# Fish farmer participatory training module

**CORE PARTICIPANTS:** ANIS Foundation Trainee

**FACILITATORS:**  Maima Sine

**OTHER PARTICIPANTS:** Interested farmers

**DURATION:** Approx. 8 hours (1 day)

**OBJECTIVES**

* *To train trainees(fish farmers) through sharing and gaining farming knowledge through participatory training*

**GENDER ISSUES**

There must be equal participation of men and women in training

**Module 1: Training introduction**

**Duration**: 30 Minutes

**Objectives**

* To understand farmer expectations
* To understand farmer objectives
* To develop activity plan for training sessions

**Materials**: Flip chart, Note books, Markers, Biros, Attachment

**Process**

***Activity 1: Introduction of farmers and facilitators and setting ground rules***

* Ask farmers to introduce themselves, their location, their number of years experiences in fish farming
* Add the total number of years and state the total number of years in experience we have for the training.
* Farmers to set ground rules and write on flip chart

***Activity 2: Farmer experiences and objectives of farming fish***

* Divide farmers into two groups with a group leader and gauge their experiences and objectives in raising fish farming based on the following questions:
	+ Do they farm fish?
	+ How many fish do they raise? Farm capacity
	+ Do they have fish pond/cage/RAS?
	+ How do they raise their fish?
	+ Why they raise their fish this way?
	+ Problems encountered
	+ Solutions offered
* Record all answers, present their results and stimulate discussions on answers
* Wrap up discussions by comparing answers and define smallholder fish farming in the area

***Activity 3: Expectations, objectives and training process***

* Ask individual farmer to write or think about what they want from this training
* Ask individual farmer to read/speak out their answers
* Write answers on flip chart and discuss answers
* Define objectives of this training
* Compare objectives to come up with final objectives and develop activity plan( refer toTable 1 below)

Table 1. Training Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Activity/Topic | Womens Vote | Mens Vote | Total | Prioritization |
| Fish pond/cage construction |  |  |  |  |
| Fish feed &feeding |  |  |  |  |
| Fish keeping and general welfare |  |  |  |  |
| Breeding and reproduction |  |  |  |  |
| Fish husbandry and management |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Score activities according to farmer priorities with the highest total aggregate score will be prioritized as the first topic and etc... All training activities under this will follow the Table 1. Training plan and not necessarily following the modules as listed below.

**TIPS**

**TRAINING OBJECTIVES FOR FACILITATOR:**

* To improve farmers capacity in sharing and gaining farming knowledge in establishing fish farming
* To introduce fish farming to farmers via participatory and farmer field school approach.

**Module 2: Fish farm planning and establishment**

**Duration:** 2 Hour

**Objectives:**

* To encourage farmers to understand fish farm planning and facility establishment

**Materials and equipment**: note books, biros, flip chart, markers

**Process**

*Activity 1: Benefits and characteristics of a fish farm*

* Ask farmers on views of a good fish pond/cage/RAS
* Ask farmers on advantages and disadvantages of fish pond/cage/RAS
* Ask farmers on costs of building a new fish pond/cage/RAS
* Inform farmers on costs of building a fish pond using locally available resources
* Collate and compare answers and reach consensus on most suitable fish farm

*Activity 2: Designing and constructing a good fish pond*/cage/RAS systems

* Agree on the suitable design with farmers *pond*/cage/RAS
* Farmers to begin fish farm planning
* Farmers construction and facility establishment

**TIPS FOR A GOOD FISH FARM PLANNING**

Cage culture construction planning

* Availability of good quality water
* Land area
* Cage construction requirements
* Market demand and proximity
* Farm location

Fish pond construction planning

* Suitability of the soil
* Topography of the land
* Availability of good quality water
* Market demand and proximity
* Farm location

Pond construction

* The source of water used to fill the pond
* How water will be brought to the pond
* The type of soil available for building the pond
* The size, shape, and depth of the pond
* The slope of the pond bottom
* The height, width, and slope of the dykes
* The type of drainage system that will be used
* The layout (arrangement) of ponds used for different sizes of fish

**TIPS FOR A GOOD FISH FARM CONSTRUCTION**

Cage construction

* The size, shape, and depth of the cages
* The layout (arrangement) of cages used for different sizes of fish
* Cage materials; cage nets, floaters, anchors, hapa nets and strings
* Cage management system
* Explain pond and cage construction requirement. Design layout practical.

**Module 3: Fish feed and feeding**

**Duration:** 2 Hour

**Objectives**

* To understand nutrient requirements of fish
* To understand how to utilize locally available feed resources
* To understand how to formulate supplementary feed for fish

Materials: Sweet potato, Fish meal, poultry offal, Mill run, Copra meal, Concentrates, Mincer, cooking oil, feeders, notebooks, biros, flip chart, markers

**Process**

***Activity 1.Feeds used by farmers on fish diets***

* What are the feeds used and not used by farmers and source?
* What consists of fish diet? Based on classes and classify above lists into nutritional classes.
* How much do we feed our fish? Explain nutritional requirements.
* Combine discussions and make conclusions on suitable feeding strategies.

**TIPS FOR FISH DIETS**

These are the nutritional requirements for fish to support growth, reproduction, disease resistance, physical strength and internal temperature

* Proteins
* Energy
* Vitamins
* Minerals
* Water

Lack of any of these nutrients will lead to disease, abnormal change or organ functions and slow growth. Fish need balance diet just like all other animals, nutrients formulated for fish diet must meet all necessary requirements. Fish have different requirements depending on type of species; carnivorous fish require high protein diets than the omnivorous fish.

***Activity 2. Making suitable feeds for fish***

* Formulating a simple diet mix for fish
* Discuss the importance/short-comings of this technology application on farm.

**Module 4: Breeding and Reproduction**

**Duration**: 1 hour

**Objectives**:

* Farmers informed on the attributes of fish species making good selections for breeders.

**Materials**: flip chart, notebooks and biros

*Activity 1. Attributes of breeds and breed selections*

* Identify different breeds on farmers farm and other breeds raised by farmers
* Farmers to express their different breed preferences and selection criteria’s
* Type of breeds on farmers farms their advantages and disadvantages.
* Conclude answers and discussions on suitable breeds for different farming objectives.

**TIP**

Select gift tilapia as the most suitable breed to farm in integrated farming.

**Module 5: Fish Keeping and General Welfare**

**Duration:**4 hours

**Objectives**

* To understand the behaviour of fish
* To understand improved husbandry for fish
* To understand the importance of basic husbandry practices

**Materials**: farmers farm, flip chart, markers, notebooks and biros

**Process**

Activity 1. Understanding the behaviour of fish

* Farmers to express views on how they understand fish to behave.
* Record all information and make reference to tips on the general behaviour of fish
* Make conclusions and reach consensus on how fish behave.

Activity 2. Understanding importance of husbandry practices

* Farmers to make observations on model farm and comment on how different classes of animals are reared.
* Record all information and make reference to husbandry practices on different classes of animals.
* Make conclusions and reach consensus on discussions on most suitable husbandry practices for rearing fish.

**TIPS ON BEHAVIOUR OF FISH**

* Fish are intelligent species
* Fish are water animal

**TIPS ON BASIC HUSBANDRY DISCUSSIONS**

* Good fish management (refer to fish cycle)