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Farming Systems

Kaptan Baboo[1*] and Vishuddha Nand[2]

[1]Ph.D. Scholar, [2]Assistant Professor, College of Agriculture, Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya, Uttar Pradesh

*Corresponding Author
Kaptan Baboo*

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INTRODUCTION

In recent years, food security, livelihood security, water security as well as natural resources conservation and environment protection have emerged as major issues worldwide. Developing countries are struggling to deal with these issues and also have to contend with the dual burden of climate change and globalization. It has been accepted by everyone across the globe that sustainable development is the only way to promote rational utilization of resources and environmental protection without hampering economic growth. Developing countries around the world are promoting sustainable development through sustainable agricultural practices which will help them in addressing socio economic as well as environmental issues simultaneously. Within the broad concept of sustainable agriculture "Integrated Farming Systems" hold special position as in this system nothing is wasted, the by-product of one system becomes the input for other. It is an integrated approach to farming as compared to existing monoculture approaches. It refers to agricultural systems that integrate livestock and crop production. Moreover, the system help poor small farmers, who have very small land holding for crop production and a few heads of livestock to diversify farm production, increase cash income, improve quality and quantity of food produced and exploitation of unutilized resources.

Components of farming system soil, water, crops, livestock, labour, capital, energy and other resources, with the farm family at the centre managing agriculture and related activities.

Need for Farming System Approach

The need for Farming Systems 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 climatic vagaries and biotic factors. Environmental degradation, depletion in soil fertility & productivity, unstable income of the farmer, fragmentation of holdings and low standard of living add to the intensity of the problem.

Why Farming Systems Approach

- To develop farm – house hold systems 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.

Why Farming Systems Approach

To develop farm – house hold systems 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.

An intensive integrated farming system addresses two issues, reduction in risk with the monoculture activities and promoting enterprise diversification, value addition and development of alternative income sources with efficient utilization of farm resources. And it brings about enterprise diversification for sustainability and additional benefits, better management of important farm resources like land, labor and capital etc. Provides an opportunity for effective recycling of the product and by-products, 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.

Farming Systems Strategy

In view of serious limitations on horizontal expansion of land and agriculture, only alternative left is for vertical expansion through various farm enterprises required less space and time but giving high productivity and ensuring periodic income specially for the small and marginal farmers located in rainfed areas, dry lands, arid zone, hilly areas, tribal belts and problem soils.

The following farm enterprises could be combined:

- Agriculture alone with different crop combinations.
- Agriculture + Livestock.
- Agriculture + Livestock + poultry.
- Agriculture +Horticulture + Sericulture Agro-forestry + Silvipasture.
- Agriculture (Rice) + Fish culture.
- Agriculture (Rice) + Fish + Mushroom cultivation.
- Floriculture + Apiary (beekeeping).
- Fishery + Duckery + poultry.

Advantages of Integrated Farming System

Productivity: IFS provides an opportunity to increase economic yield per unit area per unit time by virtue of intensification of crop and allied enterprises.

Profitability: Use waste material of one component at the least cost. Thus reduction of cost of production and form the linkage of utilization of waste material, elimination of middleman interference in most input used. Working out net profit B/ C ratio is increased.

Potentiality or Sustainability: Organic supplementation through effective utilization of by products of linked component is done thus providing an opportunity to sustain the potentiality of production base for much longer periods.

Balanced Food: We link components of varied nature enabling to produce different sources of nutrition.

Environmental Safety: In IFFS waste materials are effectively recycled by linking appropriate components, thus minimize environment pollution.

Recycling: Effective recycling of waste material in IFFS.

Adoption of New Technology: Resources farmer (big farmer) fully utilize technology. IFS farmers, linkage of dairy / mushroom / sericulture / vegetable. Money flow round the year gives an inducement to the small/ original farmers to go for the adoption technologies.

Saving Energy: To identify an alternative source to reduce our dependence on fossil energy source within short time. Effective recycling technique the organic wastes available in the system can be utilized to generate biogas. Energy crisis can be postponed to the later period.

Meeting Fodder crisis: Every piece of land area is effectively utilized. Plantation of perennial legume fodder trees on field borders and also fixing the atmospheric nitrogen. These practices will greatly relieve the problem of non – availability of quality fodder to the animal component linked.

Income Rounds the year: Due to interaction of enterprises with crops, eggs, milk, mushroom, honey, cocoons silkworm. Provides flow of money to the farmer round the year.

Increasing Input Efficiency: IFS provide good scope to use inputs in different component greater efficiency and benefit cost ratio.