

# INTEGRATED FARMING SYSTEM

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*Abstract— Integrated farming systems (IFS) is an e.co-friendly approach in which waste of one enterprise becomes the input of another thus its make more efficient use of resources from the farm. IFS as a mixed farming system that consists of at least two. separate but logically interdependent parts of a crop and livestock enterprises. IFS helps in improving the soil health, weed and pest control, increase water use efficiency and maintains water quality. In integrated farming system the use of harmful chemical fertilizers, weed killers and pesticides should be minimized and also provide safeguards to the environment from the adverse effects. Integrated farming system improves economic condition of the small and marginal farmers which enhanced the education. health and social obligations and overall improvement in livelihood security. Though IFS approach the use of chemicals (fertilizers and pesticides) can be reduced to provide chemical free healthy food to the society.*

*Keywords: chemical fertilizers, weed -killers, pesticides*

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## I. Introduction

Integrated farming systems (IFS) journals cover research and studies related to agricultural systems that integrate various components such as crops, livestock, aquaculture, agroforestry, and other agricultural enterprises. These systems aim to achieve sustainability, maximize resource utilization, and enhance productivity while minimizing negative environmental impacts.

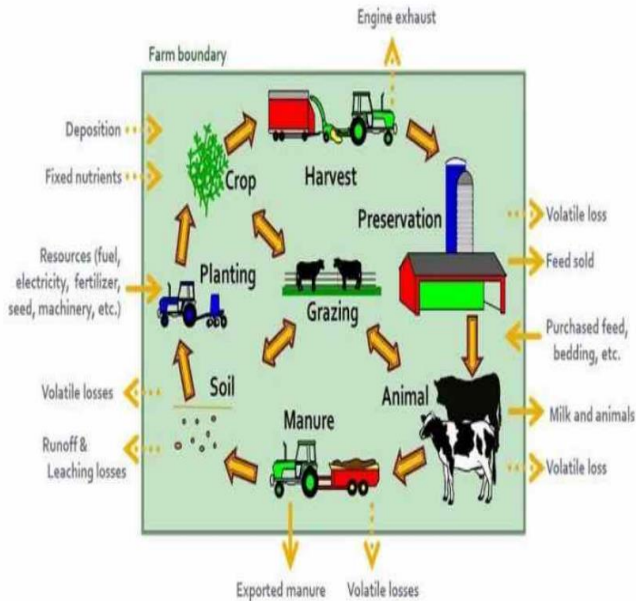
Journals focusing on integrated farming systems might include:

**Agriculture, Ecosystems & Environment:** This journal often covers topics related to integrated farming systems, agroecology, and sustainable agricultural practices.  
**Renewable Agriculture and Food Systems:** Publishes research on sustainable farming practices, including integrated farming systems, organic agriculture,

and agroecology.  
**Journal of Sustainable Agriculture:** Focuses on sustainable agricultural practices, including integrated farming systems and their socio-economic and environmental implications.

**Agroecology and Sustainable Food Systems:** Covers research on sustainable agriculture, including agroecological practices and integrated farming systems.

- To raise the overall profitability of farm households by complementing main allied enterprises with each other. etc.



**Fig: 1: Integrated Farming System**

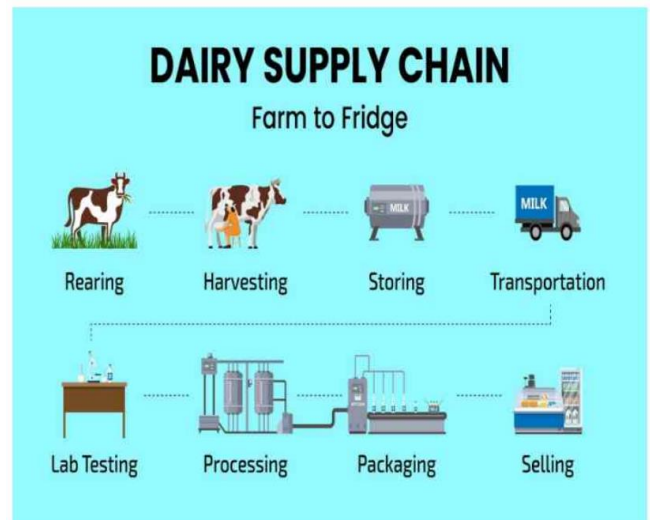
## II. OBJECTIVES OF INTEGRATED FARMING SYSTEM:

- Efficient recycling of farm and animal waste.
- Minimizing nutrient losses.
- Adoption of efficient cropping system and crop rotations.
- Complementary combination of farm enterprises.
- Efficient recycling of farm and animal wastes.
- Minimizing the nutrient losses.
- Maximizing nutrient use efficiency.
- Adoption of efficient cropping systems and crop rotations.
- The complementary combination of farm enterprises.
- Generally, farmers take more than one enterprise on their farms.
- The combination of enterprises on a farm is influenced by the relationship that exists between the enterprises.
- To identify the existing farming systems in a specific area and assess their relative viability.
- To formulate a farming system model involving main and allied enterprises for the different farming systems.
- To maintain a sustainable production system without damaging a resource based on the environmental system.

## III. COMPONENTS OF IFS:

- DAIRY FARM
- CROP PRODUCTION
- POULTRY FARM
- FISHERY FARM
- APICULTURE
- GOAT REARING
- HORTICULTURE

**DAIRY FARM:** Dairying, also called dairy farming, branch of agriculture that encompasses the breeding, raising, and utilization of dairy animals, primarily cows, for the production of milk and the various dairy

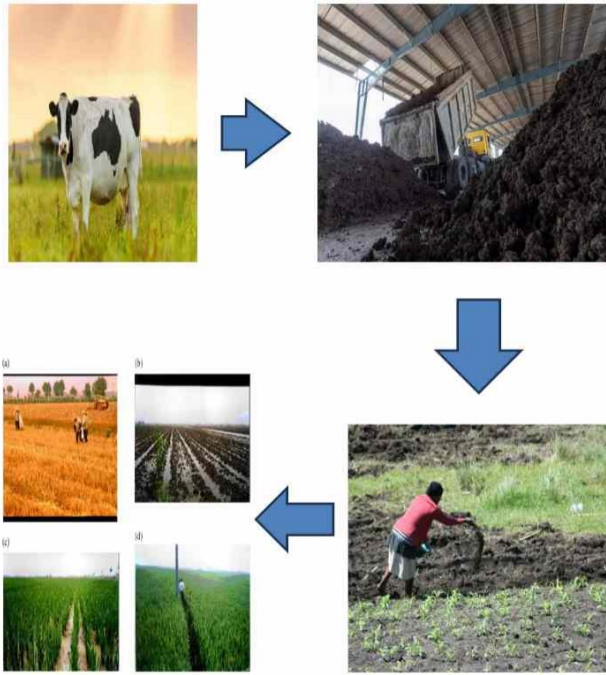


products processed from it.

**Fig:2: Dairy Farm**

## 2)CROP PRODUCTION:

Crop production is the process of growing crops for domestic and commercial purposes. Some of the crops produced on a large scale include rice, wheat, jute, sugarcane etc.



**Fig:3: Crop Production**

### 3) POULTRY FARM:-

Poultry farming is the form of animal husbandry which raises domesticated birds such as chickens, ducks, and turkeys to produce meat or eggs for food. Poultry — mostly chickens — are farmed in great numbers. More than 60 billion chickens are killed for consumption annually.

### 4) FISETERY FARM:-

Fish production or fish farming is a form of aquaculture in which fish are raised in enclosures to be sold as food.

Fish farming or pisciculture involves commercial breeding of fish, most often for food, in fish tanks or artificial enclosures such as fish ponds. It is a particular type of aquaculture, which is the controlled cultivation and harvesting of aquatic animals such as fish, crustaceans, mollusks and so on, in natural or pseudo-natural environments. A facility that releases juvenile fish into the wild for recreational fishing or to supplement a species' natural numbers is generally referred to as a fish hatchery. Worldwide, the most important fish species produced in fish farming are carp, catfish, salmon and tilapia.

### 5.) APICULTURE:-

The places where bees are kept for apiculture is called an apiary. Apiaries need to be close to the areas where fruits and orchards are present as the honey bees need the nectar from the flowers. It helps the bees produce honey with a high nutritive value.

### 6.) GOAT REARING:-

Goat farming involves the raising and breeding of domestic goats (*Capra aegagrus hircus*) as a branch of animal husbandry. People farm goats principally for their meat, milk, fibre and skins. The Boer goat, a widely-farmed meat-breed.

Goats produce about 2% of the world's total annual milk supply.

1. Some goats are bred specifically for milk.
2. Goat milk is commonly processed into cheese, butter, icecream, yogurt, cajeta and other products.
3. Goat cheese is known as fromage de chevre ("goat cheese") in France

### ADVANTAGES OF INTEGRATED FARM

1. Higher productivity and profitability
2. Money round the year
3. Improved nutrition
4. Employment generation
5. Better standard of living
6. Sustainability

#### 1. Higher productivity and profitability:

- Integration of crop and allied enterprise helps to increase economic yield per unit time. Productivity increase due to intensification in time and space. Produce or waste material of one enterprise can be utilized for other and it helps to minimize expenses.

- If you use fewer resources to achieve more output, you will typically have high productivity. Profitability is the revenue left over after all expenses and taxes have been paid. You can increase your profitability by producing more products while paying less for the resources needed to produce and sell them.

## 2. Money round 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. An annual budget is a plan for a company's projected expenditures over the course of a year. Annual budgets act as benchmarks against which an individual or company can measure progress and as tools to help better manage money.

## 3. Improved nutrition:

1. To produce different sources of nutrition.
2. Good nutrition is one of the keys to a healthy life. It can improve your health by keeping a balanced diet. You should eat foods that contain vitamins and minerals. This includes fruits, vegetables, whole grains, dairy, and a source of protein.

## 4. Employment generation:

Combining crop with livestock enterprises would increase the labour requirement. IFS provide enough scope to employ family labour and outside labour throughout the year. The results indicated that the IFS model is good enough to provide sustained average net income of 137,712/ha and employment of 389-man days/year as compared to conventional cropping systems (CC) which gave average negative net income of -644/ha during 6 years of investigation due to deficit of rainfall.

## 5. Better standard of living

IFS produce egg, meat, milk, fruits, honey, mushroom. It gave regular flow of money throughout the year. This increases standard living of farmer and family members.

Standard of living refers to the level of wealth, comfort, material goods, and necessities available to a certain socioeconomic class or geographic area.

## 6. sustainability: -

1. Organic supplementation through effectively utilizes of byproducts proving an opportunity to sustain the

potentiality of production base for much longer periods.

2. Based on a systems approach, integrated farming is an improved version of mixed cropping, which tries to imitate nature's principles, where not only crops but, varied types of plants, trees, animals, bird, fish and other aquatic flora and fauna are utilized for production.

## VII. Conclusion

Results discussed revealed that IFS enables the agricultural production system sustainable, profitable and productive. About 95 % of nutritional requirement of the system is self-sustained through resource recycling.

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