

Farmer Success story: Integrated Farming Approaches

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Name of the farmer : Mavuram Mallikarjun Reddy

Age : 32

Education : B.Tech (Computer Science)

Land holding : 12.5 acres

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Situation Analysis/Problem Statement

In general, many of the farmers are using conventional farming methods which involve inorganic fertilizers and following monocropping, which puts a strain on farmers' soil and water resources. This often leads to less productive crop yields, which in turn means less food and lower incomes. As they already strained situation gets worst due to climate change, farmers are now in need of more efficient modes of production. To make the farming economically viable, environmentally sound and sustainable a holistic all around approach is required.

Plan, Implement and Support

Integrated Farming approach represents an appropriate combination of farm enterprises (cropping systems, horticulture, livestock, fishery, forestry, poultry) and the means available to the farmer to raise them for profitability. To integrate all above activities, with the technical support of KVK he has planned and implemented the different approaches

- Direct seeding (Drum seeder & Broadcasting) method of paddy cultivation.
- Traditional cultivation of Azolla as a bio fertilizer and application in Paddy field, used as livestock feed.
- Growing of Horticultural crops like Vasu & Ginger.
- Maintaining 4 cows (Ongole, Ghir, Sahilwal and local breeds) and 2 cattles in dairy unit.
- Rearing 21 sheep (20 Female + 1 Male) and 30 lambs in farm.
- Rearing 600 fish in open well present in the field.
- Rain water harvesting through farm ponds and open wells for entire Agriculture land to increase ground water level.
- Generation of 2 KW Solar power through solar system and utilizing for Agriculture, domestic purpose.
- Production of Bio gas through utilization of animal and various types of organic wastes and utilization of animal slurry in Agriculture land
- Cultivation of improved fodder varieties like Super Napier and Hedge lucern

- Growing of green fodder through Hydroponics to feed livestock
- Practicing Organic farming to preserve natural resources
- Development of low cost feed for Animals from Pulse crops
- Maintenance of Poultry farm and Rearing of Vanaraja chicks

Output

In this integrated farming practices, with the technical support of KVK Scientists, Cultivated paddy through Direct seeding method. By following the better innovative practices like weeding with Manual operated weeder (Self innovated instrument), AWD method of irrigation management and application of Azolla along with bio fertilizers leads to reduction in cost of cultivation. With the above practices the yield levels were enhanced due to this income levels were higher than farmer practice.

S. No	Name of the Parameter	Broad Casting method (Innovative practice)	Normal Transplanting (Farmer practice)
1	Cost of Cultivation (Rs/ha)	38,137	47,000
2	Yield (Q/ha)	82.5	80.5
3	Gross Income (Rs/ha)	1,55,100	1,51,984
4	Net Income (Rs/ha)	1,16,963	1,04,984
5	C:B Ratio	1:3.06	1:2.23

- The Net income received by this practice is 1,16,963/- per ha and with normal transplanting method net income received is 1,04,984/-. The Average additional income gained per hectare is 11,979/-.

Horticulture crops

S. No	Name of the Parameter	Vasu (Acorus Calamus)	Ginger
1	Cost of Cultivation (Rs)	88,700	15,650
2	Yield (Q)	30	5
3	Gross Income (Rs)	1,80,000	32,500
4	Net Income (Rs)	91,300	16,850
5	B:C Ratio	1:1.02	1:1.07

Developed model horticultural farm by cultivating Vasu (Acorus Calamus) & Ginger in one hectare area and received net income 1,08,150/-.

Livestock, Fisheries

Sl. No.	Name of the Parameter	Dairy	Sheep rearing	Fish farming
1	Cost of Investment per year (Rs)	53,000	64,020	18,600
2	Milk per year (Litres)	1925	-	-
3	Gross Income (Rs)	92,125	1,80,000	48,000
4	Net Income (Rs)	39,125	1,15,880	30,600
5	C:B Ratio	1:0.73	1:1.81	1:1.64





- By maintaining dairy farm (4 cows (Ongole, Ghir, Sahilwal and local breeds) and 2calves) receiving net income 39,125/-.
- By rearing of sheeps (21 sheep (Deccen breed) (20 Female + 1 Male) and 30 lambs) receiving net income 1,15,880/-.
- By fish farming (Rearing 600 fish in open well present in the field) receiving net income 30,600/-.

Sl. No	Name of the technology	Area (Acres)	Farmers (No)
1	Direct seeding in Rice	500	300
2	Weeding with Manual Operated paddy weeder	200	100
3	AWD method of water management in paddy	800	350
4	Cultivation of Azolla - using as animal feed & applying in paddy fields	300	100
5	Organic farming practices like growing of green manure crops, crop rotation, usage of FYM, IPM methods etc.	200	100

Outcome

Disseminating the innovative practices of Integrated farming approaches of the farmer in a

horizontal way by KVK through conducting awareness programmes like field trainings, farmers group discussions, field days in collaboration with ATMA and other line departments.

Farmers were in a position to understand the field problems while managing the integrated farming approaches for sustainable income in different conditions.

Details of Technology Spreading

Integrated farming approaches like integration of Agriculture with livestock and fish farming or integration of horticulture with livestock results in higher profitability and sustainability-enhancement.

In broadcasting method of paddy cultivation, the organic farming practices followed by farmer results in enhancement of soil fertility status, saves water by 20-30%, reduction in cost of cultivation 6500/- per hectare and increases yields by 10%.



Integration of livestock with cropping systems have sustainable income and synergic effect of on all enterprises.

Impact

- By adopting AWD method of water saving technique in paddy, saves up to 15-30% of the

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| <p>nearly 5,000 litres of water commonly used to produce 1kg of un milled rice.</p> <ul style="list-style-type: none">• Rice cultivation contributes 11% of the global CH₄ anthropogenic emissions. The alternate wetting and drying (AWD) irrigation practice can conserve water while reducing CH₄ emissions through the deliberate, periodic introduction of aerobic soil conditions.• Manual operated paddy weeder is portable and easy to transport, Cost of weeding is reduced by Rs 2400/acre.• With the direct seeding methods of paddy cultivation, we will overcome labour scarcity problem and saves Rs. 11250/- per hectare (Labour wages for transplanting)• With the INM practices, soil fertility levels were increase by restoring soil organic content. | <ul style="list-style-type: none">• Reduced usage of nitrogen fertilizers due to continuous application of Azolla (both <i>kharif</i> and <i>rabi</i> seasons) in paddy field.• Harvesting rain water management through farm ponds and open well (16 lakh lit capacity)• Preparation of Compost through Paddy straw and other crop wastes by using waste decomposer.• Received appreciations from District Collector, Karimnagar for innovativeness in developing Integrated Farming System (IFS).• Received “IARI innovative farmer award” nominated by KVK, Jammikunta during the “Pusa Krishi Vigyan Mela 2021” held at IARI, New Delhi during 25-27 February, 2021. |
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