

Integrated Farming system

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Introduction

Integrated farming system is a holistic approach or an amalgamation of different agricultural activities in a unit area of land. The IFS approach aims at: Maximising return from the unit area and utilising the by-products of one IFS unit as an input in other for ensuring supplementary and complementary enterprise relationship. Enterprise's selection must be based on the principles of minimising the competition and maximising the complementary between the enterprises.

Suitable Model of Integrated Farming System (IFS)

For our state Odisha, with assistance from the State Plan Funds, an ideal IFS is proposed (Table 1, 2 and 3) so that there will be demonstration effect, which will help in replication of the projects.

Table - 1

Financial assistance (by govt.)	Rs. 1.00 lakhs per unit	General/ST/SC/Women /Big/Small & marginal farmers
Contribution by farmer	58,000	
Total cost incurred	1, 58,000	

Table - 2

Components of proposed model	
Farm pond	40 Mt x 50 Mt x 1.5 Mt
Land	2.0 Ac

Table – 3: The farmer should have or develop:

Sl no.	Components	No
1.	Pisciculture	2
2.	Improved milch cow	2
3.	Apiculture boxes	2
4.	Vermi compost units	2
5.	Duckery unit	Khaki Campbell birds- 100 nos
6.	Poultry unit	50 Colour Bids, 20 Desi birds
Crop production		
7.	Boundary	Custard apple or Acacia mangium or Subabool
8.	Plantation	Papaya, Moringa (Drumstick) and Banana (Bantal)
9.	Fruit plants	Pomegranate (5-7 nos), Guava (2-3 nos), Lemon (5-7 nos)
10.	Paddy	0.50 Ac
11.	Maize	0.50 Ac
12.	Green Fodder (Both Kharif & Rabi)	0.50 Ac
13.	Vegetable in Kharif	0.50 Ac
14.	Pulses and Oilseed Rabi)	1.25 Ac
15.	Vegetables in Rabi	0.25 Ac

Inclusion of pulses like black -gram / green- gram in coastal district and Bengal gram/ pea/ lentil in interior districts as ploughed/ paira crop and groundnut as oil seed will increase soil fertility along with oil seeds like mustard/sunflower will serve as foraging of honey bees.

Rice- Fish- Horticulture Model of IFS in Rainfed lowland ecosystem for 0.5 ha

Proposed model (1.25 ac)	% Share of area
Rice field	60%
Horticulture and agro-forestry area	23%

Pond (30m x 12 m x 2m)	7 %
Two trenches (2.5 m width) Eight platforms (4mx 3.5m)	10%

Various components of Rice- Fish- Horticulture Model IFS

Sl no	Components	Varieties/Cultures/Crops	Location
1	Rice varieties	Varshadhan, CR Dhan 505, CR Dhan 500, Jalmani, Durga, Pooja	Field
2	Composite Fish cultures	Rohu, Mrigal, Catla, Silver carp and Common carp	Pond
3	Crops	Chilli, sunflower, groundnut, lady's finger, & watermelon	Inner side of dyke
4	Fruit crops	Coconut, Areca nut, Banana, Papaya, guava	Adjacent to pond

Rice-fish interactions in integrated farming creates an environment of mutualism and synergism where both rice and fish benefit from each other. Fish also acts as real bio-control agent for major rice pests. Fish farming controls weed in rice field both directly by feeding and indirectly by increasing water turbidity, doing mechanical injury and constant flooding. Rice-fish farming in rainfed lowland increases organic carbon and exchangeable ammonium amid increase in the available P_2O_5 . Continuous accumulation of fish excreta in this system may have some role in enriching the soil nutrients. Rice in this farming system, benefits in terms of increase in grain yield of around 5 to 15% and straw yield of 5 to 9% under rainfed lowland ecosystem.

Conclusion

Integrated farming system is an inter-related and inter-dependant production process which aims at profit maximization, input stabilization, ecosystem regeneration and sustainable agricultural production. So, now-a-days greater attention has been given to various IFS models for efficient use of natural resources in a balanced manner.



References

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