



A Comparative Study of Beneficiaries & Non-Beneficiaries on the Pulse Production Economy under Front Line Demonstration Programmes in Kaushambi District of Uttar Pradesh

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Abstract: *The present study was conducted in Kaushambi district of Uttar Pradesh. Total 158 beneficiary and 158 non-beneficiary farmers were selected on the basis of random sampling method from the identified district. The study reveals that pulses can be profitably cultivated in rice fallows in the post rainy season. Farmers' perceptions and literature reviewed both revealed that inclusion of pulses in cereal-based cropping systems increased the yield of subsequent cereal crops and reduce the fertilizer cost too. To enhance the production and profitability of pulses, better quality and high yielding varieties should be available to the farmers. The training about HYV seed of pulses should be given to the small and marginal farmers. Development of appropriate pulse technologies, their effective demonstration and seed sector support as well as IPM/ICM/IDM support system is needed to encourage farmers in Uttar Pradesh to grow pulses to increase their income and improve soil fertility status, and thus enhance the sustainability of the rice-wheat based system.*

Keywords: *Front line demonstration, HYV, IPM.*

Introduction

In India, agriculture is the main occupation of the rural masses. It is the backbone of Indian economy. It is not merely occupation, but is a way of life of nearly 65 per cent Indians. Thus, agriculture plays an important role in the development of country. Though the agriculture is the main occupation of our country, there are certain limiting factors to this occupation land and irrigation.

Front line demonstration programme of Krishi Vigyan Kendra is being run at present in all the districts of India under the component of wheat, pulses and coarse cereals, respectively. The emphasis in component pulse reflects that several million people in the country remain largely bypassed by



the green revolution and modern agricultural practices. The component pulse is being implemented in Kaushambi district of Uttar Pradesh. The FLD programme is in full swing and so far no impact study in the operational area has been conducted regarding the response of farmers about pulse production interventions introduced under FLD programme. Presently, production of pigeon pea and chick pea is slow down due to several factors while demand of pulses especially pigeon pea and chick pea were increased and the price of mungbean is too high to purchase a person belongs to average income groups. Front Line Demonstration Programme was launched in 1991 by the ICAR. This programme had completed 27 years'. Hence, it was felt to know the impact of latest package of practices of pigeon pea and chick pea which were demonstrated at farmers field with close supervision of scientist. In this line **Vaghashia *et al.* (2005)** studied the adoption of technology of FLD through technology index and recommended package of practices being followed by farmers. Keeping in view the importance of the study and low productivity of pigeon pea and chick pea, it was considered worthwhile to find out how much this programme had helped the pigeon pea and chick pea growers to bring about change in their knowledge, adoption of pigeon pea and chick pea production technologies and increase the farm productivity and what are the factors which impede in enhancing the pigeon pea and chick pea production. **Teggelli *et al.* (2015)** revealed that due to front line demonstration on Pigeon pea an average yield was recorded 11.9 q/ ha under demonstrated plots as compared farmers practice 10.1q/ha. The highest yield in the FLD plot was 13.62 q/ha in 2013-14 with net returns of Rs.34, 883 compared to check trial net return of Rs. 26,194. This is the right time to assess the impact of the mission with regards to interventions introduced in pulse production cultivation.

RESEARCH METHODOLOGY

The frontline demonstrations on pulses were conducted by several institutes or organizations in Prayagraj but due to paucity of time and proximity, study was confined to FLDs conducted by KVK in Kaushambi district of Uttar Pradesh. For the purpose of investigation, ten villages of Kaushambi district, where FLDs were conducted during preceding ten years were selected. A sample of 316 respondents was taken comprising 158 beneficiary and 158 non- beneficiary



farmers. For selection of beneficiary farmers, a list of farmers where FLDs on Pigeon Pea and Chick Pea were conducted during 2010-2011 to 2016-17, total 286 FLDs on different pulses crops were conducted in the selected blocks and participated by 210 farmers. Among these approximately 158 respondents have been randomly selected for the sample. For the other half of samples (158 non-beneficiary farmers) were selected randomly from the villages adjacent to KVK, where FLDs were not conducted by any institute or organization. The data were collected through interview with the help of well structured interview schedule. The gathered data were processed, tabulated, classified and analyzed in terms of mean percent score and ranks in the light of objectives of the study. Ten and more than 10 percent difference between beneficiary and non-beneficiary farmers was considered as significant difference.

Result and Discussion

Front line demonstration programme of Krishi Vigyan Kendra is initiated for enhancing the food grain production of wheat, rice and pulse crops through area expansion and productivity enhancement, restoring soil fertility and productivity, creating employment opportunity and enhancing farm level economy to restore confidence of farmers of targeted district. The farm profits of non-beneficiary farmers due to cultivation of pulse crops were also worked out for comparison with farm profits of beneficiary farmers. The results have been presented in subsequent tables.

Comparison of the economics of pulse production of beneficiaries and non beneficiaries

Economic analysis of growing different crops is very important to understand which crop is most remunerative in terms of getting higher return on investment. To compare the economics of pulse production of beneficiaries and non beneficiaries, following table was prepared.



Table: 1

Distribution of the respondents according to their farm profit in pulse cultivation

S. N.	Level of farm profits	Beneficiary farmers		Non-beneficiary farmers		Total	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	Low (Up to Rs.<18000 /year)	11	6.96	34	21.51	45	14.24
2.	Medium (Rs.18000 to 21500 /year)	24	15.18	69	43.67	93	29.43
3.	High (Above Rs. 21500 / year)	123	77.86	55	34.82	178	56.33
	Total	158	100.00	158	100.00	316	100.00

The net farm profit (net income) due to cultivation of pulses crops was calculated of beneficiary and non-beneficiary farmers. On the basis of income received from cultivation of pulses crops, the respondents were categorized into three groups *viz.*, (i) low (upto Rs. 18000/year) (ii) medium (Rs. 18000 to 21500/year) and (iii) high (above Rs. 21500/ year). These categories were made on the basis of mean and standard deviation of the income obtained from the cultivation of pulse crops by the respondents.

Table reveals that out of 316 respondents, 56.23 per cent respondents were in high farm profit group *i.e.* above Rs.21500/year whereas 29.43 per cent pulses crops growers could be placed under medium level of farm profit group *viz.*, ranging from Rs.18000 to 21500/year and 14.24 per cent respondents were found in the low farm profit group upto Rs. 18000/ year.

A comparative view of farm profit derived from pulses crops highlights that 77.86 per cent beneficiary farmers and only 34.82 per cent non-beneficiary farmers were observed in the group of high farm profit level (more than Rs. 21500/year). It was further noted that only 15.18 per cent



beneficiary farmers and 43.67 per cent non-beneficiary farmers possessed farm profits from pulses crops up to Rs.18000/year. Whereas 6.96 per cent beneficiary farmers and 21.51 per cent non-beneficiary farmers were found to be in the group of medium farm profit ranging from Rs. 18000 to 21500/year due to pulses crops.

From the above discussion it could be concluded that more than 85.00 per cent beneficiary farmers were either in high or medium group of farm profit more than Rs. 18000/year farm profit group. This was due to the fact that beneficiary farmers adopted the pulses crops interventions introduced under front line demonstration programme. Hence, there was a good impact on beneficiary farmers so that they obtained farm profits at higher level from cultivation of pulses.

The present finding are in line with the findings of **Singh *et al.* (2009)** who revealed that increase in crop yield been recorded in NATP adopted districts as compared to non-NATP districts. **Samota (2011)** also reported that 50.66 per cent of the total respondents were in medium B: C group, whereas, 46.71 and 2.63 per cent of the total respondents were found in the high and low B: C ratio group respectively.

Comparison between beneficiary and non-beneficiary farmers about farm profits derived from recommended interventions of pulses crops:

To find out the variation or similarity in the farm profits derived by the respondents through adoption of recommended pulses interventions between beneficiary and non-beneficiary farmers, 'Z' test was applied. The results are presented in table given below.

Table: 2

Comparison between beneficiary and non-beneficiary farmers about farm profits derived from adoption of recommended pulse production intervention

S.N.	Category of respondents	Mean	S.D.	'Z' value
1.	Beneficiary farmers	61425	15878	7.229**
2.	Non-beneficiary farmers	48955	10245	

** indicates significance of value at P=0.01



Data presented in table indicates that calculated ‘Z’ value (7.229) was greater than its tabulated value at 1 per cent level of significance, which leads to the conclusion that there had been significant difference in the farm profits derived by the beneficiary and non-beneficiary farmers on account of adoption of recommended interventions of pulse crops. Further analysis of table shows that mean score of beneficiary farmers was more than non-beneficiary farmers, which indicates that beneficiary farmers had more farm profits due to recommended interventions of pulse crops introduced under the front line demonstration programmes.

From the above results it can be concluded that front line demonstration programmes is most effective in terms of farm profits derived due to pulse interventions introduced in Kaushambi district. The similar finding are supported by **Reddy and Patil (1998)** who revealed that the improved technology tested on farmer’s fields under the project of front line demonstrations on oilseed crops showed the beneficial impact of improved technologies over farmer’s practices. The incremental benefit cost ratio clearly showed that the technologies were cost effective.

Conclusion

It was concluded that there was a significant difference in level of farm profits between beneficiary and non-beneficiary farmers from pulse cultivation. The beneficiary farmers had more farm profits than non-beneficiary farmers in pulse cultivation. Thus, the front line demonstrations of Krishi Vigyan Kendra played a significant role in more farm profits among beneficiary farmers of pulses crops.

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