CROP DIVERSIFICATION : FOR PROFITABILITY, FOOD AND NUTRITIONAL SECURITY

Name and Address of the Farmer

Name : Sri, Indu Bhusan Swain
Village : Boria
Block : Kesinga
District : Kalahandi
Enterprise : Paddy, Pigeon pea, Banana and Cotton

Background Information:

Kalahandi is a tribal dominated district of Odisha and majority of the population depend on agriculture as their primary source of livelihood. Village Boria is situated at 30 km away from Bhawanipatna. Paddy is the only crop was grown during Kharif. During a diagnostic visit the scientist encouraged the farmers to go for low value to high value crops and from high water requiring crops to low water requiring crops. Along with Paddy in Kharif some pulses, oilseed, short duration fruits and vegetables can also be grown which has higher profitability and production potentiality that can play a big role in changing their livelihood besides providing nutritional security. During 2012-13, Pigeon pea Var. ICPL 87-119 was demonstrated in the farmers field of that village.

Sj. Indu Bhusan Swain, one of the farmers of the village was earning his livelihood from 16 acres of land. Due to traditional method of rice cultivation and poor crop productivity, he was not satisfied with the lower income. He used to cultivate only paddy both in the upland and low land. Sri Swain, after consulting with the KVK Scientists, was convinced to grow pigeon pea, cotton and banana along with Kharif paddy. He grows paddy, banana and cotton in 5 ac, 10 ac and 1 ac area respectively.

Description of the Technology:

Arhar : Line sowing of Pigeon pea (Var. ICPL 87-119) seeds (45 X30cm) ,Seed treatment with Rhizobium culture (1kg seed @ 20gms of culture) , Application of NPK @20:40:20 kg/ha as basal application, Weed management after 21 days of sowing ,Spraying of Chloropyriphos (2ml/lt of water) and planofix hormone (1 ml /4lit of water).

Banana and Cotton: Crop cultivation with complete Package of Practice.

Dissemination of Technology:

Capacity building through training, FLD OFT and other extension activities,Diagnostic visit of KVK Scientist time to time, Method demonstration showcasing all the package of practices, Distribution of extension literature on management practices of Pigeon pea, banana and cotton etc. ATMA (Dept.of Agriculture) and Horticulture (under NHM), also extended their helping hand by providing frequent training programmes to update their knowledge level

and different , Linkage with ICRISAT, Department of Horticulture and Agriculture was facilitated for inputs and all Govt. supports.

Success Point:

Arhar: On time sowing of the seed and seed treatment with Rhizobium culture, Application of recommended dose of fertilizer, Optimum care during critical growth stage of the crop, IPM and Weed management, Increase in knowledge and exposure to new technologies.

Banana and Cotton:

Adoption of improved technologies like proper planning, layout, planting, INM, IPM, etc. in banana and cotton. Marketing information gave him a great support to sell the harvested produce, which earned him maximum rates and fetches good profits. Shifted from monoculture of paddy cultivation to Arhar, Cotton and Banana cultivation.

Outcome

Productivity of Pigeon pea (Asha) recorded a higher yield of 30.4 % over local variety. He got a net profit of Rs. 4, 27,300/- per year.

Crop	Area (ha)	Yield (Q/ha)	Cost of cultivation (Rs./ha)	Gross Return (Rs./ha)	Net Return (Rs./ha)	Total Gross income (Rs.)	Total Net Income (Rs.)	BC Ratio
Rice	2.0	35	21,500	35,000	13,500	70,000	26,000	1.62
Arhar	5.0	15	25,000	73,500	48,500	3,67,500	2,42,500	2.94
Banana	1.0		1,00,000	2,50,000	1,50,000	2,50,000	1,50,000	2.50
Cotton	0.4	17.5	22,000	68,250	46,250	27,300	8800	3.10
TOTAL						7,14,800	4,27,300	

IMPACT

Horizontal expansion of pigeon pea is remarkable. Area of Pigeon pea has been increased from 5 ha to 80 ha. Farmers are now much aware to produce the HYV of Pulses rather than local degenerated variety. Area under tissue culture banana and cotton also enhanced in Boria and nearby villages. Net income of Sri, Swain is Rs. 4, 27,300/- (Rice, Arhar, Banana and Cotton). By seeing his success farmers are shifting from monoculture paddy cultivation to Pulse (Arhar), Banana and cotton cultivation. Farmers from inside, outside the district and also from outside states are visiting his farm and he became a source of inspiration for others.

Integrated farming system- A milestone of success

Name of the farmer: Prahlad Budhia

At- Kanakpur

Block: Bhawanipatna

Dist: Kalahandi (Odisha)

Mob. No : 8018698722 / 7894581168

Background Information

Village Kanakpur of Bhawanipatna block of Kalahandi district is just 8 km away from Bhawanipatna town. Agriculture is a primary source of income for the farming community of Kanakpur village. The existing farming system in the village was agriculture + dairying, where primary source of income was agriculture enterprise particularly from commodities like paddy.After KVK's intervention the farming systems was transformed to agriculture + horticulture + animal husbandry. Where horticulture crop became a primary source of income i.e banana,ridgegourd, bittergourd, cucumber, cowpea, brinjal, tomato,etc grown on in commercial basis which adds significant contribution to their income. Above all the members have shown a positive attitude towards change in the existing farming systems.

Description of the Technology:

Seed production in Paddy.

Papaya cultivation (KVK intervention during 2012-13)-Looking at the potential of papaya cultivation in the village and his interest, KVK Scientist advised him to go for developing a small papaya orchard orchard in his 0.4 ha of upland with a spacing of 1.5.m x 1.5 m.Banana cultivation (PoP of Tissue culture) with utillization of the interspaces with off season vegetables like tomato, ridge gourd, cowpea, bitter gourd, cucumber etc.Pisciculture, Milk and paneer preparation, Hybrid Paddy cultivation, Dairy with cross breed cows

Disemination of the Technology :

- Capacity building through Training, FLD, OFT and other extension activities by KVK.
- Involved in different FLD & OFT programmes of KVK
- Diagnostic visit of KVK Scientist time to time
- Exposure visit by KVK and other line department
- Method demonstration showcasing all the package of practices
- Distribution of extension literature on management practices of papaya, cucurbits, banana etc.
- Training was conducted where nearby farmers also participated to notice the benefit out of IFS.
- ATMA(Dept.of Agriculture) and Horticulture (under NHM), also extended their helping hand to the interested farmers by providing frequent training programmes to update their knowledge level.

Institutes involved :

Krishi Vigyan Kendra, Kalahandi

Horticulture Department – National Horticulture Mission

Agriculture Department , Kalahandi

RRTTS, Bhawanipatna

Success Point

- Equal emphasis is given to all the component of the farming system.
- All the sound technology has been completed in time.
- Increased in knowledge and exposed to new technologies Adopt IFS model
- Shifted from paddy cultivation to Paddy + Diarying + Horticulture (Fruit & Vegetable)+ pisciculture.

Outcome

Sl. No	Enterprises	Area (acre)	Season	Yield (Q)	Cost of cultivation (Rs)	Gross return(Rs)	Profit (Rs)	B:C ratio
1	Paddy	1.5	Kharif	40	16,000	40,000	24,000	2.5
2	Banana	0.5	Kharif	500 bunches	27,500	75,000	47,500	2.72
3	Papaya	0.15	Kharif	79.8	15,000	79,800	64,800	4.65
4.	Sugarcane	0.2	Kharif	20,000 (canes)	20,000	52,000	32,000	2.6
5.	Tomato	0.2	Rabi	29	10,000	30,000	20,000	3.0
5	Brinjal	0.25	Rabi	20	9,000	32,000	23,000	3.5
6	Cowpea + Beans	0.2	K + R	15 11	14,000	40,000	26,000	2.85
7	Ridge gourd	0.2	Kharif	20	11000	25000	14,000	2.27
8	Cucumber	0.3	Kharif	20	7,000	20,000	13,000	2.85
9	Fishery	0.5	Kharif	4.0 q	6,000	18,000	12,000	3.6
10	Diary	2 nos.	--	8.0 lit/day	5,000	28,800	23,800	5.76
	Total				1,40,500	4,40,600	3,00,100	3.13

Impact :

By seeing his success farmers are shifting from monoculture paddy cultivation to horticulture based farming system. Farmers also include new enterprise like dairy and poultry with their paddy-paddy farming system.Income substantially increased with technological intervention in sustainable manner. Many farmers of the district have been motivated by his success and some farmers with av. holding size of 2.0 ha. have adopted fruit and vegetable based farming model with input assistance like drip irrigation, bore well, weeders, Poly house etc . from ATMA & NHM schemes of the district. KVK has maintained regular liasoning with them .