

COURSE CODE:	FIS510
COURSE TITLE:	Fish Farming and Fisheries Business Management
NUMBER OF UNITS:	3 Units
COURSE DURATION:	Three hours per week

COURSE DETAILS:

Course Coordinator:	Dr. (Mrs.) O.T. Agbebi
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Other Lecturers:	Prof. S.O. Otubusin and Dr. A. A. Idowu

COURSE CONTENT:

Fish farm planning and organization and managing fish farms under commercial and peasant system. The scope of fishery business and management, types of business managements, types of credit extended to fish farming; sources of credits and loans; marketing arrangement; fish farm record and accounting; financial management.

COURSE REQUIREMENTS:

This is a compulsory course for all students in Department of Aquaculture & Fisheries Management. In view of this, students are expected to participate in all the course activities and have minimum of 75% attendance to be eligible to write the final examination.

READING LIST:

LECTURE NOTES

FISH FARMING AND FISHERY BUSINESS MANAGEMENT MATERIALS ARRANGEMENT

Generally, in most third world countries fish and most fish products are sold fresh, dried, smoked or frozen and these enterprises are women dominate.

As there is a general lack of storage facilities in these countries, a large proportion of the catch, sometimes up to 50%, perish at peak periods in artisanal fisheries. Thus, for pond reared fish, as well as fish caught in the wild, there is needs to dispose off the stock early on the day it is harvested. In some areas, like Lake Kainji (Nigeria) women fish traders have established their own battery of large domestic freezers to preserve catches prior to transportation to cities. In

areas which are far removed from this type of preservation, some form of processing is practiced, almost exclusively by women. Smoking is the favoured form of preservation, especially where availability of firewood is not a constraint. In place where smoking is too expensive, salt drying is sometimes employed. However, in some countries, fishermen co-operatives transport their catches in refrigerated trunks to government cold stores where they are sold gradually to the public and the co-operatives maximize their profits. Generally, most fishermen have regular customers, the fish trader who buys their entire catches wholesale. The relationship between the fishermen and the fish traders is one of survival through close co-operation. They are virtually partners as the fishermen sell exclusively to the fish traders, who support them through both good and bad times, sometimes even providing netting materials and at times “chop money”. Some even buy the boat. These women therefore have a virtual monopoly on landings in their spheres of influence.

The fish farmers, is not subject to the uncertainties of capture fisheries thus can afford to enter the market at any point of his own choosing. He has a choice of disposing of the crop wholesale or retail at the pond side or farm gate. In some cases a commodity broker may purchase all the stock in the pond while it is still growing. There is also a choice of selling the crop in the city if it can be transported there in good condition. In this case, he has a choice of selling wholesale or retail to a wider range of customers including fishmongers, hotels and restaurants, schools, staff canteens, pepper soup joints, fast food chains, catering concerns and individuals. The fish may be sold graded, continuously e.g. compulsory mixed in size or with discounts to promote a new type of fish, sell off old stock or small slow-selling fish species. Naturally retailing fetches higher income but there is need for holding and storage facilities and therefore considered investment on infrastructure. In all these situations, the fish farmer exercises a high degree of control on the pricing of the product. However, due to frequent lack of preservation facilities fish prices from farms with little infrastructure back-up tend to be high in morning hours, falling towards the evening in a bid to dispose of the fish, thus avoiding having to smoke them. Similarly, prices are high in the rainy seasons as the competing artisanal capture fisheries are at their lowest productivity.

The demand for a particular food item is generally function of the pricing. If the price of a product rises above its perceived value, most consumers will use a substitute product. This is even the case with fish and meat products. While fish prices must be maintained at levels which enable processors and / or retailers to realize a profit, they must at least be competitive with meat prices. Aqua culturists have real and potentials advantages in this regard as the industry is still young and new develops and on-going research in fish nutrients and production techniques have increase yield per hectare quite significantly. Therefore, with improved production techniques, production costs will be kept down whilst yields increase. This will allow some stability in pricing in the face of increased prices of competing protein sources.

At the same time, profit will continue to grow. The need for consistency high quality fish and fish products is obvious. Increased sales can be generated only by repeat sales. In order to achieve this is the quality of the fish and fish products must be, and remain, uniformly high. Fish and sea food exhibit very high spoilage rate, so care must be taken to assure good quality. Once a consumer purchases a package of fish with lower than anticipated quality, it will be a long time before he or she will make another purchase of that products. Certainly, the customer will be reluctant to come back to the source again. In order to achieve high repeat sales, there must be excellent co-operation between producers, processors and markets. The raw product must be produced so that quality is uniform, processing must be rapid to prevent loss of quality, and the properly packaged product must be stored under conditions which will maintain quality. There may be a need for customers to be advised on fish handling to preserve taste and quality, such as the need to avoid delay in getting fresh fish home to prevent spoilage.

MARKETING OF FINGERLINGS

The marketing of fry and fingerlings produced or marketed through a fish farm is a specialized enterprise. In this undertaking various methods may be employed to hold the fish, count them and package them for onward transportation to the customer. Generally, fry and fingerlings are sold in hundreds or thousands i.e. the price is quoted for 100 or per 1000 and invariably, a proper commitment from the customer is essential before the fish seed are transformed from the pond or tank to the holding facility. Sales of small quantities in the hundreds may be undertaking on a cash and carry basis, provided the fish are already in the

holding facility.
Processing
Export
Consumer
Wholesale – Farm gate
Distribution and Retail in
local market
Household consumption
in area
Urban areas
Fish caught on farm
Processing
Export
Consumer

Marketing components of the aquaculture

MARKETING IMPORTANCE

As an economy becomes increasingly commercialized, leading to the growth of urban areas and consequently urban wage earners, marketing assumes greater importance. This is because the excess production from the farm must be disposed of in order to earn some income with which the framers can purchase other goods and services not produced by them. An efficient marketing system will locate where there are surpluses of produce and bring them to where there are shortages. Marketing becomes even more important for countries whose products are export-oriented since earnings from such exports are used to finance development programmes.

Another importance of marketing arrangement is an indicator of consumer preferences through the prices they are prepared to pay. This phenomenon of farmers reacting to the preference of consumers is called “supply response” and is of great importance not only to farmers and markets but also to policy makers who plan for the peasant farmers.

The more the goods available for marketing, the more the people employed in their marketing and hence the higher the increase in employment. This will invariably lead to a rise in the standard of living which will consequently add to the wealth of the community.

Marketing stimulates research into the techniques of food and meat preservation and the preparation of various food items to meet the different tastes of the population.

Marketing has multiplier effect in the economy. For instance, crating, packaging etc means that industries must develop to produce these packaging materials and of course these industries would employ labour to be able to meet the orders. If most of the materials used for making the packs are of local origin, their production will be stimulated while the government also gains from exercise duties paid by these companies.

Efficient marketing ensures that supplies of goods that are seasonal become available throughout the year with little variation in prices that can be attributed to the cost of storage. In this situation, both producer and consumers will be beneficial. The producers will be sure of selling all they can produce while the consumer is sure to get what he wants throughout the year.

CREDIT SOURCES

Sources of credit in Nigeria are few and far between. Nonetheless credit for financing investment in agriculture has been available in one form or another for many decades particularly from local lenders, friends and families who are the chief sources of credit for the small farmers. The sources of credit for agricultural development can be grouped under two categories viz. institutional and non-institutional sources of credit, on other words formal and informal lending agencies

Non-institutional Sources

A brief investigation will reveal that many farmers in Nigeria are being provided with loans informally by friends or relatives at little or no interest charges. In addition, informal loans are also obtained by rural farmers from money-lenders, many of whom operate in the rural areas, charging interest rates that may be as high as one hundred per cent or more. Such loans are usually made without any complicated procedures or delays. Farmers get the needed amount at the right time with ease.

Institutional Sources

Institutional sources of credit to agricultural development include government owned

credit institutions, cooperatives societies and commercial banks. What is common to them is that they usually operate under certain acknowledge business rules stipulated by government.

CLASSIFICATION OF LOANS

Agricultural credits are classified into production and consumption credit. Consumption credit involved borrowing for the purchase of consumption goods and services required by the farm family. Here the loan does not increase future production.

Production credit, on the other hand, is a loan obtained by the farmers for the purpose for carrying of carrying out agricultural production and marketing activities, which provide income out of which to repay the loan. Production loan may be further classified according to the length of time the loan takes to mature, the purpose of the loan and the types of security required.

Loans classified according to length of time the loan takes to mature can be further divided into three:

(a) Short Term Loans: These include loans for the cultivation of annual crops such as yams, maize, millet, rice and for hiring labourers as well as those for the purchase of commercial fertilizers, seeds, etc. this type of loan is used for the purchase of materials which are used up in one season, hence they are otherwise referred to as seasonal production loans. They are expected to be repaid after the production season which is usually one year.

(b) Intermediate or Medium Term Loans: These are granted for a period between three to five years. These include loans for farm machines, livestock production such as poultry and piggery, crops like cocoyam, sugarcane and pineapple cultivation.

(c) Long-Term Loans: these are usually granted for a period of over five years. Such loans are used for the purchase of land, heavy equipment such as tractors, construction of permanent buildings, loans for tree-crops cultivation, fish ponds construction, soil conservation loans and loans for financing other permanent improvements on the land.

Furthermore, agricultural credit may be in form of pledging the borrower's property in which case if he fails to repay the loan when due, this would be sold to repay the loan. In another case, the lender may grant the borrower a loan on the basis of mutual trust and understanding with the creditor's confidence in the debtor's honesty, willingness and ability to repay the principal and interest. Here the loan is unsecured.

Nevertheless, it should be noted that most of these classifications do overlap. For instance, a consumption loan could sometimes be regarded as production loan if it helps the farm family to be more productive on the farm e.g. bicycle which could be used to transport products from the farm to the market.

As mentioned earlier loan can be either consumption production loan irrespective of the duration of use.

(a) Consumption loans: This forms part of credit which the farmer uses to purchase for himself and his family shelter, clothing and food which he cannot provide from his current subsistence activity. This also includes the money spent on family health, children education and fulfillment of social obligations like burial ceremonies, naming ceremonies, coronation etc.

(b) Cultivation Loans: This forms part of the loans the farmer uses towards the purchase of fertilizers, insecticides and other recurrent inputs during the planting and growing seasons.

Fish farm planning and organisation

Fish farm planning starts with an assessment of the natural conditions and other things that may support the fish farm venture, with a look at market situation of product in mind and if initial data found are promising a feasibility report is carried out.

During Planning process a constant evaluation of ideas and a revision of goals and methods in accordance and a revision of goals and methods in accordance with new information and changing circumstances are necessary if an is to be a useful tool to forecast the results of business operations.

- Feasibility
- Natural Environment

• Infrastructure

Feasibility Study/Repots

- Variable cost

- Fixed cost

- Contribution margin

- Variable unit cost and
- break – even point

Definition of Management: is the active process of making decisions so that use of the available human and material resources of the organization is planned and controlled to achieve its long-and short-term aims most efficiently. It is neither art nor science; it is both.

Management in fisheries therefore begins with:

1. Planning what to do.
2. Organize who should do it and how it should be done
3. Coordinate and motivate subordinates to operate the plan.
4. Control the achievement of the plan. Feasibility report writing as part of planning process

The procedures involved in writing feasibility for a fish farm include:

1. Background and study term of reference: This procedure covers the management name of the client that is specified with the site of the project and commissioned by the consultant name to prepare feasibility report for a specified size of fish farm project based on detailed topographic survey and multivariate analysis of site factors.
2. The terms of reference (TOR) for the feasibility study will include:
 - An appraisal of parameters that can assure the establishment of a commercial fish farm project at the client's site.
 - An appraisal of fish production potential of the proposed site which can assure needed revenue benefit.
 - An appraisal of the conditions under which the proposed fish farm project can be operated to fulfill the revenue objectives of client's farm project.
 - The development of sustainable process by which needed protein intake can be provided to inhabitants particularly those in the area where the project is to be sited.
 - The recommendation of some suitable management framework for fulfilling the goals for which the proposed fish farm project is being established.

Objectives of the study

Study justification

- a. The derivation of revenue needed to execute other development options proposed alongside fish farm.
- b. The production of fish and other farm products for the benefits of the inhabitants within the areas and beyond.

Study methodology

Scope of study

The scope will cover the appropriate fish farm techniques needed for a commercially viable project where attention will be paid to detailed considerations of fish demand and supply of the area where the project is sited.

Chapter Two

The Project

This is the project conception which involves:

The fish farm, number of ponds, size and types of ponds that are to be constructed is specified and the technicalities of siting are clearly stated.

Market Analysis

A brief description of market trends in disposing the fish products is done for the purpose of market outflow.

Management operations of the fish farm

The number of ponds with the fish stocking density is mentioned. The type of feed that will be used on sustainable basis is noted, water management, culture periods and provision of security to deter predators, saboteurs and poachers are stated.

Chapter Three

This chapter considers the environmental impact situation and its impact relevant

in respect of the proposed fish farm project. The environmental issues to be considered include:

Land conservation, Precautions to be taken during land preparation, water conservation control, fertilizer/chemical usage, Public health issue which anchor on – disease vectors, toxic wastes, sewage discharge, predator, poachers, runoffs and fuel engine.

Chapter Four

This chapter covers:

The project management which considers fish farm operations and equipments necessary for the smooth running of the fish farm.

Chapter Five

Economic Analysis

This will involve the analysis of all the considered economic factors in the study (Return on capital, return on investment, return on equity, return on sales etc) that will lend credence to the viability of the project under good management. The values derived for acid test (0.5 – 2.0), current ratio over specified period are attest to the viability of the project.

Recommendation

This aspect captures the summary of the report and recommend to the respective investor the viability of the project based on the value of acid test.

Managing fish farms under commercial and peasant systems

Students will be exposed to management of fish farms using live examples of fish farms that have commercial and peasant status.