

KRISHI VIGYAN KENDRA LEADS IN CHANGING THE SCENARIO OF PANNA DISTRICT WITH THE PROMOTION OF EFFECTIVE TECHNOLOGY

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Abstract: Panna district forms a part of the Kymore plateau and Satpura hills zone of Madhya Pradesh which is characterized by undulating topography, slopy lands and adverse climatic factors. The prevailing slopy lands and precipitation mainly received during July to September provide congenial conditions for growing Kharif season crops in the district. Hence, an effort was made by KrishiVigyan Kendra Panna M.P. to promote farmers for Kharif cultivation during 2005-06 to 2009-10 percentage increase in Kharif crop area is 16.03, similarly percent increase in yield is varies from 18 to 89 percent on various crops, seed replacement rate increases from 78.45 to 400 percent on various crops, more than 17.76 percent of newer farmers adopt farming all in all it leads to increase in cropping intensity up to 8 percent and increase in total production up to 72 percent. For achieving this series of training programs & frontline demonstrations conducted on improved cultivation technology by KVK resulted in successful efforts

Keywords: KVK, Technology Transfer, Effective Technology, FLD

INTRODUCTION

More than 72% of farming community of Panna district possesses small land holdings i.e. below 2 hectare and almost three-fourth farming community of this categories land remains uneconomical. Because of their faultier agricultural practices and lack of proper effective extension policies the small and marginal farmers remain below the poverty line, and due to this our district has not prospered agriculturally it leads to the downfall of our country too in the field of agriculture. Small and marginal farmers share of cultivated land is about a third of the total available agricultural land in the district. Over time, due to high population growth that causes a division of land holdings, and a very slow growth rate of the rural economy, the pressure on land has been steadily increasing and the number of small and marginal farmers has been growing. These farmers could play a leading role in the development of the country by contributing to the nation's capital formation if their uneconomic holdings are converted into economic ones. However, with the traditional cropping system, small and marginal farmers are finding it difficult to produce adequate food to feed their families. An extensive survey of the villages was conducted to identify various problems on four dimensions i.e. social, cultural, economic and ecological. Low crop production, severe moisture stress during crop season, waste or degraded lands, declining vegetal cover, high rate of soil erosion, poor soil fertility, undulated topography and depletion of valuable natural resources were some of the key factors responsible for poor socio-economic condition of the villages. The only way to convert these holdings into profit-making ones is through the intensive use of

land through diversification of crops. Popularize improved seed, improved technology and replace non-beneficial crops with higher remunerative. Keeping in view the poor socio-economic condition of the villagers, the KVK scientists worked out a comprehensive development plan for the villagers consisting of three components - conservation and restoration of natural resources; improving productivity and profitability of farming systems and sustainability while maintaining or enhancing the ecological balance and meeting the demands of food, fodder, fuel, fibre, timber; and, water on a sustainable basis.

METHODOLOGY

Farmers face a major problem with the non-availability of good quality seed. Increased cost of seed, poor germination, limited availability of seed and its transport are some of the constraints that are usually faced by the farmers. During baseline survey of the villages, farmers repeatedly expressed their desire that the KVK/State Agriculture Department should ensure timely availability of seeds of improved varieties to farmers along with improved agricultural implements and other related technology. From over coming this intensive cultivation experiment was undertaken on a farmer's field at Telagwan, Hardua, Motwa, Barchua, Piparwah, Kunjvan, Richora and Deogaon village of Panna district of M.P. After analyzing the gap with the help of PRA a result oriented action plan had been formulated with the active participation of farmers and farm family during 2005-06 to 2009-10. The planning and layout of field was done as per the need and the availability of resources they have.

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A step by step guide

Identify the thrust area i.e. Seed replacement, Crop replacement and technology replacement of the village through PRA.



Assessment of technology

As per need each of the improved technology was assessed in order to determine its effectively at local level.



Demonstrations

After assessing the technology all the suitable found technology had been propagated through demonstrations at farmers field.



Dissemination of technology

All the demonstrated technology had been disseminated through training of farmers and farm women, extension functionaries, mass communication through print media and electronic media.

Impact

Technology assessed: The KVK conducted 56 OFTs on 13 thematic areas in which 56 technologies assessed at 280 farmers field.

Demonstration: Total 92 demonstrations were conducted on oilseeds, pulses, cereals, vegetable, cash crop, agro-forestry and on other enterprises which covers the area about 35 ha.

Training Programmes : Total 504 training courses were conducted which benefited 7056 participants

including farmers and farm women, rural youth and extension personals.

Extension Activities : For popularizing the technologies in the region total 669 extension activities in the form of Field days, Farmers fair, Exhibition, CD Shows, Field visit, Exposure visit and Workshops were organized which benefited 8697 farmers and 247 extension functionaries.

Impact of KVK since inception on agricultural field

S. No.	Activity	Status on 2005-06 (area/production)	Status on 2009-10 (area/production)	% Increase in area	% Increase in production
1.	Total cropped area during Rabi	182180, ha/ 127270, ton	222427, ha/ 218910 , ton	22.09	72.00
2.	Total cropped area during Kharif .	86227, ha/ 21670, tons	100053, ha/ 53255, tons	16.03	145.75
3.	Cropping intensity	109 %	117 %	8.00	—
4.	Irrigated area	27 %	34 %	7.00	—
5.	Double cropped area	35417, ha	43522, ha	22.89	—
6.	No. of farmers involve in farming practices	141395, No.	166518, No.	17.76	—
7.	Improved agricultural implements.	27781, No.	41554, No.	49.57	—
8.	Area under horticultural crops	-	3509, ha	24.74	—
9.	No. of farmers possess KCC	42334, No.	111788, No.	164.06	—

Increase in seed replacement rate

S.No.	Crop	Status on 2005-06	Status on 2009-10	% Increase
1.	Black gram	4.2	12.20	190.00
2	Soybean	6.22	11.10	78.45
3	Sesame	0.5	2.50	400.00
4	Sorghum	0.2	0.80	80.00
5	Pigeon pea	0.5	2.50	400.00
6	Groundnut	1.2	3.30	175.00
7	Wheat	2.3	6.70	191.30
8	Chick pea	3.0	8.35	178.33
9	Lentil	1.2	4.90	308.33

Crop Substitution

- During 2002-03 up land paddy was grown in 60,000 ha through continuous campaign the area under paddy is reduced up to 40,000, ha and it is replaced by low water required crop viz: Soybean, Black gram, Sesame etc.
- Area under oilseeds, during 2002 was 14400 ha. now (2009-10) it reaches up to 31,897 ha.(increased by 121.50%) which is one of the biggest achievement as per the agro-climatic

condition which district faces since 5 years i.e. majority of upland paddy area is replaced by soybean and sesame.

- Area under pulses, during 2002 was 112500, ha now (2009-10) it reaches up to 1,34,928, ha. (increase by 19.93%) this figure reflects that majority of rainfed wheat is replaced by chick pea due to continuous poor rainfall and un-economical wheat production.

Technology substitution

S.No.	Crop	Status on 2005-06	Status on 2009-10	Increase in yield (%)
1.	Soybean	Broadcasting method of sowing	Ridge furrow method of sowing	37.80
2.	Paddy	Either broadcasting or delayed transplanting method.	SRI method of transplanting.	89.10
3.	Wheat	Excessive seed rate (150 kg/ha)	Appropriate seed rate (95-100 kg/ha)	18.00
4.	Chick pea	Excessive losses in chick pea yield due to wilt complex infestation.	Integrated wilt management	33.65
5.	Mustard	Heavy losses due to aphid infestation	Chemical control of aphid	67.20
6.	Wheat	Delayed in sowing of wheat in low lying paddy-wheat cropping system.	Sowing with zero till drill.	14.90
7.	Chick pea	Heavy losses due to pod borer infestation.	Integrated management of pod borer in chick pea.	28.50

Varietal replacement

Crop	Status on 2009-10
Wheat	Use of improved high yielding varieties such as GW 273, GW 322, under assured irrigation and HW 2004, JW 17, JW 3020, JW 3173, JW 3211 under rainfed and semi-irrigated condition.
Chick pea	Area under high yielding wilt resistant varieties such as JG 322, JG-63, JG-11, JG-16, and JG-130 is increased.
Lentil	Now majority of the area is covered under high yielding variety JL-1 & JL-3.
Paddy	Now more than 60-65% area is under early maturing variety viz: JR-201, Vandana, Poornima, etc.
Black gram	Now maximum area (more than 75%) is covered under LBG-20, PDU-1, PU-19, PU-30, T-9 etc.
Sesame	Now maximum area is under TKG 55, 22, 21, JTS 8 etc.
Soybean	Now JS 93-05 covered maximum area in Panna district, which is not only short duration but also shows tolerant character against YM disease.

RESULT

A substantial increase in yield & income was observed over the traditional system of cropping. This increase in yield & income could be attributed to intensive use of land and diversification of cropping pattern along with seed replacement, technology replacement and crop replacement. Earlier where the small and marginal farmers was finding it difficult to produce adequate food to feed his family with traditional system but now they are able to double their yield and income and now they make themselves in a position to meet out family annual expenses. This finding similar was found that Dutta A. (2014), Tiwari *et al.*(2003), Tomar *et al.*(2003), Indian Science and Technology (Report): 2008, and Meena *et al.* (2012).

CONCLUSION

It may be concluded that after implementing effective technology at farmer's field in a scientific manner can play an important role in increasing farm incomes and employment to achieve nutritional

security. Further, as the average family land holdings at the national level have come to 1.6-acre. Such studies can make a difference to the livelihood as well as food & nutritional security to the people.

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