

Integrated farming system

for more produce and higher gains

R K Singh* and Uttam Kumar Tripathi

Krishi Vigyan Kendra, Chhatarpur, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, Madhya Pradesh 482 004

The article details the success achieved through the adoption of integrated farming system in District Panna, Madhya Pradesh. The harvest (crop yield) was 32-35% more, net income increased besides additional employment (man days per year) as compared to the traditional practices.

Keywords: Biogas, Crop yield, Fodder, Livestock

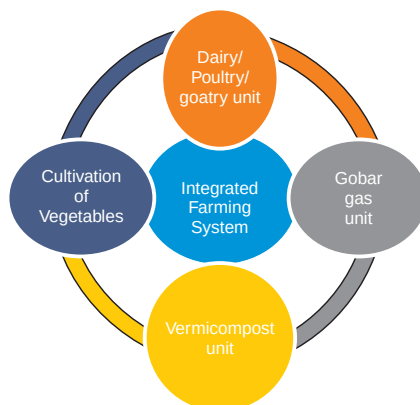
Background

In District Panna, situated in Kymore Plateau and Satpura hills zones of Madhya Pradesh, mono-cropping system is dominant. Majority of the farmers are either small or marginal with meagre agricultural income struggle to sustain their existence. Even adoption of improved agricultural technology and practices has not brought significant improvement in economic status of farmers due to fragmentation of land-holdings.

For economic upliftment of the farmers, a module of integrated farming system in 2 ha was deployed in this region during formal and informal meeting with farming community to minimize the risk and maximize the profit and employment.

Methodology

Progressive farmers Shri Laximan Das and Shri Manmohan Kuswaha



Module of integrated farming system developed by KVK Panna

from village Janwar, District Panna and Shri Hanumant Pratap Singh from village Visaramganj, Block Ajaygarh, District Panna, adopted the integrated farming system. Under this module, farmer had 2 buffaloes (Murrah/Desi), 2 cows (Sahiwal/desi) and 17 hens (Kadaknath), 1 portable biogas and 1 acre area under guava and papaya orchards. Farms

were located near to district/block headquarter where market was available to sell of vegetables at appropriate rate. Scientists of KVK Panna provided crop calendar for cultivation of vegetable around the year (Vegetable pea-Bottle guard-Okra and Tomato/Chili-Green palak-Brinjal-Coriander) and demonstration of fodder crops (fodder maize and barley and perennial grass Napier) for animal feeding. Pond used for production of horticultural and vegetable produce under rainfed region. A comprehensive questionnaire was used to obtain information on yield, net income and employment generation under this system for evaluating the feasibility of the model.

Subsequently, the horizontal spread of the Integrated farming system in the district was made through frequent farmers contact, interface with farmers, training to



Fodder maize



Berseem production



Inter-cropping of Wheat in Guava orchard



Rabi wheat



Rabi vegetable pea



Kharif-Greengram



Rearing of Kadaknath as backyard poultry



Fodder production through hydroponics



Portable biogas plant

Table 1. Economic analysis of the technology

Particular	Economic parameters	Improved production practices	Farmers Practices
Improved production technique of vegetables crops	Cost of cultivation (₹/ha)	57500	53800
	Gross income (₹/ha)	185000	117800
	Net income (₹/ha)	55000	20000
	B:C ratio	1:3.2	1:2.2
Livestock management	Cost of cultivation (₹/unit)	175000	110000
	Gross Income (₹/unit)	268800	145000
	Net income (₹/unit)	93800	35000
Poultry	Cost of production	6800	4500
		(17 hens unit)	(17 hens unit)
	Gross income (₹/unit)	23400	14350
	Net income (₹/unit)	16600	9850
	B:C ratio	1:3.4	1:3.1
Employment generation	Man days/year/head	523	365

For economic evaluation in term of gross and net return and cost-benefit ratio, the prevailing rates for input, labour and produce were utilized.

farmers and Rural Agricultural Extension Officer (RAEO), Krishak Sangoshthi and field visits. Farmers also disseminated the information about integrated farming system among the farming community through personal contact.

Field performance

The crop yield was more 32-35%, net income increased significantly and farmers earned thrice of what they invested. Moreover poultry an horticulture enterprise generate additional employment.

Impact of technology

More cash income would raise standard of living of the farmers.



Tomato production unit



Chili production unit

incurred for procuring fertilizers as livestock by-products can enhance agricultural productivity by intensifying nutrients that improve soil fertility, reducing the use of chemical fertilizers. Also crop residues can be used for animal feed If Biogas is installed in homes, the family only has to spend on the first 6 cylinders of LPG, the remaining 6 is taken care by biogas. This technology is applicable to whole Agroclimatic zone of Kymore Plateau and Satpura hills zones of Madhya Pradesh which makes it a futuristic technology.

Farmers will be able to save (approx. ₹ 2240/ha) on the expenditure

*Corresponding author email: Rajiv_kv@rediffmail.com