

Integrated Farming System (IFS) For Wetland System

Coimbatore (T: N). Components are

1. Cropping (Rice- fish – poultry- mushroom)
2. Fish culture.
3. Poultry.
4. Mushroom production.
5. Cropping 0.36 ha.
6. Fish pond 0.04 ha.

This farming system was compared with conventional cropping normally followed in the region. Rice – Rice – green gram and rice – rice – green manure (0.20 ha).

Component Description:

1. Fish pond area of 0.04 ha with 1.5 m depth.
2. Diff. finger lings of diff. fish species with total of 7500/ ha.
3. Harvesting of fish commenced from tenth month. A poultry shed at corner of fish pond(shed 2.2 m²).
4. Free fall of poultry dropping into the fish pond (Twenty Bapcock chicks of 18 weeks old reared).
5. The feed components were purchase only in 1 st year of cropping.
6. The birds started laying eggs around 22 nd weeks up to 72nd when they were culled out.
7. A mushroom shed of 5 * 3 m was constructed with local materials. Oyster mushroom was produced utilizing rice straw as the base material.

Economics- on an average net profit of Rs. 11, 755 was obtained in rice – poultry- mushroom system as compared to Rs. 6, 335 only from conventional system of cropping. Additional employment of 174 man – days was generated due to IFS. IFS – Tamil Nadu – Cauvery delta Zone (Crop – poultry- fish system).

Farmers of this zone are practicing monocropping of rice for two season followed by a rice fallow pulse. Among the different allied activities, pisciculture plays an important role in this zone since water is available in the canal about 7 – 8 months. Poultry farming is another feasible enterprise. By combing the enterprises of poultry – cum fish culture with rice cropping system the economic status of the small and marginal farmers could be improved.

Components: - One ha area has been selected.

- 0.04 ha area for fishpond
- Improved cropping as rice- rice cotton (0.76 ha) and
- Rice- rice – maize (0.20 ha).

Maize being a major constituent of poultry feed was included in the system. This system compared with the existing practice of rice- rice – black gram

Poultry unit: - 50 Bapocock's, Bu 300 hybrid layer bird of 21 weeks age were maintained till 43 Weeks.

- 100 g/day/ bird through maize, rice bran, groundnut cake.

Fish culture: Ponds near to poultry shed. Different fingerlings of fish in ponds, with density of population maintained were 10000 fingerlings / ha. The fish were harvested

after six and half months.

Economic: A net return of Rs. 17,200 was obtained by integrating different enterprises by introducing poultry – cum – fish culture with cropping a total employment of 385 man- days was generated.

Integrated Farming System (IFS) for Irrigated Situations (Garden lands):

A model integrated farming system to suit the small and marginal farmers of garden land condition was studied at TNAU, Coimbatore, during 1988- 1993 (Rangaswami et al. 1995) An area of one ha was selected for IFS and compared with conventional cropping system(CCS).

Components of IFS:

	Cropping	Area (ha)
I.	Cotton = green gram maize + fodder cowpea- Bellary onion	0.56
II	Wheat = sunflower – maize + fodder cowpea- summer cotton + green gram	0.11
III	Grass Bajra Napier ((Co. I)	0.15
IV	Lucerne	0.05
V	150 Tons of Leucaena (planted in the bunds)	0.05
	Total	1.00

Farm Stead:

Dairy Unit	3 jersey cows + 2 calves
Biogas Unit	2 m 3 capacity
Mushroom Production	1.5- 2.0kg/ha

The above integrated system was compared with the conventional cropping system of cotton sorghum- finger millet in 0.20 ha area.

Economic returns from the system: Maize flour, cottonseed and wheat bran obtained from the crop components were recycled for preparing dairy feed from the second year. About 45.5 t of to the animals. Dung was recycled for the biogas plant. Mean revenue of Rs. 34600/ ha was realized in IFS as compared to RS. 13950 obtained in CCS. Employment opportunity was also enhanced to the tune of 770 man- days per year under IFS as against conventional cropping.

III) Integrated farming system (IFS) for Dry Land based system: Integrated farming system for dry lands suggested for Coimbatore and Aruppukottai, Tamil Nadu, are described below:

Model for Coimbatore, Tamil Nadu (mean Annual rainfall; 640 mm).

Crop Components for One Hectare:

	Cropping	Area (ha)
i)	Sorghum + cowpea both grain purpose	0.20
ii)	Sorghum + cowpea both fodder purpose	0.20
iii)	Leucaena (tree fodder)+ Cenchrus (grass fodder)	0.20
iv)	Aracia Senegal (tree fodder) + grass	0.20
v)	Prosonic cineraris (tree fodder) + grass	0.20

Animal Components: Telicherry goat: 6 (5 female + 1 male – stall fed)

Conventional cropping system = 0.20 ha (sorghum+ cowpea- grain purpose).

The animal components, tell cherry goat, numbering 6 (5 female+ 1 male) were kept in a shed (6 * 4 m). The goals were stall fed form the cropping components. Two kg each of green and dry fodder and 100 g of concentrate were given to each animal. At the end of second year. All the 4 male goats were disposed retaining one number. From the end of third year onwards, 20 female and one male were retained and remaining disposed. The litter form the goat shed was used for composting and recycled as manure. A farm pond was dug in an area of 300 m² and the rain water harvested was utilized for pot watering the tree saplings.

Economic returns from the system: men additional revenue of Rs. 3750ha / year was obtained from IFS over CCS. The employment generation under IFS was 153- man days/ ha / year whereas it was only 40- man days/ ha/ year in the CCS (sivasankaram et al. 1995).

IFS for island Ecosystem:

Integrated farming system models have been developed for the Andaman and Nikobar Islands –

1.Coconut – cum – fodder- cum – milch cattle: Mixed farming by raising fodder grass coconut has been founded profitable; grass in coconut has been found profitable, grass like hybrid Napier or leguminous fodder like Stylo in Coconut garden can support 4- 5 dairy animals. Animal supply large qualities of cattle manure applied to coconut garden improve the soil fertility.

2. Coconut – cum fish culture in salt affected lands: Coconut grows successfully even in salt affected paddy fields if the fields are within the approach of brackish water. The bunds of fields at water entrance gate should be raised to maintain the required level of water. Field bunds should also be raised a per the requirement. Water will be exchanged and thus fish raising can be taken up together with coconut in dry period. In rainy season, salinity tolerant rice varities could be cultivated in the same field with coconut and fish culture.

3. Fruits- fodder- milch cattle:The space available between the fruit trees can be utilized for growing fodder crops such as cow pear, rice bean, germ gram and black

gram. The fodder could be used for feeding the cattle and cattle manure could be applied to the fruit trees and fodder crops.