2.2 QUALIFICATION TITLE

Certificate in Agribusiness

2.3 SECTOR

Agriculture Industry

2.4 LEVEL OF QUALIFICATION

Proficiency (Level I)

2.5 COURSE DURATION

1140 Hours

2.6 MINIMUM ENTRY REQUIREMENTS

This course is open to all persons who have attained the age 14 years.

2.7 TRAINING PROVIDER REQUIREMENTS

- Training infrastructure (workshops, classrooms, offices and toilet facilities)
- Governance structure for the institution
- Tools, equipment, machinery, materials, stationery reference materials and books as outlined in the course modules
- Communication facility
- Security
- Sustainable source of water and power
- Organised Governance system

2.8 COURSE COMPETENCIES

After completion of the training, trainees would be able to have the following competencies:

2.8.1 Core-Competencies: -

- Maintain agricultural tools and equipment
- Practice farming as a business
- Perform basic calculations and measurements in agribusiness

2.8.2. Cross-Cutting Competencies:-

- Maintain occupational safety and health rules and regulations
- Undertake entrepreneurial activities
- Exhibit basic business management skills

2.9 TRAINING PROGRESSION

The trainee who qualifies at this Level can progress to the next Level.

2.10 JOB OPPORTUNITIES

The trainee of this course would be employed in the following sectors:

- Agribusiness enterprises
- Work as artisans in agricultural establishments
- Be self-employed as agri-entrepreneurs
- Work in public or private institutions
- Provide food security in the family

The course comprises of basic theory, practical skills, and industrial attachment. It is structured into Core Modules and Common Modules. Modules are subdivided into Units of Learning, which are further sub-divided into Learning Outcomes with Assessment Criteria. Each module is a comprehensive self-contained short course lasting approximately 120 hours.

SECTION THREE: STRUCTURE AND ORGANIZATION OF COURSE CONTENTS

3.1 TEACHING STRATEGIES IN A COMPETENCY-BASED APPROACH

Competency-based training is based on defined competency standards, which are established by industry. The traditional role of a trainer changes and shifts towards facilitation of training. A facilitator encourages and assists trainees to learn by themselves. Trainees learn at their own pace. Individual differences are considered. Trainees present themselves for assessment only when they are ready. As trainees learn at different paces, they might well be at different stages in their learning, thus learning must be tailored to suit individual needs.

3.2 SEQUENCE OF DELIVERY OF THE MODULES

The curriculum for Agribusiness (Proficient Level), consists of eleven (11) modules. The delivery of the modules (sequence) should be as follows:

Module 1: Trade theory, safety, tools and equipment for Agribusiness

Module 2: Crop production (Agronomist)

Module 3: Dairy Farmer

Module 4: Production of Layers

Module 5: Production of Broilers

Module 6: Fish Farming/Aquaculture

Module 7: Agricultural Economist

Module 8: Animal Production

Module 9: Agricultural Engineering

Module 10: Soil Science

Module 11: Horticultural Farming

Learning units within the modules can be delivered interchangeably in an integrated approach as applicable.

3.3 ASSESSMENT

Trainees will be assessed through formative and summative assessment focusing on performance criteria. A variety of assessment methods will be applied as shown below. The trainee has to pass in continuous or formative assessment, which is conducted by an instructor. Each module has to be assessed and the trainee has to meet the required industry standard.

Final assessment is a quality assurance process, which will be conducted by an approved assessor before the trainee is awarded module or a Level Certificate of Competence.

Trainee's assessment records will be kept in a trainee's logbook. The trainer can apply any of the following modes of assessment as deemed appropriate:

- Oral Questioning, Presentations by trainees, written tests (Short questions),
- Assessment of group work (small manageable groups),
- Performance Assessments and Observation.

The result of assessment is **COMPETENT OR NOT YET COMPETENT**. A trainee assessed as **NOT YET COMPETENT** repeats the process until the required Competency Standard is attained.

3.4 CERTIFICATION CRITERIA AND PROCEDURES

In Competence-Based Education and Training (CBET), assessment is criterion-based. The criteria of assessment are provided as learning elements alongside learning outcomes. A trainee will be assessed using the learning elements and he/she has to prove that they are competent in each Learning Outcome in every Unit of Learning, before he/she can be awarded Module Certificate.

3.5 RECOGNITION OF PRIOR LEARNING (RPL)

Trainees joining a course with competencies acquired through any experience shall be allowed to request for RPL on a unit-by-unit basis. Such trainees shall be subjected to assessment in the units for which they claim competence. Upon verification of competence, the trainee shall be awarded credit, allowed to proceed to the next unit, and awarded module competency certificate upon successful assessment result in all units for the module enrolled for.

3.6 INTERNAL AND EXTERNAL QUALITY ASSURANCE

The relevant competent authority must accredit trainers implementing this curriculum for TVET. They will be responsible for both helping the trainees to learn and in continuous assessment of their training progress. Assessors approved by the competent authority for TVET shall conduct summative assessment for quality assurance.



4 SECTION FOUR: SYLLABUS FOR AGRIBUSINESS LEVEL I MODULES OF COMPETENCY

Table 4.1: Modules of Competency for COP in Agribusiness

Unit Code	Unit Title	Elements of Competency	Total Hours	On the Job Training Hours
4.1	Trade theory, safety, tools and equipment for Agribusiness	4.1.1 Introduction to Agribusiness 4.1.2 An over view of Agribusiness Trade 4.1.3 Safety issues in Agribusiness 4.1.4 Tools and Equipment for Agribusiness. 4.1.5 The role of Agriculture to the Economy of South Sudan 4.1.6 Trauma awareness and healing 4.1.7 Entrepreneurship and business planning 4.1.7 Assessment of prior Learning Experience 4.1.8 Training delivery and assessment mode.	40	20
4.2	Certificate in Crop Production (Agronomist)	4.2.1 Introduction to crop production 4.2.2 Land preparation 4.2.3 Crop growing practices 4.2.4 vegetable production 4.2.5 Perform Post-Harvest Practices	100	20
4.3	Certificate in Milk Production(Dairy Farming)	4.3.1 Fundamentals of Dairy farming 4.3.2 Systems of Dairy farming 4.3.3 Perform Dairy Cattle Management 4.3.4 Challenges of Dairy farming in South Sudan	100	20
4.4	Certificate in Poultry Farming (Production of Layers and Broilers)	4.4.1 Introduction to Poultry farming 4.4.2 Poultry farming Systems and Techniques 4.4.3 Perform Poultry Production of Layers 4.4.4 Introduction to broilers Production 4.4.5 Perform Poultry Production of Broilers. 4.4.6 Types of Broilers 4.4.7 Challenges facing broilers production in South Sudan. 4.4.8 Challenges of Poultry farming in South Sudan	180	40
4.5	Certificate in Fish Farming/Aquaculture	4.6.1 Concept of Fish Farming 4.6.2 Fish farming Systems 4.6.3 Practice Fish Farming/Aquaculture 4.6.4 Fish Marketing 4.6.5 Fish storage Methods and systems 4.6.6 Challenges of Fish farming in South Sudan	100	20

4.6	Certificate in Agricultural Economics	4.7.1 Introduction to Agricultural Economics 4.7.2 Planning and Budgeting in Agribusiness 4.7.3 Practice Farming as a Business 4.7.4 Record keeping in Agribusiness 4.7.5 Management of Agricultural Finance	80	20
4.7	Certificate in Animal Production	4.7.6 Explanation of the concept of animal production 4.7.7 Knowledge of the types of livestock breeds. 4.7.8 Anatomy and physiology 4.7.9 Understanding livestock production system	80	20
4.8	Certificate in Agricultural Engineering	4.8.1 Understanding of the concept of Agricultural Engineering 4.8.2 Explanation of tractor system 4.8.3 Knowledge of Care and maintenance of a Tractor.	80	20
4.9	Certificate in Soil Science	4.9.1 Explanation of the Fundamentals of soil science. 4.9.2 Preparation of Organic manure 4.9.3 Knowledge of Inorganic manure	80	20
4.10	Certificate in Horticultural Farming	4.10.1 Knowledge of Fundamentals of Horticulture 4.10.2 Demonstrate skills for Nursery practices 4.10.3 Skills on horticultural field operations 4.10.4 Explanation of Plant physiology 4.10.5 Description of crop rotation	80	20
	TOTAL		920	220

4.1 MODULE 4.1: TRADE THEORY, SAFETY, TOOLS AND EQUIPMENT IN AGRIBUSINESS

Table 4.1: Trade theory, Safety, Tools and equipment for Agribusiness module

Module Code:	4.1		
Module Level:	I		
Total Hours:	100		
Prerequisite	14 years of age		
MODULE Descriptor:	<p>This introductory module introduces the trainee to the occupation of Agribusiness and its benefits. The Trainee gets to know why he or she should take up a career in Agribusiness. It goes further to discuss the career profile and employment opportunities for the holder of Level I Certificate of Proficiency in Agribusiness.</p> <p>The module discusses the issues surrounding trauma awareness and a clear statement of the characteristic features of a traumatised person and gives skills on how to handle a traumatised person. It also trains the trainees on the practice of occupational health and safety as applicable to Agribusiness. It goes further to introduce the participants to the tools, Machines and Equipment for use in the practice of Agribusiness trade and their relevant uses.</p> <p>Through this module, the trainer considers assessment and recognition of any prior learning experience of the trainee. It also explains to the trainee, the scope of the course and trainees are given opportunity to raise up any concern. The instructor would explain to the trainee the course learning and assessment requirement. At the end of this module, the trainees are to be motivated and get convinced that they are in the right profession and should have their interest improved.</p>		
Unit of Learning	4.1.1.: Introduction to Trade Theory		
Learning Outcomes	Learning Elements	TTH	PTH
4.1.1.1 Introduction to Agribusiness trade.	<ul style="list-style-type: none"> • Discussion of the Agribusiness trade as a profession of study. • Knowledge of Career opportunities for holders of Level I Certificate of Proficiency in Agribusiness trade. 	3	9
4.1.1.2 Tools, Machines and Equipment used in Agribusiness	<ul style="list-style-type: none"> • Familiarity with Tools and Equipment for the use in Agribusiness. • Clear statement of relevant Tools, equipment and materials for Agribusiness 	3	9

4.1.1.3 Occupational Health and Safety practices for Agribusiness	<ul style="list-style-type: none"> • Knowledge of risks issues in the practice of Agribusiness. • Observe and practice Occupational health and safety in Agribusiness. • Identify potential hazards in the occupation of Agribusiness. 	3	9								
4.1.1.4 Trauma awareness	<ul style="list-style-type: none"> • Discussion and explanation of the concept of Trauma. • Demonstration of skills in dealing with a traumatised person. • Identification of a traumatised person • Procedure of dealing with a traumatised person. 	3	9								
4.1.1.5 Practice of Hygiene in Agribusiness profession.	<ul style="list-style-type: none"> • Explain the concept of Hygiene and its applicability to Agribusiness profession. • Know the reasons for the practice of good Hygiene in Agribusiness environment. • Demonstrate an understanding of the dangers of inhygienic conditions in Agribusiness trade. 	3	9								
4.1.1.6 Training initial assessment and evaluation	<ul style="list-style-type: none"> • Self-competency Assessment • Assessment of prior learning experience if any. • Identification of learning challenges on the side trainees if any • Areas of learning needs identified. 	2	6								
4.1.1.7 Discussion on program delivery and Assessment.	<ul style="list-style-type: none"> • Discussion of the Concept of competency-based training and learning • Clear understanding and demonstration of the concept of Formative and Summative assessment. • Explanation of the Course progression ladder. • Explanation of basic program delivery rules and regulations. • Demonstration on Proper usage of trainee's guides. 	3	9								
Resources	<ul style="list-style-type: none"> • Curriculum • Trainee's guides, • Teacher's guide, • reference books • OHS guides • An established Hotel for demonstration 										
Teaching/Training Methodology	Lecture, demonstration, simulation, discussion, practical assignments										
Assessment Method	<table border="0"> <tr> <td>1. Oral Questioning,</td> <td>4. Simulation,</td> </tr> <tr> <td>2. Presentations by Trainees,</td> <td>5. Performance Assessments,</td> </tr> <tr> <td>3. Written tests (Short questions)</td> <td>6. Observation,</td> </tr> <tr> <td></td> <td>7. Projects</td> </tr> </table>			1. Oral Questioning,	4. Simulation,	2. Presentations by Trainees,	5. Performance Assessments,	3. Written tests (Short questions)	6. Observation,		7. Projects
1. Oral Questioning,	4. Simulation,										
2. Presentations by Trainees,	5. Performance Assessments,										
3. Written tests (Short questions)	6. Observation,										
	7. Projects										

4.2 MODULE 4.2: CROP PRODUCTION (AGRONOMIST)

Table 4.2: Practices of Crop Production Module

Module Code:	4.2		
Module Level:	I		
Total Hours:	120		
Prerequisite	14 years of age		
MODULE Descriptor:	The module describes crop production as a discipline in the agriculture sector. Trainees of the module are expected to have the competency of producing a selected crop through all cycle, from field preparation to harvesting. They should also be able to carry out post-harvest practices, and market part of the produce to generate income for the family. The trainee should be able to cope with modern trends in practicing farming as a business. The trainees of the module can be deployed as an Agribusiness Assistant in crop production under close supervision.		
Unit of Learning	4.2.1 Perform crop growing practices		
Learning Outcomes	Learning Elements	TTH	PTH
4.2.1.1 Describe crop production in relation to agribusiness	<ul style="list-style-type: none"> • Definition of Agribusiness and agriculture • Explanation of Agriculture as an Art and a Science • Identification of various branches of Agriculture • Importance of Crop production in Agribusiness • Identification of Various problems facing Crop production. • Explanation of Environmental factors and their effects on Crop production in South Sudan. 	1	3
4.2.1.2 Identify farm tools and equipment	<ul style="list-style-type: none"> • Identification of Types of farm tools and equipment for Crop production • Labeling of Parts of farm tools and equipment • Use of the farm tools and equipment • Maintenance of Farm tools and equipment 	1	3
4.2.1.3 Carry out land clearing	<ul style="list-style-type: none"> • The importance of land clearing • Performance of primary cultivation • Carrying out Secondary cultivation • Observation of safety while using cultivation tools and equipment. 	2	6
4.2.1.4 Perform Nursery practices	<ul style="list-style-type: none"> • Description of Seedbed • Preparation of nursery bed • Selection of site for a nursery bed • Management of Nursery • Carrying out transplantation from a nursery bed to farm land 	2	6

4.2.1.5 Carry out field practices	<ul style="list-style-type: none"> Performing crop rotation Discussion of Importance of crop rotation Explanation of factors determining crop rotation Explanation of terms used in crop production Carrying out of mulching in Crop production. Performing routine field practices Explanation of the meaning of earthing up Meaning of crop protection 	3	9
Unit of Learning	4.2.2 Practice vegetable production		
Learning Outcomes	Learning Elements	TTH	PTH
4.2.2.1 Select appropriate vegetable	<ul style="list-style-type: none"> Importance of different types of vegetables Identification of factors limiting vegetables production Identification of Vegetables grown at each ecological zone in South Sudan 	2	6
4.2.2.2 Prepare land for vegetables	<ul style="list-style-type: none"> Identification of reasons for land preparation Explanation of types of land preparation (Primary and Secondary cultivation) Manuring of land 	3	9
4.2.2.3 Plant vegetables	<ul style="list-style-type: none"> Discussion of methods of planting Explanation of correct planting depth for vegetables Discussion of crop spacing in planting vegetables. Calculation of seed rate 	3	9
4.2.2.4 Protect vegetable crops	<ul style="list-style-type: none"> Identification of Important factors in crop pests, diseases and weeds control Classification of crop pests, diseases and weeds Methods of pest, diseases and weeds control 	3	9
4.2.2.5 Manage vegetable crops fields	<ul style="list-style-type: none"> Performing field Inspection Mapping of Fertility, pest and diseases in the field Top-dressing and spraying of crops 	2	6
4.2.2.6 Carry out farm conservation practices	<ul style="list-style-type: none"> Protection of useful organisms from damage Perform good agricultural practices Protection and planting of hedges and trees Practice of the use of organic manure in growing crops 	2	6
4.2.2.7 Market vegetables	<ul style="list-style-type: none"> Identification of specific market for different vegetables Packaging of the produce for the market Identification of Packing tools and equipment 	1	3

Unit of Learning		4.2.3 Perform Post-Harvest Practices	
Learning Outcomes	Learning Elements	TTH	PTH
4.2.3.1 Perform post-harvest practices	<ul style="list-style-type: none"> Drying of harvested produce Sorting of harvested produce Grading of harvested produce 	2	6
4.2.3.2 Perform harvest and postharvest handling of vegetables	<ul style="list-style-type: none"> Identification of maturity indicators Discussion of Harvesting methods Carrying out Post- harvest practices Importance of storage 	3	9
4.2.3.3 Identify pertinent issues and trends in post-harvest practices	<ul style="list-style-type: none"> Identification of the Challenges posed by emerging issues and trends in post-harvest practices Explanation of ways of coping with challenges posed by emerging issues and trends in post-harvest practices 	1	3
Resources	<ul style="list-style-type: none"> Lining chain, planting trowel, pruning knives, hoe, 'pangas', garden rakes, slashers, spades, shovels, watering cans, hoe rakes/pronged hoes, measuring tape, sisal string, pegs Demonstration plots. Vegetable seed for: fruit crops (tomatoes, cucumber, pumpkin, eggplant and okra), leafy vegetable crops (cabbage, onions, kale and Jews mallow), legume crops (common beans, groundnuts, soya beans, French beans, grams i.e. green and black, cow peas and pigeon peas), bulb vegetable crops (Onions and garlic), root vegetable crops (Carrots and potatoes), floral vegetable crops (Cauliflowers), mushrooms 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> Practical demonstration Practical involvement of trainees Group discussion Learners facilitation 		
Assessment Method:	<ul style="list-style-type: none"> Practical test Oral test Written test Performance self-assessments and Observation Assessment of group work (small manageable groups) 		

4.3 MODULE 4.3: DAIRY FARMING

Table 4.3: Dairy farming Module

Module Code:	4.3		
Module Level:	I		
Total Hours:	120		
Prerequisite	14 years of age		
MODULE Descriptor:	The module involves studying practical skills of managing dairy cattle for producing high-quality milk products at minimum cost. Special emphasis is on housing, feeds and feeding, pests and disease control. It highlights management practices that result in the production of high-quality milk and associated milk products. The trainees of the module can be deployed as a Dairy Assistants in dairy farms and work under close supervision.		
Unit of Learning	4.3.1 Perform Dairy Cattle Management		
Learning Outcomes	Learning Elements	TTH	PTH
4.3.1.1 Explain and understand the economic importance of dairy cattle	<ul style="list-style-type: none"> • Reasons for keeping dairy cattle • Listing of different types of dairy breeds • Limitations of dairy farming 	2	5
4.3.1.2 Explain housing for dairy cattle	<ul style="list-style-type: none"> • Explanation of the importance of housing for dairy cattle • Identification of Tools and equipment required in a dairy cattle house • Listing of structures required in dairy farming 	4	12
4.3.1.3 Carry out routine management practices in dairy farming	<ul style="list-style-type: none"> • Preparation of dairy cattle ration • Feeding of different classes of dairy cattle • Listing of different types of identification for calves • Outlining of the Procedure of deworming calves • Carrying out deworming in calves • Listing of methods of castration used in calves • Observation of safety while handling cattle 	6	18
4.3.1.4 Explain clean milk production	<ul style="list-style-type: none"> • Stating ways of stimulating milk let down in dairy cattle • Procedure to be followed for clean milk production • Explanation of dairy cow therapy • Explanation of proper milk storage 	5	15
4.3.1.5 Explain and practice milk processing and marketing	<ul style="list-style-type: none"> • Explanation of how milk is processed • Milk processing • Formulation of Milk cream • Explanation of marketing of milk • Identification of Markets for milk • Calculation of the gross margin in milk sales 	4	12

4.3.1.6 Practice feeding management in dairy cattle	<ul style="list-style-type: none"> • Definition of carrying capacity of fodder in dairy farming • Explanation of importance of carrying capacity in dairy farming • Identification of types and nutritive value of pasture in South Sudan • Preparation of hay and silage • Management of Feeding in dairy cattle • Observation of safety while feeding cattle 	3	12
4.3.1.7 Acquire knowledge and understanding of pests and diseases of dairy cattle	<ul style="list-style-type: none"> • Identification of pests and diseases • Description of ways of controlling pests and diseases 	3	9
4.3.1.8 Observe safety in a dairy unit	<ul style="list-style-type: none"> • Identification of causes of accidents in a dairy unit • Outlining emergency handling procedures in dairy farming • Explanation of Methods of waste disposal in dairy farming • Following of accident reporting procedure • Selection of content of a first aid box • Carrying out first aid treatment in dairy farming 	1	3
4.3.1.9 Identify pertinent issues and trends in dairy cattle management	<ul style="list-style-type: none"> • Identification of challenges posed by emerging issues and trends in dairy cattle management • Explanation of ways of coping with challenges posed by emerging issues and trends in dairy cattle management 	2	4
Resources	<ul style="list-style-type: none"> • Live cows, Milking tools and equipment, Cattle feeds, Cattle shed,elastator, buddizzo, syringes and needles, thermometer, halter and rope, hoof trimmer, strip cup, trocar and canula, wool shear, ear-notcher, bull ring and lead stick, bucket, bucket pump, milk churn, milk strainer/sieve, milking salve, weighing balance, hot iron, drenching gun/dosing gun and bolus gun, dehorning wire, chaff cutter, nose ring, leading rod, ropes and halters, 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement of trainees • Group discussion 		
Assessment Method:	<ul style="list-style-type: none"> • Oral and Written questions • Practical performance assessments by observation. • Assessment of group work (small manageable groups) • Product 		

4.4 MODULE 4.4: PRODUCTION OF LAYERS

Table 4.4: Production of Layers Module

Module Code:	4.4		
Module Level:	I		
Total Hours:	120		
Prerequisite	14 years of age		
MODULE Descriptor:	The module on production of layers discusses intensive production system. The module units include construction of deep litter house, equipment, artificial brooding, feeds and feeding routine management practices, pest and disease control, marketing and calculation of simple feeding ratios. Trainees can effectively manage a profitable poultry enterprise or be deployed to manage a poultry enterprise as Poultry Producer Assistant under close supervision.		
Unit of Learning	4.4.1 Perform Poultry Production of Layers		
Learning Outcomes	Learning Elements	TTH	PTH
4.4.1.1 Discuss the importance of Poultry production	<ul style="list-style-type: none"> Explanation of poultry production as a source of food Identification of different Types of poultry Knowledge of safety precautions in production of layers 	2	6
4.4.1.2 Discuss poultry production systems	<ul style="list-style-type: none"> Identification of Systems of keeping poultry Factors to consider in Poultry production system Identification of materials required 	2	6
4.4.1.3 Identify equipment and litter	<ul style="list-style-type: none"> Demonstration of tools and equipment used in poultry keeping Identification of types of litter 	2	6
4.4.1.4 Plan poultry enterprise on layers production	<ul style="list-style-type: none"> Listing of sources of information Stating of necessity of planning in poultry production Carrying out of market survey for eggs 	2	6
4.4.1.5 Purchase the stock	<ul style="list-style-type: none"> Making decision on economical number of birds Purchasing of stock Ordered 	2	6
4.4.1.6 Prepare artificial brooder	<ul style="list-style-type: none"> Construction of the brooder Disinfection and heating of the Brooder Managing Brooder 	3	8
4.4.1.7 Practice brooding management	<ul style="list-style-type: none"> Maintaining hygiene in brooding Observation of ethics and integrity Observation of safety while using brooders 	2	6
4.4.1.8 Manage chicken	<ul style="list-style-type: none"> Determination of the amount of feed and water required Carrying out vaccination against common diseases Doing prevention of parasites 	4	12

4.4.1.9 Perform routine poultry management practices	<ul style="list-style-type: none"> • Feeding of chicken • Collection of eggs • Cleaning of equipment • Addition and turning of litter • Culling of Chicken • Weighing chicken 	3	9
4.4.1.10 Identify Poultry vices	<ul style="list-style-type: none"> • Identification of common vices • Prevention of vices 	2	4
4.4.1.11 Carry out pests and diseases control	<ul style="list-style-type: none"> • Identification of common pests and diseases of poultry • Controlling pests and diseases • Observation of safety while controlling pest and diseases 	2	4
4.4.1.12 Practice Poultry enterprise records management and marketing	<ul style="list-style-type: none"> • Identification of types of poultry enterprises • Explanation of the importance of keeping good poultry records • Maintaining required standards of poultry enterprise records • Identification of market outlets • Carrying out marketing of poultry and poultry products 	3	6
4.4.1.13 Observe safety in a poultry unit	<ul style="list-style-type: none"> • Identification of causes of accidents in a poultry unit • Outlining of emergency handling procedure • Explanation of methods of waste disposal • Following procedure for reporting accident • Selection of the Content of a first aid box • Carrying out of first aid treatment 	2	4
4.4.1.14 Identify pertinent issues and trends in production of layers	<ul style="list-style-type: none"> • Identification of challenges posed by emerging issues and trends in production of layers • Explanation of ways of coping with challenges posed by emerging issues and trends in production of layers 	2	4
Resources	<ul style="list-style-type: none"> • Poultry house • Live poultry birds • Poultry feeds • Feed troughs • Drinkers and water, • Brooder equipment, Candler • Laying nests, rooster/perches, leg crook, among others 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement of trainees • Group discussion • Field visits 		
Assessment Method:	<ul style="list-style-type: none"> • Oral • Written • Practical performance assessments by observation. • Assessment of group work (small manageable groups) 		



4.5 MODULE 4.5: PRODUCTION OF BROILERS

Table 4.5: Production of Broilers Module

Module Code:	4.5		
Module Level:	I		
Total Hours:	100		
Prerequisite	14 years of age		
MODULE Descriptor:	The module on production of broilers discusses intensive poultry production system. The module units include construction of deep litter house, equipment, artificial brooding, feeds and feeding routine management practices, pest and disease control, marketing and calculation of simple feeding ratios. Trainees can effectively manage a profitable poultry enterprise or be deployed to manage a poultry enterprise as a Broiler Producer Assistant under close supervision. It imparts practical production skills, as well as trains in enterprise planning, that enables the trainee to assess enterprise viability.		
Unit of Learning	4.5.1 Perform Poultry Production of Broilers		
Learning Outcomes	Learning Elements	TTH	PTH
4.5.1.1 Discuss the importance of broiler production	<ul style="list-style-type: none"> Explanation of Production of broilers as a source of food Identification of types of broilers Observation of safety precautions in production of broilers 	2	6
4.5.1.2 Discuss production systems	<ul style="list-style-type: none"> Identification of systems of keeping broilers Listing of the factors to consider in setting up a poultry production system. Identification of materials required 	2	6

4.5.1.3 Identify equipment and litter	<ul style="list-style-type: none"> • Identification of tools and equipment used in the production of broilers • Identification of types litter 	2	6
4.5.1.4 Plan an enterprise on broiler production.	<ul style="list-style-type: none"> • Listing of the sources of information • Explanation of the necessity of planning broiler production • Carrying out market survey 	2	6
4.5.1.5 Construct a deep litter house	<ul style="list-style-type: none"> • Decision making on Economic plan of a deep litter house • Purchasing of Building materials ordered • Carrying out construction work 	1	3
4.5.1.6 Purchase the stock	<ul style="list-style-type: none"> • Decision making on economical number of birds to be purchased • Purchasing of chicks ordered 	2	6
4.5.1.7 Prepare artificial-brooder	<ul style="list-style-type: none"> • Construction of brooder • Disinfection and heating of brooder • Management of brooder 	2	6
4.5.1.8 Perform brooding management	<ul style="list-style-type: none"> • Maintaining hygiene in broiler production • Observation of ethics and integrity 	2	6
4.5.1.9 Manage broilers	<ul style="list-style-type: none"> • Determination of the required amount of feed and water • Vaccination against common diseases • Prevention of Parasites 	2	6
4.5.1.10 Perform routine management practices in production of broilers	<ul style="list-style-type: none"> • Feeding of broilers • Cleaning of equipment • Addition and turning of Litter • Weighing of broilers 	3	9
4.5.1.11 Identify vices exhibited by broilers	<ul style="list-style-type: none"> • Identification of common vices • Carrying out vices prevention practices 	2	4
4.5.1.12 Carry out pests and diseases control	<ul style="list-style-type: none"> • Identification of challenges posed by emerging issues and trends in production of layers • Explanation of ways of coping with challenges posed by emerging issues and trends in production of layers 	2	4
4.5.1.13 Perform broiler enterprise records management and marketing	<ul style="list-style-type: none"> • Identification of various types of broiler enterprise records • Outlining the Importance of keeping good records • Maintaining required standards • Identification of market outlets • Marketing of broilers 	3	9
4.5.1.14 Observe safety in a broiler unit	<ul style="list-style-type: none"> • Identification of causes of accidents in a broiler unit • Outlining of Emergency procedure • Explanation of methods of refuse disposal • Following of the right procedure for reporting accidents. • Selection of the content of a first aid box • Carrying out of first aid treatment 	2	4

4.5.1.15 Identify pertinent issues and trends in production of broilers	<ul style="list-style-type: none"> • Identification of challenges posed by emerging issues and trends in production of broilers • Explanation of ways of coping with challenges posed by emerging issues and trends in production of broilers 	2	6
Resources	<ul style="list-style-type: none"> • Poultry house • Live poultry • Poultry feeds • Feed troughs • Drinkers • Litter, rooster/perches, leg crook, among others 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement of trainees • Group discussion 		
Assessment Method:	<ul style="list-style-type: none"> • Practical test • Oral test • Written test • Performance Assessments and Observation. 		





4.6 MODULE 4.6: FISH FARMING/AQUACULTURE

Table 4.6: Fish Farming/Aquaculture Module

Module Code:	4.6		
Module Level:	I		
Total Hours:	120		
Prerequisite	Attainment of 14 years of age		
MODULE Descriptor:	This module discusses fish farming with emphasis on production systems, types of fish, management practices, harvesting, storage and marketing. The trainees can effectively run a fish enterprise or be employed in any fish industry as Fishery Assistant under supervision. They will acquire special knowledge and skills in fish farming to enable production of high quantity and quality fish. The trainee will also acquire skills in marketing the fish.		
Unit of Learning	4.6.1 Practice Fish Farming/Aquaculture		
Learning Outcomes	Learning Elements	TTH	PTH
4.6.1.1 Identify types of fish	<ul style="list-style-type: none"> • Identification of types of fish • Knowledge of the Importance of fish • Explanation of the conditions which limit rearing of fish 	2	6
4.6.1.2 Select fish production systems	<ul style="list-style-type: none"> • Understanding of the Systems for rearing fish • Explanation of advantages and disadvantages of each fish rearing system • Factors to consider in selecting fish rearing system 	2	6
4.6.1.3 Select site for fish farming	<ul style="list-style-type: none"> • Discussion of factors to considered when selecting a site for fish rearing • Explanation of the process of selecting a source of water. • Identification of suitable soil for a fish pond 	3	9

4.6.1.4 Construct fish pond	<ul style="list-style-type: none"> • Identification of types of fish ponds • Knowledge of factors to be considered when constructing a fish pond • Fish pond Constructed • Decision making on the shape of a fish pond • Identification of tools and equipment required for Construction of a fish pond 	4	12
4.6.1.5 Maintain fish pond	<ul style="list-style-type: none"> • Repair and maintenance of a fish pond • Listing of the features of a fish pond • Maintaining water levels in a fish pond 	3	9
4.6.1.6 Stock the fish pond	<ul style="list-style-type: none"> • Gathering of basic inputs • Sourcing of fingerlings • Sourcing breeding stock • Following the right procedure for stocking the pond 	3	9
4.6.1.7 Manage fish pond	<ul style="list-style-type: none"> • Carrying out routine management practices • Fish feeding • Controlling weeds in the pond 	3	9
4.6.1.8 Control fish pests and diseases	<ul style="list-style-type: none"> • Identification of common fish diseases and pests • Control of pests and diseases 	3	9
4.6.1.9 Harvest and market fish	<ul style="list-style-type: none"> • Description of the factors to consider before harvesting • Identification of tools and materials • Listing methods of harvesting fish • Explanation of the procedure for harvesting fish • Fish processing • Fish preservation • Fish packaging and marketing 	4	12
4.6.1.10 Observe safety in fish pond	<ul style="list-style-type: none"> • Identification of causes of accidents in a fish pond • Following emergency procedures • Explanation of methods of waste disposal • Knowledge of accident reporting procedures • Selection of contents of a first aid box • Carrying out of First aid treatment 	1	3
4.6.1.11 Identify pertinent issues and trends in fish farming	<ul style="list-style-type: none"> • Identification of challenges posed by emerging issues and trends in production of fish • Explanation of ways of coping with challenges posed by emerging issues and trends in production of Fish 	2	6

Resources	<ul style="list-style-type: none"> • Fish ponds • Fingerlings • Fish nets • Fish food • Equipment needed
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement by the trainees • Group discussion
Assessment Method:	<ul style="list-style-type: none"> • Oral • Written • Practical performance assessments and observation. • Assessment of group work (small manageable groups)



4.7 MODULE 4.7: AGRICULTURAL ECONOMIST

Table 4.7: Agricultural Economist Module

Module Code:	4.7		
Module Level:	I		
Total Hours:	100		
Prerequisite	Attainment of 14 years of age		
MODULE Descriptor:	This module is designed for persons interested in practicing farming for earning a living. It gives insight on the role of the farmer as a manager and emphasizes on appropriate book keeping and drawing up of a business plan. The module also discusses ways of accessing financial credit. The trainees will be able to handle agricultural businesses effectively and will be able to determine their financial position. They can work effectively as technical assistants able to make informed decisions.		
Unit of Learning	4.7.1 Practice Farming as a Business		
Learning Outcomes	Learning Elements	TTH	PTH
4.7.1.1 Explain Farm business and economics of farming	<ul style="list-style-type: none"> • Explanation of farming as a business • Description of the concept and Importance of agricultural economics • Discussion of financial literacy for agribusiness practitioners. • Explanation of the concept of economies of scale 	2	5
4.7.1.2 Explain Basic concepts of economics	<ul style="list-style-type: none"> • Explanation of the basic concepts of economics <ul style="list-style-type: none"> – Resources scarcity – Preferences and choice in an enterprise – Opportunity cost in enterprise management 	3	9
4.7.1.3 Explain Land tenure and land reform	<ul style="list-style-type: none"> • Definition of the concept of land tenure system • Description of the process of tenure systems • Discussion of Land reforms in South Sudan • Explanation of the process of buying land 	3	12
4.7.1.4 Illustrate Agricultural production economics	<ul style="list-style-type: none"> • Explanation of Sustainable parameters of national development with a focus on national development related to sustainable agricultural production • Factors of production and their reward • Explanation of how each factor of production affects production in agribusiness practice. • Description of the relationship between the law of diminishing returns to agricultural production. • Knowledge of risks and uncertainties in farming • Explanation of ways of adjusting to risks and uncertainties 	3	12

4.7.1.5 Keep Farm records	<ul style="list-style-type: none"> • Definition of Farm records • Description of the purpose of farm records • Explanation of the functions of the farm records • Knowledge of types of agricultural records. 	3	12
4.7.1.6 Develop Farm Business Plan	<ul style="list-style-type: none"> • Definition of a farm business plan • Importance of a farm business plan • Explanation of the reason why the farm business plan must be in a written form • Ways of assessing agribusiness ideas. • Knowledge of the sources of information to assist in assessing the agribusiness ideas 	4	12
4.7.1.7 Organize components of a business plan	<ul style="list-style-type: none"> • Generation of agribusiness ideas • Knowledge of the components of an agribusiness plan <ul style="list-style-type: none"> – Title page – Table of contents – Executive summary – Business profit – Marketing plan – Production plan – Human resources plan – Financial plan 	4	12
4.7.1.8 Find Money to Start a Farm Business	<ul style="list-style-type: none"> • Listing factors that determine the requirement for an agribusiness idea. • Factors to consider in selecting the source of funding • Identification of Agribusiness financial services support providers in South Sudan 	3	9
4.7.1.9 Manage money in a farm business	<ul style="list-style-type: none"> • Understanding of the legal issues in handling money • Explanation of ethical issues in handling money • Discussion of values in financial resources management • Explanation of Financial implications of misuse of money • Discussion of the Importance of saving money • Explanation of priorities and choices for the use of money in agribusiness 	2	4
4.7.1.10 Identify pertinent issues and trends in Farm Business	<ul style="list-style-type: none"> • Identification of challenges posed by emerging issues and trends in farm business • Explanation of ways of coping with challenges posed by emerging issues and trends in farm business. 	2	4
Resources:	<ul style="list-style-type: none"> • Chart • Samples of business plans • Text books • Flow chart diagram • Guest speaker • Field visit 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement by the trainees • Group discussion 		
Assessment Method:	<ul style="list-style-type: none"> • Oral • Written • Practical performance assessments and observation. • Assessment of group work (small manageable groups) 		



4.8 MODULE 4.8: ANIMAL PRODUCTIONIST

Table 4.8: Animal Productionist Module

Module Code:	4.8		
Module Level:	I		
Total Hours:	100		
Prerequisite	Attainment of 14 years of age		
MODULE Descriptor:	This module aims at introducing the trainees to the principles of animal husbandry, Livestock breeds, Anatomy and physiology, and livestock production system.		
Unit of Learning	4.8.1 Principles of Animal Husbandry		
Learning Outcomes	Learning Elements	TTH	PTH
4.8.1.1 Explain Animal Husbandry	<ul style="list-style-type: none"> • Understanding of the concept of animal husbandry. • Knowledge of tools and equipment for the practice of animal husbandry. • Description of the Importance of animal husbandry • Discussion of different techniques for animal husbandry. • Explanation of the safety issues in the practice animal husbandry. • Awareness of the knowledge facing animal husbandry in South Sudan 	2	7
4.8.1.2 Livestock breeds	<ul style="list-style-type: none"> • Explanation of the basic concepts of livestock breeds. • Distinction of the different types of livestock breeds. • Matching of the different livestock breeds and their uses • Knowledge of the livestock breeds available in South Sudan. 	3	9

4.8.1.3 Anatomy and Physiology	<ul style="list-style-type: none"> • Knowledge of the concept of anatomy and physiology. • Description of the digestive system of animals. • Discussion of common animal diseases in South Sudan. • Explanation of the functions of different parts of an animal's body. 	3	10
4.8.1.4 Livestock production system	<ul style="list-style-type: none"> • Explanation of the concept of livestock production system. • Knowledge of the factors affecting the choice of a livestock production system. • Demonstration of knowledge of the environment and choice of livestock production system 	3	10
4.8.1.5 Nutrition and feeding of livestock	<ul style="list-style-type: none"> • Definition of nutrition • Knowledge of methods of feeding the livestock. • Various nutrients and their functions. 	3	10
4.8.1.6 Types and categories of livestock's	<ul style="list-style-type: none"> • Definition of the term livestock • Importance of livestock • Explanation of different categories of livestock. 	4	10
4.8.1.7 Animal Health	<ul style="list-style-type: none"> • Understand symptoms of a healthy and a sick animal • Knowledge of various livestock diseases • Demonstrate how to prevent animal diseases. • Administration of care and treatment to the animals. 	4	10
4.8.1.7 Feed production and storage	<ul style="list-style-type: none"> • Types of feeds for different categories of animals • Methods of producing feeds • Methods of storing feeds 	3	8
4.8.1.8 Production of ruminants	<ul style="list-style-type: none"> • Concept and scope of ruminants in animal production • Skills on goat's care and production • Knowledge of care and production of sheep 	3	8
Pigs production	<ul style="list-style-type: none"> • Knowledge of different types of breeds of pigs • Explanation of the construction of a pig's house • Demonstration of knowledge of feeding pigs • Understanding on how to care for the piglets • Performance of pig breeding and management practices. 	4	8
Resources:	<ul style="list-style-type: none"> • Chart • Samples of business plans • Text books • Flow chart diagram • Guest speaker • Field visit 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement by the trainees • Group discussion 		
Assessment Method:	<ul style="list-style-type: none"> • Oral assessment • Written assessment • Practical performance assessments and observation. • Assessment of group work (small manageable groups) 		



4.9 MODULE 4.9: AGRICULTURAL ENGINEERING

Table 4.9 Agricultural Engineering module

Module Code:	4.9		
Module Level:	I		
Total Hours:	100		
Prerequisite	14 years of age		
MODULE Descriptor:	This module is designed for persons interested in becoming Agricultural Engineers. It introduces the fundamentals of Agricultural Engineering, and goes further to introduce the knowledge of tractor systems, and then gives skills for care and maintenance of a tractor. The holder of this qualification will find it very easy to work in mechanised Agricultural farms as a farm engineering assistant. They can also serve as tractor maintenance assistant.		
Unit of Learning	4.9.1 Practice of Agricultural Engineering		
Learning Outcomes	Learning Elements	TTH	PTH
4.9.1.1 Explain the functions of Agricultural Engineering	<ul style="list-style-type: none"> • Explanation of the concept of Agricultural Engineering • Description of the scope and Importance of agricultural engineering. • Discussion of farm mechanisation. • Knowledge of different types of Agricultural Engineering. 	10	10
4.9.1.2 Explain the tractor system	<ul style="list-style-type: none"> • Explanation of the functions of different parts of the tractor. • Principles of operation of tractors. • Knowledge of different types of tractors and their functions’. • Challenges facing tractors’ operation in South Sudan. 	8	10

4.9.1.3 Explain the process of care and maintenance of a tractor.	<ul style="list-style-type: none"> • Demonstration of the skills for care and maintenance of a tractor. • Brands of various tractors in South Sudan. • Sources of tractors being used in South Sudan. • Challenges facing care and maintenance of tractors in South Sudan. 	3	12
4.9.1.4 Tools and Equipment for Tractor maintenance	<ul style="list-style-type: none"> • Explanation of various types of tools and equipment for farming tractors' maintenance. • Knowledge on storage of farm tractors' maintenance tools and equipment. • Knowledge of risks when handling tractor maintenance tools and equipment 	8	20
4.9.1.5 Occupational Health and Safety	<ul style="list-style-type: none"> • Knowledge of safety in Agricultural Engineering • Description of health hazards in Agricultural Engineering environment. • Handling occupational Health challenges in Agricultural Engineering. 	8	20
Resources:	<ul style="list-style-type: none"> • Chart • Samples of business plans • Text books • Flow chart diagram • Guest speaker • Field visit 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement by the trainees • Group discussion 		
Assessment Method:	<ul style="list-style-type: none"> • Oral assessment • Written assessment • Practical performance assessments and observation. • Assessment of group work (small manageable groups) 		



4.10. MODULE 4.10: SOIL SCIENTIST

Table 4.10: Soil Scientist Module

Module Code:	4.10		
Module Level:	I		
Total Hours:	100		
Prerequisite	14 years of age		
MODULE Descriptor:	The module provides knowledge, skills and attitudes that relates with the science of the soil. The trainees are introduced to the fundamentals of Soil science, Organic manure, and inorganic manure. On completion of this course, the trainees would have knowledge of different types of soils and their suitability for growing different types of crops in South Sudan.		
Unit of Learning	4.10.1 Practice of Soil Science		
Learning Outcomes	Learning Elements	TTH	PTH
4.10.1.1 Fundamentals of Soil Science	<ul style="list-style-type: none"> Explanation of the term soil and its importance Description of different types of soil and their suitability for various crops. Knowledge of types of soils in different states of South Sudan. 	4	10
4.10.1.2 Explain concepts of organic manure	<ul style="list-style-type: none"> Explanation of the concepts of organic manure. Description of types and Sources of Organic manure. Demonstration of the skills for generation of Organic manure. Knowledge on the use of organic manure in South Sudan. 	3	9

4.10.1.3 Explain the principles of inorganic manure	<ul style="list-style-type: none"> • Definition of the term inorganic manure. • Description of various types of inorganic manure. • Statement of the function of each type of inorganic manure. • Description of the process of soil conservation • Discussion of the procedure for testing of soil fertility and soil acidity 	8	20
4.10.1.4 Tools and equipment for Soil Science.	<ul style="list-style-type: none"> • Explanation of the various tools for handling soil science. • Knowledge of the uses of various tools and Equipment for analysis of soil. 	4	12
4.10.1.5 Occupational Health and Safety measures in Soil Science.	<ul style="list-style-type: none"> • Knowledge of occupational health issues in handling of Soil. • Description of the activities of soil companies on the fertility and productivity of soil. 	12	24
Resources:	<ul style="list-style-type: none"> • Chart • Samples of business plans • Text books • Flow chart diagram • Guest speaker • Field visit 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement by the trainees • Group discussion 		
Assessment Method:	<ul style="list-style-type: none"> • Oral assessment • Written assessment • Practical performance assessments and observation. • Assessment of group work (small manageable groups) 		



4.11. MODULE 4.11 HORTICULTURALIST

Table 4.1 I: Horticulturalist Module

Module Code:	4.10		
Module Level:	I		
Total Hours:	100		
Prerequisite	14 years of age		
MODULE Descriptor:	The module provides knowledge, skills and attitudes that relates with the practice of Horticultural production. The trainees are to be taken through Fundamentals of Horticulture, Practice and preparation of nurseries, Field practice in Horticulture, Plant physiology and principles of crop rotation. They will also learn tools and equipment used in Horticultural farming and be equipped with occupational health and safety issues in Horticulture.		
Unit of Learning	4.11.1 Theory and Practice of Horticulture.		
Learning Outcomes	Learning Elements	TTH	PTH
4.11.1.1 Fundamentals of Horticultural Farming.	<ul style="list-style-type: none"> • Explanation of the term Horticultural farming and its importance • Description of different types of Horticulture and their feasibility in South Sudan, Soil types and their suitability for various crops. • Knowledge of importance of horticulture and the associated market opportunities for Horticultural farming. • Idea on Challenges facing Horticultural farming in South Sudan. 	4	10

4.11.1.2 Explain the practice of Nursery Preparation	<ul style="list-style-type: none"> • Explanation of the concepts of nursery preparation • Description of the process of preparing a nursery bed. • Demonstration of the skills for preparation of different kinds of nurseries. • Tools and equipment for use in nursery preparation. • Knowledge on the application of safety in the practice of Horticultural farming. 	3	9
4.11.1.3 Explain the principles of field operations	<ul style="list-style-type: none"> • Demonstration of planting skills for different horticultural crops. • Description of the process of pruning crops. • Knowledge and understanding of the gapping process. • Description of the process of harvesting for Horticultural crops. 	8	20
4.11.1.4 Tools and equipment for Soil science.	<ul style="list-style-type: none"> • Explanation of the various Agricultural tools and equipment for use in horticultural farming. • Knowledge of the uses of various tools and Equipment for horticultural farming. 	4	12
4.11.1.5 Occupational Health and safety measures in Soil Science.	<ul style="list-style-type: none"> • Knowledge of occupational health safety issues in horticultural farming. • Description of the activities of safety in horticultural farming. 	12	24
4.11.1.6 Plant physiology	<ul style="list-style-type: none"> • Concept of plant physiology • Knowledge of different parts of plant physiology. • Understanding of different horticultural diseases. 		
Resources:	<ul style="list-style-type: none"> • Chart • Samples of business plans • Text books • Flow chart diagram • Guest speaker • Field visit 		
Teaching/Training Methodology:	<ul style="list-style-type: none"> • Practical demonstration • Practical involvement by the trainees • Group discussion 		
Assessment Method:	<ul style="list-style-type: none"> • Oral assessment • Written assessment • Practical performance assessments and observation. • Assessment of group work (small manageable groups) 		

CURRICULUM DEVELOPMENT PROCESS AND VALIDATION TEAM

5.1 CURRICULUM DEVELOPMENT PROCESS

The development of this curriculum went through a number of stages namely:

Table 5.1 Curriculum Development process and Stages

S No.	Stage	Activity	Key Deliverables
1.	Stage 1	Review of the curriculum land-scape in South Sudan	TVET curriculum training and delivery system in South Sudan established.
2.	Stage 2	TVET Stakeholders Consultation	Consultation with TVET sector stakeholders. They Included the industry, TVET working group, MoGEI, MoLP-SHRD, and EMPOWER project. The team jointly selected seven priority trades to be considered in developing curriculum. These priority trades are: 1. Hair Dressing and Beauty therapy 2. Catering and Hospitality Service 3. Tailoring and Dress making 4. Auto mechanic 5. Building and Construction 6. Agribusiness 7. Solar PV system and Electrical Installation
3.	Stage 3.	Consultation with 4 TVET training institutions in Juba	Rapid training needs assessment undertaken to establish the gaps in the existing curriculum that needs to be addressed in the new curriculum being developed.
4.	Stage 4	Review of regional TVET curricular for the Seven Trades.	First draft of the TVET curriculum developed and shared with the local subjects' experts.
5.	Stage 5	Curriculum review workshop held in November 2018 to obtain the input of the Industry and local TVET teachers.	Second draft version developed by incorporating the issues raised from the industry and subjects' experts.
6.	Stage 6	Sharing of the Second Draft version with the South Sudan TVET Sector working group for comments to be incorporated.	Comments received from South Sudan TVET Sector working group and incorporated to produce the third draft version.
7.	Stage 7	Sharing of the third draft version with MoLP-SHRD and UNDP for comments	Views received from UNDP and MoLP-SHRD and incorporated to form the Fourth Version of the Curriculum.
8.	Stage 8	Sharing of the Fourth draft Version with the MoGEI Directorate for TVET and Curriculum development for quality assurance.	Views from MoGEI Obtained that formed the fifth version of the draft curriculum.
9.	Stage 9	Draft curriculum shared with MoGEI and MoLP-SHRD for their final feedback before validation.	Comments received from MoGEI, MoLP-SHRD, UNDP and EMPOWER project consortium incorporated to produce the sixth version.
10.	Stage 10	Validation of the seventh version of the curriculum	Subjects' experts from the TVET training institutions provide their feedback to produce the seventh Draft for launching
11.	Stage 11	Launching of the curriculum	Seventh version of the draft curriculum launched

5.2 CURRICULUM VALIDATION TEAM MEMBERS

Table 5.2 Curriculum Validation team Members

S/ N	Name	Trade Area	Institution of representation
1.	Joseph Odhiambo Ndaga	Lead Consultant and CBET Expert	APMC
2.	Juach Agok	Director, TVET Qualification and Standards	MoGEI
3.	Scopus Lubang	Director for Curriculum Development	MoGEI
4.	Peter Bol kuol	Agriculture Instructor	MoLPSHRD
5.	Albert Okoya Pasto	Acting Director, Wau Vocational Training Centre	MoLPSHRD
6.	Aida Christopher	Principal, Juba Multi-purpose Training Centre	MoLPSHRD
7.	Christopher Awii Emilio	Deputy Director for Curriculum Development	MoGEI
8.	Kelly Owillah	Associate Consultant	APMC
9.	Bior John Daniel	Agriculture & Livelihood Officer	Nile Hope
10.	Kilama Bosco	Trainer/Instructor	Academy for Professional Development
11.	Leju Joseph Taban	Instructor	MoLPSHRD
12.	Rev. John Chol Dau	DG, Vocational Training	MoLPSHRD
13.	Rev. Ben Waigo	Director, Planning	MoLPSHRD
14.	Samuel Imar Romano	Director, ITC	MoLPSHRD
15.	John Puat Akich	Acting Director	MoLPSHRD

SECTION SIX : APPENDICES

6.1 APPENDIX I: ON-THE-JOB TRAINING INDUSTRIAL ATTACHMENT ASSESSMENT GUIDE

Table 6.1: Industrial Attachment Assessment Guide

Module Code:		
Module Level:	I	
Total Hours:	160	
Prerequisite	Modules of Level I	
Learning Outcomes	Performance Criteria	Assessment Criteria
2.7.1 Use farm tools and equipment	2.7.1.1 Farm tools and equipment identified 2.7.1.2 Safety at the farm observed 2.7.1.3 Farm activities carried out	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.7.2 Use Animal production tools and equipment	2.7.2.1 Animal production tools and equipment identified 2.7.2.2 Safety at the farm observed 2.7.2.3 Involvement in using production tools and equipment	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.7.3 Practice Milking	2.7.3.1 Experience in handling cows during milking 2.7.3.2 Storage of milking equipment 2.7.3.3 Practice use of milking machine where possible	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.7.4 Practice chicken handling	2.7.4.1 Experience in handling chicks 2.7.4.2 Feeding of chicks 2.7.4.3 Practice disease and pest control 2.7.4.4 Practice record keeping	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.7.5 Practice Fishing	2.7.5.1 Experience in handling fingerlings 2.7.5.2 Feeding of fish 2.7.5.3 Practice disease and pest control 2.7.5.4 Practice fish harvesting	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.7.6 Use Workshop tools and equipment	2.7.6.1 Exposure to workshop tools and equipment 2.7.6.2 Observation of safety in the workshop 2.7.6.3 Use the tools and equipment	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.7.7 Design business plan	2.7.7.1 Keeping records of daily activities 2.7.7.2 Use information to develop a business plan	<ul style="list-style-type: none"> • Direct observation • Practical demonstration • Oral Questioning • Presentations by trainees

<p>Session assessment will be adopted and the following guidelines should be followed regarding Industrial attachment marks:</p> <table border="0"> <tr><td>1.</td><td>Participation</td><td>25%</td></tr> <tr><td>2.</td><td>Attendance</td><td>10%</td></tr> <tr><td>3.</td><td>Time Management</td><td>10%</td></tr> <tr><td>4.</td><td>Log book:</td><td>15%</td></tr> <tr><td>5.</td><td>Safety</td><td>5%</td></tr> <tr><td>6.</td><td>Communication skills</td><td>5%</td></tr> <tr><td>7.</td><td>Creativity</td><td>5%</td></tr> <tr><td>8.</td><td>Customer care</td><td>5%</td></tr> <tr><td>9.</td><td>Cleanliness and hygiene</td><td>5%</td></tr> <tr><td>10.</td><td>Readiness to be corrected</td><td>5%</td></tr> <tr><td>11.</td><td>Team work</td><td>5%</td></tr> <tr><td>12.</td><td>General conduct</td><td>5%</td></tr> </table>	1.	Participation	25%	2.	Attendance	10%	3.	Time Management	10%	4.	Log book:	15%	5.	Safety	5%	6.	Communication skills	5%	7.	Creativity	5%	8.	Customer care	5%	9.	Cleanliness and hygiene	5%	10.	Readiness to be corrected	5%	11.	Team work	5%	12.	General conduct	5%	<ul style="list-style-type: none"> • Direct observation • Practical demonstration • Direct observation • Practical demonstration • Direct observation • Practical demonstration • Direct observation • Practical demonstration • Oral Questioning • Presentations by trainees
1.	Participation	25%																																			
2.	Attendance	10%																																			
3.	Time Management	10%																																			
4.	Log book:	15%																																			
5.	Safety	5%																																			
6.	Communication skills	5%																																			
7.	Creativity	5%																																			
8.	Customer care	5%																																			
9.	Cleanliness and hygiene	5%																																			
10.	Readiness to be corrected	5%																																			
11.	Team work	5%																																			
12.	General conduct	5%																																			
<p>Internal & External Evaluation Marks: Total internal marks are 100. Marks shall be awarded at the end of every module</p>																																					

6.2 APPENDIX II: NOTES ON INDUSTRIAL ATTACHMENT

I. Introduction

This module unit is compulsory for all trainees undertaking agribusiness technical training programs and is intended to equip the trainee with knowledge, skills and attitudes to enable him/her to perform duties in a real working environment. The rationale of the module unit is to:

- a. Enhance the practical and communication skills/competences of trainees
- b. Strengthen industrial/community partnership
- c. Provide a nation-wide mechanism to address key skill demand
- d. Provide employers the opportunity to give back to society
- e. Enhance training levels in acquired skills and competences
- f. Provide a mechanism for training institutions to respond to
- g. identified areas of national key skill needs
- h. Develop the manual skills of trainees associated with scientific and technological operations
- i. Develop the trainees' personality and understanding of individuals and groups in work situations
- j. Provide the trainee with background information and experience in agribusiness

II. General Learning Outcomes

By the end of the Industrial attachment period, the trainee should be able to:

- a. Understand the constraints of working life and functional relationships within and between organizations
- b. Appreciate the importance of human relationships and work attitudes
- c. Develop procedural knowledge towards work processes
- d. Apply theoretical concepts and school-based skills to practice

- e. Develop work attitudes like curiosity, self-confidence, maturity and self-reliance
- f. Obtain knowledge of potential careers and develop new areas of interest

III. Advantages to Institutions

The Industrial attachment scheme will enable Training institutions to:

- a. Establish link with industry for technical development, particularly in the area of product innovation, design and development
- b. Know skills' gaps and improve quality of training
- c. Obtain materials for teaching and case studies
- d. Have a balanced assessment of trainees

IV. Advantages to Employers

The Industrial Attachment Scheme will enable employers to:

- a. Understand future skills availability
- b. Improve the training delivered at training institutions for industrial relevance
- c. Influence the training of future generation of employees

V. Suggested Roles of the Training Institution.

It is the responsibility of the training institution to:

- a. Identify trainees who are qualified to go on attachment
- b. Conduct an industrial attachment orientation and induction to trainees
- c. Identify opportunities from the industry and match them with the number of trainees qualified to go on attachment
- d. Prepare a code of conduct to be observed by trainees
- e. Provide log books to trainees

VI. Suggested Roles of the Industry

It is the responsibility of the industry to:

Appoint an industry supervisor/mentor for the trainee/attachee

- a. Carry out formal introduction/induction to the workplace by the industry supervisor/mentor
- b. Design a weekly program of work for the intern to carry out whilst on attachment
- c. Develop clear and well communicated expectations of the work program
- d. Expose attachees to relevant activities and training opportunities
- e. Supervise and assess progress of the attachees
- f. Complete and release the log book of the attached trainees

VII. Suggested Roles of the Trainees/Attachees

It is the responsibility of the attached trainee to:

- a. Read and observe the code of conduct applicable to the work place
- b. Report to the training institution any problems encountered
- c. Fill the logbook daily, and have it completed and endorsed by both the industry and the training institution supervisor
- d. Develop positive values in the work place

V. Competence

The trainee should have the ability to:

- a. Work effectively under supervision
- b. Apply competences to solve real problems in real-time
- c. Develop team work and organisational competences
- d. Operate effectively in community service learning

6.3 APPENDIX III: ASSESSMENT PRINCIPLES AND PROCESS

<p>Assessment principles</p>	<p>Only registered assessors shall conduct assessment. Assessors must be subject matter experts, trained in PLAR Assessment, and preferably have industry experience. The following are key aspects proposed to be followed when assessing trainees:</p> <ul style="list-style-type: none"> • Following the review of all the assessment components (Portfolios of Evidence, Competency Interviews and/or practical tasks), the assessor decides whether evidence presented provides full and ample proof that the unit standards have been met; • The assessor records assessment marks and makes recommendation to the moderator; • All PLAR assessment procedures should be consistent with national assessment procedures. <p>To ensure assessment are of high quality and integrity, assessors and moderators must diligently apply the following accepted assessment principles:</p> <ul style="list-style-type: none"> ◇ Systematic: Assessment activities must follow a practical and natural sequence, be easy to administer and easy for the trainee to follow. ◇ Consistent: Assessment is consistent where, given similar evidence and circumstances, an assessor would make the same judgements again; or where assessment by other assessors would lead to the same judgement; ◇ Open: Trainees are given the opportunity to contribute to the assessment planning and collecting of evidence. The assessment process is transparent; ◇ Flexible: Flexible assessment allows for easy entrance into appropriate levels of education and training and for multiple pathways to the same learning ends in a manner, which facilitates progression. It also uses a variety of assessment approaches, methods and instruments; ◇ Appropriate: The method of assessment is suited to the competencies being assessed as stipulated in the registered unit standard; ◇ Manageable: The assessment must be easy to arrange, cost-effective and practical. It should take into consideration available facilities, equipment and time; ◇ Fair: Assessment must be unbiased and not hinder or advantage a trainee in any way. Assessors must make sure that the chosen approach, methods and instruments support the principle of fairness. They must avoid influences not related to the matters being assessed; for example, arising from differences related to race, gender and assessment method. Integrated: Assessment should be an integral part of standard setting and curriculum, not something added on afterwards. The teaching and learning elements of each program should be designed in the light of the types of assessment trainees undertake and evidence required, and vice versa, so that trainees can demonstrate what they have learned and provide the evidence required by the unit standard(s)
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Assessment principles	<p>The assessment must be in line with what the trainee has to do at work. (Ideally, the assessment takes place during normal working processes.)</p> <ul style="list-style-type: none"> ◇ Valid: Validity in assessment refers to an assessment measuring what it is supposed to. If a unit standard requires observation as evidence of performance, then a written examination alone will not be valid. <p>Assessment procedures, methods, instruments and materials have to match what is being assessed. To be fit for its purpose, assessment must use evidence directly related to the type and level of performance required in a specified standard;</p> <ul style="list-style-type: none"> ◇ Authentic: The assessor must be satisfied that the work being assessed is the trainee's own work. In the case of PLAR, evidence like certificates and testimonials may have to be referenced for authenticity. ◇ Current: The evidence must reveal what the trainee is currently able to do. The evidence, standards and training material must be up to date with current technology and other industry-specific developments. ◇ Sufficient: 'Sufficient means that the assessor must make sure that the evidence collected meets all requirements of the performance criteria of the unit standard. Sufficient evidence also implies that the trainee can repeat the required performance consistently; ◇ Reliable: 'Reliable' evidence is evidence that will be acceptable by all assessors and which can be repeated in various circumstances. Reliability in assessment is about consistency.
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NB: Note: Where evidence gaps in the Portfolio of Evidence of a trainee are evident, assessors should, during the competency interview and the practical assessments, determine if the evidence gaps still exist. If they still exist, trainees will be declared not yet competent in these unit standards. All the gaps identified should be recorded and detailed in the final assessment report

Post-Assessment Review

Moderation:	<p>The “Post Assessment Review” process comprises of moderation and external verification. Moderation of trainee assessment is a process aimed at ensuring that marks and grades are as valid, reliable, and fair as possible for all trainees and all markers.</p> <p>Moderation strategies may differ depending on the number of trainees studying the unit and the number of training staff involved. However, the process usually involves collaborative decision making by trainers/assessors about assessment criteria and expectations. Double assessment is usually carried out when a trainee received a fail grade. Moderation is more than the checking of assessment marks; it is the checking of assessments to ensure that the whole assessment process is fair, valid and reliable enabling equivalence and comparability.</p> <p>Assessments conducted are moderated with the aim of enhancing the quality and integrity of assessment in the TVET sector.</p> <p>Registered moderators need to validate that assessments were done consistently based on approved guidelines, best practices and principles of assessment.</p> <p>The moderator should indicate through a form provided in the portfolio of evidence that the assessment outcomes are a clear reflection of the trainees’ competence and either endorse, or adapt the assessment of the assessor. In extreme circumstances, a moderator could request re-assessments or additional assessments.</p>
External Verification:	<p>External verification is done to ensure that the approved standards for awarding a qualification are met. External verification is also organised to maintain the overall credibility of the Assessment practices and processes in compliance with TVETA.</p> <p>External verifiers determine whether the moderator has correctly evaluated the evidence supplied by the assessor.</p> <p>Once the verifier has established that the moderation process was adequately conducted, he or she endorses the trainee’s achievement. However, if the verifier identifies irregularities in the moderation and/assessment process, the trainees’ achievement may not be endorsed. Some examples of irregularities are:</p> <ul style="list-style-type: none"> • Insufficient or no records of trainee’s achievement are available, due to missing records; • Insufficient evidence of assessment or learning was supplied; • Assessor incorrectly interpreted the evidence supplied by trainee and judged the trainee to be competent when unit standards or specific outcomes have not been met.

Certification (Issuing of certificates)

After the moderator and external verification processes have been completed, the trainee is informed of the outcome of the assessment by the Certification Agencies following the Prior Learning Assessment and Recognition (PLAR) procedure.

Trainees will be found competent (C) if they comply with the competency requirements specified by the Certification Agencies for all the unit standards of a particular qualification.

If trainees are found competent in some or none of the unit standards, they will be declared Not Yet Competent (NYC). However, trainees will receive credits for those unit standards in which they were found competent.

Appeal Procedures

Legal instruction:	Trainees should be informed of their right to appeal during their induction or mentoring. Trainees may appeal if they do not agree with the outcome of their assessments. The appeal should be lodged within 15 days after having been notified of the assessment results.
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Mitigation:	It is recommended that trainees first discuss their concerns with the assessor and if still not satisfied, follow the Certification Agencies appeal procedures.
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Gap (Top-up) Training

Trainees, who want to, should be given an opportunity to receive gap (top-up) training in those unit standards where they were found not yet competent to enable them to achieve a full qualification.

Re-assessment

Once trainees have successfully completed the top-up training, they will be re-assessed in the unit standards, which they were found not yet competent and certified.

Record Keeping

- Certification Agencies will maintain a national database of trainee records and assessment results;
- Assessment providers should keep record of all assessment information in line with the Certification Agencies procedures;
- Portfolios of Evidence and other relevant assessment documents should be kept in a safe place;
- These documents should be made available to TVETA on request;
- Records and marks should be handled in accordance to the Certification Agencies policies and procedures