



**SOKOINE UNIVERSITY OF AGRICULTURE
COLLEGE OF AGRICULTURE**

**DEPARTMENT OF ANIMAL, AQUACULTURE AND RANGE
SCIENCES**

**FIELD PRACTICAL TRAINING (FPT) GUIDELINES FOR B.Sc.
AQUACULTURE DEGREE PROGRAMME**

2016

1.0 IMPORTANCE OF FIELD PRACTICAL TRAINING

1.1 Introduction

The Cooperate strategic plan of Sokoine University of Agriculture (SUA) seeks to make SUA the centre of excellence in all agricultural and natural sciences related activities. It is imperative that SUA should, in the immediate future, establish itself as a center for training, research and dissemination of information on all aspects of agriculture, including aquaculture. Aquaculture degree course was established to provide experts trained in the specialized sciences of aquaculture, create a basis for tailored short courses, and enhance competitive edge of SUA in the region and widen research spectrum which can be conducted at SUA. Aquaculture has been recorded as the fastest growing sector of agriculture in the world. The Food and Agriculture organization (FAO) reported the worldwide demand for edible aquatic food increased by over 25% in 2010. Aquaculture employs more than 200 million people worldwide, of whom 85% live in developing countries (FAO, 1999). In China and Thailand every possible water body (including flood water) is stocked with fish. The United States Department of Agriculture (USDA), records an annual growth rates of 9% in aquaculture, a sector which employs 180,000 people generating over US \$ 5.6 billion annually. Aquaculture is a diverse and dynamic industry. It depends on knowledge from series of disparate disciplines (e.g. biology, chemistry, engineering etc.), and it is constantly evolving, drawing on new technologies and the outputs of research activities. Therefore the need for highly trained and skilled manpower is imperative. The graduated from aquaculture will have the specialized skills needed for exploiting existing aquaculture potentials in a profitable and sustainable way. Graduates in B.Sc. aquaculture course can be absorbed in the many facets of the fish industries.

In addition to passing examinations in the above mentioned areas of specialization, another major requirement for this degree programme is the Field Practical Training (FPT). FPT shall be an essential requirement of the B.Sc. Aquaculture degree programme and shall be conducted effective at the end of the **fourth** and **sixth** semester for **five** weeks each. The assessment of the field practical training shall be made by a special committee comprising of members from the Department of Animal, Aquaculture and Range Sciences (DAARS). Special emphasis shall be paid to attitude and commitment to perform aquaculture production and practices. A pass in the FPT shall be required before a candidate is allowed to proceed to the next semester or to graduate in case of a student in the last semester.

The major aims of FPT include:

- To impart practical skills to the students like the use of scientific laboratory and field Aquacultural equipment and carry out routine Aquacultural operations in the field.
- To provide practical knowledge in handling and processing of Aquacultural materials and other inputs and outputs.
- To impart skills to the students in the field of Aquacultural planning, organization and extension services.

- To foster practical production attitudes in the fields of awareness, production input costs, input-output interactions and relationships.
- To design aquaculture experiments and collect and analyze data from field experiments
- To enable students to appreciate, comprehend and perform the various activities in aquaculture production management, land use planning, water and waste management.

To-date most of the aforementioned, aims have not been achieved by the FPT due to a number of challenges in the organization and conduct of the FPT within the College of Agriculture (CoA). These challenges include inadequate funding, lack of the appropriate and sufficient number of FPT stations, poor and inadequate supervision, inappropriate timing of the field practicals training that is always off season for most agricultural activities, and the lack of relevance of the FPT activities at the FPT stations.

1.2 Objectives of FPT

1.2.1. General objective

The overall objective of the FPT is to enable the students to get hands on skills to complement theoretical and practical instructions offered at the University.

1.2.2 Specific objectives

The specific objectives are to:

- (i) Offer the specialized skills needed for exploiting the existing aquaculture potentials in a profitable and sustainable way.
- (ii) Generate a national manpower base for sustaining the aquaculture training from primary to tertiary level
- (iii) Generate technically sound manpower to manage aquaculture activities in government institutions, non-government and private enterprises
- (iv) Create a foundation for self-employment.

2. SCOPE OF THE FPT GUIDELINES

These guidelines give detailed information on:

- The kind of reports which are expected to be produced by the students at various levels of training
- Procedures to be used by both local supervisors at FPT stations and the academic supervisor from SUA in assessing and grading the FPT performance of students.

These guidelines are, therefore, intended to be a resource book for students, training officers and supervisors.

3. PREPARATION OF FIELD PRACTICAL TRAINING

The FPT in the Department of Animal, Aquaculture and Range Sciences (DAARS) shall be conducted effective at the end of the **fourth** and the **sixth** semester for five weeks each. DAARS is solely responsible for allocating FPT places to all students. However, students may be allowed to propose FPT factory/institution/firm (center) of their own at least eight weeks before commencement of the FPT. All proposed FPT centers need to be approved by the Department before commencement of the FPT. Training at a center not approved and not allocated by the Department before the start of training will not be recognized.

4. PROCEDURE TO BE FOLLOWED DURING FPT

4.1. The “Arrival note” form prepared and issued by the Department to each student will be filled and returned to the department by the student within the first week of FPT (Appendix 1).

4.2. The training officer (On-station Supervisor) will ensure that the training program is set up and shared with the FPT coordinator/SUA supervisor before the end of the first week of FPT. This program will form the basis for supervision and assessment when SUA supervisor visits the station.

4.3. Each student will be visited at least once during each FPT period by SUA supervisor.

4.4. The student is responsible for bringing the “on station assessment form” (Appendix 2) duly completed in a sealed, confidential envelope together with his/her report to the Department FPT Coordinator.

5. TRAINING LEVELS

Students at different levels of learning possess different skills and abilities and the tasks they are expected to perform during FPT should differ accordingly. Therefore, each FPT session is

intended to impart technical competence to students according to level of training achieved as follows:

5.1. FPT 1: For students in the second year of study (Semester 4) B.Sc. Aquaculture already possess basic knowledge in aquaculture should be given an opportunity to familiarize themselves with aquaculture production site and the following activities will be done:

- (i) Practical pond design and construction
- (ii) Water quality assessment
- (iii) Routine hatchery chores
- (iv) Fish tagging and sex identification
- (v) Pond liming and fertilization
- (vi) Pond maintenance
- (vii) Fish food compounding and feeding
- (viii) Fish sampling, measurements and food allocation
- (ix) Fry handling and pond stocking.

5.2 FPT 2: For students in the third year of study (semester 6) B.Sc. Aquaculture already possess

Substantial knowledge in aquaculture should be given an opportunity to familiarize themselves with the requirements of the professional practice in the capacity of professional level. In addition to the tasks mentioned above they can also carry out tests and experiments, do supervisory work, planning, design, modify existing practices or introduction of new innovation; carry out management decisions. Also it shall include working with inland fisheries,

Conduct excursions to do the following:

- (i) Fish population dynamic studies
- (ii) Fish stock assessment in fishing grounds
- (iii) SCUBA/SKIN diving and swimming
- (iv) Fishnet use and maintenance
- (v) Fish trapping
- (vi) Fish dressing and processing
- (vii) Practical in angling and trawling

6. FIELD PRACTICAL TRAINING REPORTS

For each of the FPT sessions (FPT1, FPT2), each student will be required to write and submit a technical report which will be assessed by the Department.

6.1 The report

The report is to be compiled in accordance with the guidelines given below. It may be hand-written or typed on A4 size paper and should be brief and clear. The completed report has to be signed by the student and countersigned by the On-Station Supervisor of the

factory/institution/firm to which the student was attached before submission to **DAARS** for assessment. FPT reports must be submitted to the Department FPT Coordinator two weeks after completion of FPT training period; otherwise one would be deemed to have failed FPT.

6.2. Objectives of the FPT report

The objectives of FPT report are to reflect:

- (i) The student's understanding and appreciation of field station practices
- (ii) The student's appreciation of what might be his/her responsibilities as a Aquaculture production manager/technologist and of the people he/she will have to cooperate with, and
- (iii). The student's ability to communicate technical information effectively

6.3. Specific guidelines for preparation of FPT reports

6.3.1. FPT 1 and 2 reports.

The Department will provide each student with a logbook for report writing.

The report should consist of two parts:

6.3.1.1. The General reports.

The aim of the general part of the FPT report is to describe the activities of the organization, institution or company where the FPT is conducted including description of the departments/sections in which the student will be attached. In addition, the report is intended to show the inter-relationships within the organization and its linkages with other institutions. Illustrations such as the organization chart may be used to elaborate on responsibilities and flow of information within the organization. For that matter the general report shall include:

- Background information of the institution/company (FPT Station), organization and its management set up (including organization chart), that is the goal, purpose and objectives/aims of the organizations with aspects to the government development strategies.
- Production and work performance at FPT Station
- Research or production thrust related to Aquaculture at FPT Station
- Community involvement and benefits around the FPT Station

6.3.1.2. The technical reports.

The technical reports are aimed at giving the opportunity to the students to contribute their own opinion on possible solutions for existing problems on such matters or issues relevance to BSc Agronomy curriculum. These include but not limited to:

- The aquaculture practices and management
- Conservation of water and cultured species.
- Processing and Postharvest handling of aquacultural products.
- Production in large and small scale farms.
- Aquacultural experiments
- Environmental assessment and production structures development.
- Marketing systems of Aquacultural products.
- Aquacultural Equipment and instrumentation
- Specific activities conducted at the stations, etc.

Possible outline for the technical report may consist of:

- Introduction
- Problem identification or justification
- Data collection and analysis
- Discussion (or alternative solutions)
- Conclusions and recommendations and suggestions

It is anticipated that the students' personal contribution to the identified problems will be clearly shown in the discussion part of the reports where alternative solutions may be presented or suggested.

Since the technical reports are supposed to deal with actual problems encountered during the FPT, their contents will be reflected in the Logbook which consists of the daily and weekly records of the activities done.

7. SUPERVISION OF FPT

Organization of FPT supervision for B.Sc. Aquaculture students will be undertaken by DAARS in consultation with the office of the Principal of the College of Agriculture. FPT reports will be marked at DAARS by the academic staff that carried out the supervision and

the results will be subject to consideration by the Department Examiners Board and the College Board.

The day-to-day supervision during FPT will be the responsibility of the On-Station Supervisor where the student is undertaking the FPT. The On-Station Supervisor should be senior technical personnel, e.g. Fisheries/aquaculture Scientist/Officer, farm or pond manager, fingerling or hatchery manager, fish breeder, production manager etc.

7.1 . Duties of the On-Station Supervisor

The duties of the On-Station Supervisor are to:

- Prepare a suitable training program for the students, preferably in collaboration with DAARS coordinator/supervisors, where possible.
- Assist the student in carrying out the proposed training program
- Examine and sign student's reports and logbooks once a week, and
- Fill an assessment form prepared by DAARS for each student (Appendix 2).

Since the On-Station Supervisor has other responsibilities, he/she should treat the student just like any other worker who is responsible to him/her in terms of productivity, efficiency and discipline.

8.0 REGULATIONS ON ASSESSMENT OF FPT LOG BOOKS AND REPORTS

- 8.1. All students must report to the allocated FPT stations only. A student who fails to report to the allocated FPT station without permission from FPT coordinator shall be deemed to have failed the FPT and shall be required to undertake the FPT at his/her own time and cost during the next FPT session
- 8.2. To avoid duplication and repeating of FPT activities, no student shall be allocated to the same station for FPT1 and FPT2

- 8.3. Since the tasks expected to be performed by the 2nd year students at FPT1 and the 3rd year students at FPT2 are different, then 2nd year students should not be allocated to the same station as the 3rd year during one FPT period.
- 8.4. FPT Logbooks and reports will be assessed and marked by the academic staff who supervised the students' FPT, and the results will be subject to consideration by the Department Examiners Board before submission to the College Board for approval.
- 8.5. The FPT marking/assessment shall involve the following components:
- Continuous (day-to-day) assessment made by the On-Station Supervisor during FPT period. This shall contribute 30% of the overall assessment as shown in Table 1 and Appendix 2
 - Logbooks, written General and Technical reports– all assessed by the SUA supervisor (70%)
 - Qualitative Character Assessment for each student made by the On-Station Supervisor for the entire FPT period (see Appendix 2). A penalty shall be imposed on final FPT score in case of bad character assessment made by the On-station supervisor. The penalty level shall be determined by the score in Part 2 of the 'On-station FPT assessment form'
 - The criterion for final (overall) FPT assessment is as detailed in Table 1. The emphasis on report content is as indicated by assessment weights, and this change according to the year of study.
- 8.6. Each student will be required to pass the FPT1 (year 2) and FPT2 (year 3) before graduation. The FPT pass mark is 50%
- 8.7. A student failing FPT will be required to repeat/supplement the FPT at his/her own cost.
- 8.8. Not completing a full FPT period without compelling reasons means abscondment from that FPT and the student shall be discontinued from studies.
- 8.9. A student failing to complete FPT with compelling reasons shall be required to request for postponement of the remaining FPT component, and if allowed shall complete the remaining part of the FPT during the vacation or when next offered.
- 8.10. A student allowed to postpone FPT shall be required to undertake the FPT during the vacation or when next offered
- 8.11. A student who fails after doing FPT as a third attempt shall be required to retake the course and if he fails for the fourth time shall be discontinued from studies.

8.12. A student who will be reported to have performed any gross misconduct during FPT period shall be reported to the University Management and such case will be dealt with according to the SUA Students' by-laws.

Table 1 Overall FPT Assessment Form

FIELD PRACTICAL ASSESSMENT FORM (Overall marks)

Candidate Name: Reg. No: FPT: **I,II,III** (tick)
 Examiner's Name: Department: Date:

ITEM	Maximum score		Scored marks
	FPT I	FPT II/III	Examiner
Assessment by the Training Officer at the FPT Station			
1. Skills obtained	6	6	
2. Attitude to work	6	6	
3. Initiative and independence	6	6	
4. Reliability	6	6	
5. Adherence to time working time	6	6	
Total marks by Training Officer	30	30	
Assessment of the Logbook (by the SUA supervisor)			
1. Adherence to guidelines	15	5	
2. Presentation (neatness)	5	5	
Total marks (Logbook)	20	10	
Assessment of the FPT Reports (by SUA supervisor)			
General report	15	10	
Technical Report:			
1. Description/analysis	10	10	
2. Problem identification	5	10	
3. Discussion	10	15	
4. Recommendation(s)	5	10	
5. Neat (illustrations, etc.)	5	5	
Total marks - Reports	50	60	
TOTAL MARKS	100	100	
Penalty for Character Assessment (max. -20 marks)			
GRAND TOTAL SCORE (%)			

Remarks by SUA Examiner:.....

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APPENDIX 1

FPT STATION ARRIVAL NOTE

PART A (To be filled by student)

Name of student.....

Year of study..... FPT No.....

I declare that I have started working with

Company/organization

Address: P.O. Box.....

E-mail.....

Location.....

Tel. No.....

Date of starting FPT

Student's mobile phone No.....

Student's email address.....

Signature of student.....Date:.....

PART B (To be filled by On-Station Supervisor)

Name of On-Station Training Supervisor.....

Position

(e.g. Hatchery operator, Breeder, Farm manager, Research officer, Institute Director, etc.)

Mobile phone.....

Email address.....

On-Station Supervisor's signature and stamp..... Date.....

To be sent immediately by post or email after arrival to:

FPT Coordinator
Department of Animal, Aquaculture and Range Sciences
Sokoine University of Agriculture
P.O. Box 3004, SUA, Morogoro
Email.....

Appendix 2

PRACTICAL TRAINING ASSESSMENT FORM

This is to certify that Mr. /Ms.....
has completed a period of practical training with our factory/institution/firm from
..... to
Name of the factory/institution/firm
The trainee has worked as **Field Assistant/Field Officer**
The duties assigned to the trainee were
.....
Name of On-Station SupervisorPosition
Please assign a grade between 0 and 6 to each one of the items 1 to 5 below according to the following grading scale:
5.1 – 6.0: Excellent
4.1 – 5.0: Very good
3.1 – 4.0: Good
2.1 – 3.0: Satisfactory
<2.1: Fail
Place the grade in dotted lines for each item.
1. Skills obtained
2. Attitude to work
3. Initiative and Independence
4. Reliability
5. Adherence to working time... ..
Number of days the trainee was absent.....
Reasons for absence.....
Was the logbook submitted to you weekly for your comments and signature?(Yes/No).....
REMARKS
Training Officers namePosition
Signature
Date and Place

Official rubber stamp

Appendix 3.A sample of blank sheet

Practical Training (PT) 20.....		PT (1, 2, 3)		Report		Week No		
						Page No		
Drawing No.		Date		Checked by On- station Supervisor		Date		
		Name				Name		

Appendix 4. Sample of Logbook Daily Record

FPT [] DATE:		Name:	
Weekly Report No. Week from:		To:	
	Brief description of work performed	Hours	
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Total hours per week			
Signature of On-station Supervisor		Date	

Appendix 5. Sample sheet for writing a weekly summary

FPT [] Date:	Name:
Weekly Summary	Week from: to:
Signature of On- station supervisor	Date