CLASS 3: INTEGRATED FARMING SYSTEMS - ROLE OF LIVESTOCK AND POULTRY, MANURE MANAGEMENT METHODS, DUCK/FISH/RICE CULTURE.

Integrated Farming system

CLASS 6

Integrated farming system – (IFS)

- Component of farming system research a change farming techniques for maximum production – optimum utilisation of resources
- Defects of mixed farming is overcome –
  - proper planning,
  - monitoring
  - and execution of work according to size of the farm, farm resources, Agro climatic etc.

Focused on a few selected, interdependent and interrelated systems
Type of livestock species or poultry enterprises - selected
- availability of feed,
- fodder,
- water resources of the farm.
- Quantity – Availability : No. of animals maintained

GOALS
Four goals
- Maximizing of yield of all components- steady and stable income
- Rejuvenation of systems productivity-ecological equilibrium
- Control pest, weed and diseases by stable management.
- Reducing the use of chemicals and other harmful agro chemicals

Advantages
- Productivity
- Profitability
- Potentiality and sustainability
- Balanced food
- Pollution free environment
- Recycling
- Adoption of new technology
- Solve energy crisis
- Employment generation
- Improves the standard and literacy

Different systems
- Lowland farming system
- Irrigated upland farming system
- Upland farming system
Lowland farming system
- Cropping + poultry + duck + pigeon + fishery + mushroom in all possible combinations
- Recycling reduces the cost of output
- one hectare 0.90 ha for crop + 0.10 for fish pond
- 1000 polyculture fingerlings
- 50 babcock layers or 100 pigeons feed requirement for 1000 fingerlings
- Pigeon open grazing \(^\text{^ profitable}\)

Other Combinations
- Crop + piggery + fish+ mushroom
- crop + goat + fish
- Goat Unit 11.0 t more manure apart from feed requirement
- Employment for the farmers
- crop residue sand waste of horticulture for producing 5 kg of edible mushroom /day
- vermicomposting

Irrigated upland farming system
- Crop + Dairy + Biogas + Spawn+ Mushroom
- Dairy of 3 milch animals
- Dung to generate 2m3 of biogas – sufficient for preparation gruel, lightning 2 lamps and cooking of mushroom and spawn
- Sericulture – mulberry leaves after worm feed – and faecal matter of worms good biogas input
- **Left out after reeling silk yarn** – rich in protein – good feed supplement

OTHER INTEGRATION

**Rabbit farming**

**One unit 10 females and one male** – 200 kindling – weight around 1000 kgs meat
**coconut border planting** on irrigation channels with 4 m interval – 50 trees – 5000 nuts per annum
Nutrient enriched by **growing sun hemp**
**Vermicompost** from plant good organic source

Horticulture oriented
- Homestead Garden with vegetables, fruit trees – vermicompost to the land
- Honey bee hives – collect honey from the flowers
- Horticulture Waste to the animals (dairy)

Upland farming system

- **Conventional Rain fed Crops**
- integrating farms and biomass build up
- **Dry Land With Goat+ Fodder Crops + Perennial Grasses**
- 20 ewes and one buck -365 days by short duration field crops (Tellicherry) – dual purpose – economic traits – manure of 11.2 t of soil excellent source primary, secondary and micro nutrients absorb more moisture and release to the crop
- **After 5 years perennial fodder trees bear the stock**

**Other Inputs**
- Buffalo – Good Quality Of Milk Fat with low quality fodder
- Drought Tolerant Fruit Crops like ber, amla, guava, pomegranate raised with legumes or intercrops feed supplement to milch animals
- Farm pond
  - 1/25 of the cultivated land – outlet point for the secure run off water
  - Dimension 40*10*1.5m
  - Silt settling unit – silt removed – organic nutrient to perennial fruit trees and stagnation of water more 31/2 to 4 months – tilapia a local fish reared in pond

**Constraints**
- **Heavy investment at initial stage**
- **Involvement of multi disciplinary activities like animal husbandry**
- **Lack of marketing**
- **Lack of knowledge of preparation of own feed**
- **Non availability of new variety**

Specialized farm
- **Intensification of agricultural activity** aimed at maximising the production/unit area /unit time.
- **Operational efficiency** and speed of execution.
- **Focused on a single system.**
- **Management skills**
  - If located close to town –
    - Advantageous
    - i. Reduce transport cost
    - ii. Marketing easy since avenues more.

Village: Cost of land cheap: investment on feed and fodder less.

- Mixed Farming: Along with crop Husbandry one or more component of livestock or poultry maintained. mixed farming is the economical rearing of different types of Livestock&Poultry in the farm along with
  - (a) making use of farm Produce.
  - b)Utilization of unconventional feed and fodder
  - c)better utilization of farm by products