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SUCCESS STORY

Integrated Farming System with Duck Farming: A Sustainable Livelihood Model from Udalguri District

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Background

Mr. Thopsa Boro, a progressive farmer from Dewrigaon village in Udalguri district, Assam, owned a 0.26 ha pond that had been traditionally utilized for fish rearing but generated only modest returns. His family mainly relied on seasonal paddy cultivation, resulting in limited and uncertain income. After participating in training programmes and receiving technical guidance on the Integrated Farming System (IFS) from KVK Udalguri, he adopted an integrated farming approach by combining duck farming with fish culture, horticulture, and vegetable cultivation. The duck component provided additional income through the sale of eggs and meat while enhancing fish production through nutrient recycling. This diversified farming system significantly improved farm productivity, resource utilization, and household income, ensuring year-round employment, nutritional security, and greater resilience against climatic and market uncertainties.

Interventions

The farmer adopted an Integrated Farming System with the following components:

- **Duck farming:** 50 nos of chara chambelli ducks reared over the pond.
- **Fish culture:** Indian major carps and local fish species stocked in the 0.26 ha pond.
- **Vegetable cultivation:** Seasonal vegetables grown on pond bunds using organic manure.
- **Fruit plantation:** Banana, papaya and lemon planted around the pond.

The ducks were housed over the pond so that droppings directly fertilized the water, promoting the natural growth of plankton that served as fish feed. This reduced expenditure on pond fertilization and commercial fish feed.

Results

Within two years, the integrated farming model significantly improved the farmer's livelihood.

- Produced around 4200 duck eggs annually, providing regular income.
- The rearing of fish gave an average income of Rs.81,000.00 per bigha by adopting the IFS.
- Vegetables grown on pond bunds supplied fresh produce for home consumption and local markets.
- The family earned an annual net income of approximately ₹5.5–6.5 lakh, much higher than the income from traditional farming.

Impact

The IFS model ensured year-round employment and efficient utilization of available resources. Nutrient recycling among ducks, fish, crops and vermicompost reduced production costs while improving farm productivity. The success of the model attracted neighbouring farmers, who regularly visit the farm to learn about integrated duck-fish farming. Today, Mr. Boro has become a role model for rural youth, demonstrating that scientific integrated farming on a small landholding can generate sustainable income, improve nutritional security and create employment opportunities.

Conclusion

Integrated fish–duck–horticulture farming is a sustainable and profitable farming system that maximizes the efficient use of land, water, and other farm resources. The integration of ducks with fish culture enhances pond productivity through natural nutrient recycling, while horticultural crops grown on pond

embankments provide additional income, improve household nutrition, and optimize the use of available space. This system reduces production costs, minimizes waste, and diversifies farm enterprises, thereby lowering production risks and ensuring year-round income.

The successful adoption of this integrated farming approach demonstrates that even small landholdings can be transformed into economically viable and environmentally sustainable production units. By generating employment, improving resource-use efficiency, and strengthening climate resilience, the fish–duck–horticulture model contributes significantly to the livelihood security of small and marginal farmers. Its success serves as an inspiring example for other farmers to adopt integrated farming practices for higher productivity, enhanced profitability, and sustainable agricultural development.