

**FACULTY OF AGRICULTURE SCIENCES AND
ALLIED INDUSTRIES**

Farming System

Farming system approach relates to the whole farm rather than individual elements; it is driven as much by the overall welfare of farming households as by goals of yield and probability.

Definitions

- Farming system refers to an ordered combination of crops grown, livestock produced, husbandry methods and cultural practices followed. A farming system is defined as a population of individual farm system that have broadly similar resource bases, enterprise patterns, household livelihoods and constraints and for which similar development strategies and interventions would be appropriate (FAO-Farming System).
- Farming system is a decision making unit comprising the farm household, cropping and livestock system that transform land, capital and labour into useful products that can be consumed or sold (Fresco and Westphal 1988)
- Farming system is a resource management strategy to achieve economic and sustained agricultural production to meet diverse requirements of farm livelihood while preserving resource base and maintaining a high level of environment quality (Lal and Miller 1990).
- Farming system is a mix of farm enterprises such as crop, livestock, aquaculture, agro forestry and fruit crops to which farm family allocates its resources in order to efficiently manage the existing environment for the attainment of the family goal (Pandey *et al.*, 1992).

Scope

Farming enterprises include crop, livestock, poultry, fish, sericulture etc. A combination of one or more enterprises with cropping when carefully chosen, planned and executed gives greater dividends than a single enterprise, especially for small and marginal farmers. Farm as a unit is to be considered and planned for effective integration of the enterprises to be combined with crop production activity.

The need for farming system approach in the present scenario is mainly due to high cost of farm inputs, fluctuation in the market price of farm produce, risk in crop harvest due to climate vagaries and biotic factors. Environmental degradation, depletion I soil fertility and productivity,

unstable income of the farmer, fragmentation of holdings and low standard of living add to the intensity of the problem. It is continuous, dynamic and interactive learning process based on analysis, planning, testing, monitoring and evaluation. Farming system approach is necessary:

- To develop farm-house hold system and rural communities on a sustainable basis.
- To improve efficiency in farm production.
- To raise farm and family income.
- To increase welfare of farm families and satisfy basic needs.

Farming system addresses two issues: reduction in risk with monoculture activities and promoting enterprises diversification, value addition and development of alternate income sources with efficient utilization of farm resources. It brings about enterprises diversification for sustainability and additional benefits, better management of important farm resources like land, labour, capital etc. The farming system provides an opportunity for effective recycling of the products and by-products. It helps to generate flow of cash to the farmers round the year by way of disposal of milk, fruits. Fuel, manure etc, beside other agricultural output.

Importance of farming system

1. Enhances productivity and profitability
2. Potentiality or sustainability
3. Balanced food production
4. Adoption of new technology
5. Saving energy
6. Meeting fodder crises
7. Solving fuel and timber requirement
8. Provides environmental safety
9. Recycling of farm waste
10. Provides income round the year
11. Helps in employment generation
12. Provides raw materials to agro-industries

Concept of Farming System

In farming system, the farm is viewed in a holistic manner. Farming enterprises include crops, dairying, poultry, fishery, sericulture, piggery and tree crops. A combination of one or more enterprises with cropping when carefully chosen planned and executed, gives greater dividends

than a single enterprise, especially for small and marginal farmers. Farm as an unit is to be considered and planned for effective integration of the enterprises to be combined with crop production activity, such that the end-products and wastes of one enterprise are utilized effectively as inputs in other enterprise.

For example the wastes of dairying viz., dung, urine, refuse etc are used in preparation of FYM or compost which serves as an input in cropping system. Likewise the straw obtained from crops (maize, rice, sorghum etc) is used as a fodder for dairy cattle. Further, in sericulture the leaves of mulberry crop as a feeding material for silkworms, grain from maize crop are used as a feed in poultry etc. Sustainability is the objective of the farming system where production process is optimized through efficient utilization of inputs without infringing on the quality of environment with which it interacts on one hand and attempt to meet the national goals on the other.

Time and Space Concept

Time concept relates to increasing crop intensification I situation where there is no constraint for inputs. In rainfed areas where there is no possibility of increasing the intensity of cropping, the other modern concept (space concept) can be applied.

Space concept, crops are arranged in tier system combination two or more crops with varying field duration as intercrops by suitably modifying the planting method.

Thus, the concept of farming system approach can be summarized as it is a holistic approach, complex in nature, inter-related of components, matrix of soils, plants, animals, power, implements, labour, capital and other inputs, influenced by political, economic, institutional and social forces.