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Impact of technological interventions of KVK, Utukur, Kadapa on farming community of YSR district

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Abstract

The main focus of this study is to analyse the impact of KVK, Utukur interventions in the YSR District of Andhra Pradesh. Every year KVKs are implementing large number of technological interventions and spending lakhs of rupees. So it is necessary to study the impact of technological interventions for proper planning of technical programme, effective implementation, accurate monitoring and inclusion in the schemes and programmes. Impact means the overall benefits received by the intended beneficiaries by adoption or implementation of technological interventions. This study was conducted in KVK operational area using purposive sampling method with a sample size of 80. KVK, Utukur every year disseminating several technologies to the farming community of the YSR district. From the technological interventions of KVK, Utukur, Kadapa four popular interventions was selected purposively. For each of the selected intervention 20 number of beneficiaries were selected randomly thus making total sample size as 80. In this study an attempt made to find out the economic impact, horizontal spread and reasons for adoption of these technologies. The results revealed that majority of the KVK beneficiaries had increase in Production/Productivity (65.59%) followed by increase in Income (61.09%), decrease in cost of cultivation (57.25%), increase in employment opportunities (45.45%), additional area (37.36%) and creation of infrastructure (35.13%) was occurred through by adoption of KVK technological interventions.

Keywords: Krishi Vigyan Kendra, technological interventions, impact, beneficiaries, adoption

Introduction

India has made considerable progress in improving its food security. The agricultural development strategy pursued in the country, particularly since mid-sixties, is recognized and appreciated world over. The integration of agricultural research with quality education and a properly planned extension education system has been one of the fundamental foundations of this development strategy which also led to revolutions in many other sectors of agriculture and allied enterprises. Which as a part of this strategy, several programmes of transfer of technology from research stations to farmer's fields were launched in the country. These included National Demonstration Project (NDP), Lab to Land programme, Operational Research Project (ORP) and Krishi Vigyan Kendras (Farm Science Centers). The programs were continuously reviewed from time to time and reformulated for their effectiveness. KVKs are an integral part of the National Agricultural Research System (NARS),

aims at assessment of location specific technology modules in agriculture and allied enterprises through technology assessment, refinement and demonstrations. Presently the Krishi Vigyan Kendras (KVKs) have been recognized as an effective link between agricultural research and extension system in the country.

Krishi Vigyan Kendra, Utukur, Kadapa is functioning in Y.S.R. District of Andhra Pradesh state since 1st April 2005 under the administrative control of ANGRAU. It is implementing agricultural technology transfer through OFTs, FLDs, capacity building programmes and promoting livelihood activities by organising vocational training programmes for farm women and rural youth. The present study was conducted to assess the impact of KVK technological interventions on various indicators such as production, productivity, income, cost of cultivation, employment opportunities, additional area and creation of infrastructural facilities etc on the farming community of

YSR district. Impact assessment of technological interventions would give yield possible directions for further improvement of the KVK activities and shows the way to dissemination of technological interventions of KVK, Utukur on large scale among the farming community of YSR district.

Materials and Methods

The present research study was conducted in YSR district of Andhra Pradesh during 2022-23. KVK, Utukur, Kadapa was purposively selected for the study. KVK has been transferred several technological interventions, among that four technological interventions which were most popular selected purposively from the past five years i.e. 2018-19 to 2022- 23. From each technological intervention 20 beneficiary farmers were selected randomly thus making a sample of 80 respondents. Impact was operationalised as ultimate benefits received by the beneficiaries by adoption or Implementation of KVK technological interventions. An ex-post-facto research design was used for the study. Data were collected through well-structured interview schedule. The collected data were coded, classified and tabulated. Finally the statistical tests like frequency, percentage, Standard Deviation, Mean, Correlation, Regression were used to obtain meaningful findings and for drawing conclusions.

Objectives

1. To study the profile characteristics of the respondents
2. To assess the economic impact of technological interventions of KVK Utukur in YSR District
3. To study extent of area of technological interventions of KVK Utukur in YSR District

Results and Discussion

I. Profile characteristics of the respondents

The respondents were distributed into different categories based on their selected profile characteristics and the results were presented in the table 1.

It is clearly evident from table 1 that the majority of the beneficiary respondents belonged to middle age group (63.75%) followed by young age group (28.75%) and old age group (7.50%) respectively. With respect to education, majority of the respondents studied up to high school education (35.00%) followed by College level (25.00%), Middle school (22.50%), Primary education (12.50%) and Illiterate (5.00%) respectively. From the table it is also noticed that more than half (55.00%) of the respondents had medium level of farming experience followed by high (25.00%) and low (20.00%) levels of farming experience respectively. In case of farm size the results showed that 43.75 per cent of the respondents had medium level of farm size followed by small (37.50%) and big (18.75) farm sizes respectively.

It is quite clear from the table - 1 that nearly two-third of the respondents (62.50%) had medium level of annual income followed by low (30.00%) and high (7.50%) levels of annual income, in case of social category more than half (53.75%) of the respondents were belonged to OC category followed by BC (32.50%) and SC/ST (13.75%) category respectively. With respect to social participation 53.75 per cent of the respondents had medium level of social

participation followed by low (30.00%) and high (16.25%) levels of social participation respectively. In case of extension contact more than two-fourth (51.25%) of the respondents had medium level of extension contact followed by low (32.50%) and high (16.25%) levels of extension contact respectively. These results are in line with the findings of Alagukannan *et al.* (2021) ^[1], Gorfad *et al.* (2018) ^[3] and Madhuri *et al.*, (2020) ^[4].

Table 1: Profile characteristics of the respondents (n=80)

S. No	Particulars	Frequency (f)	Percentage (%)
I	Age		
1	Young age (< 35 years)	23	28.75
2	Middle age (36-55 years)	51	63.75
3	Old age (Above 56 years)	6	7.50
II	Education		
1	Illiterate	4	5.00
2	Primary education	10	12.50
3	Middle school	18	22.50
4	High school	28	35.00
5	College level	20	25.00
III	Farming experience		
1	Low	16	20.00
2	Medium	44	55.00
3	High	20	25.00
IV	Farm size		
1	Small	30	37.50
2	Medium	35	43.75
3	Big	15	18.75
V	Annual income		
1	Low	24	30.00
2	Medium	50	62.50
3	High	6	7.50
VI	Social Category		
1	OC	43	53.75
2	BC	26	32.50
3	SC/ST	11	13.75
VII	Social participation		
1	Low	24	30.00
2	Medium	43	53.75
3	High	13	16.25
VIII	Extension contact		
1	Low	26	32.50
2	Medium	41	51.25
3	High	13	16.25

II. Economic impact of technological interventions of KVK Utukur in YSR District

To assess the impact of technological interventions of KVK Utukur from the respondents, the following six indicators were analysed and the findings were depicted in the table-2. The perusal of data presented in table 2 shown that 65.59 percentage change in production/productivity was observed among the respondents of KVK Utukur due to adoption of technological interventions followed by 61.09 percentage change in income, 57.25 percentage change in cost of cultivation, 45.45 percentage change in employment opportunities, 37.36 percentage change in additional area and 35.13 percentage change in creation of infrastructure was observed among the respondents due to adoption of technological interventions of KVK Utukur. It is evident from the above-mentioned computation that all the six indicators combined together had 50.31 percentage of impact on the respondents after adoption of KVK

technological interventions. Similar findings were reported by Gorfad *et al.* (2018)^[3], Mahesh Babu *et al.* (2018)^[5] and

Prasad Babu *et al.* (2018)^[5].

Table 2: Economic impact of KVK interventions (n=80)

S. No	Indicators	Mean score		Difference	% Change in impact	Rank
		Before KVK	After KVK			
1	Production/Productivity	2.79	4.62	1.83	65.59	I
2	Income	2.75	4.43	1.68	61.09	II
3	Cost of cultivation	2.62	4.12	1.50	57.25	III
4	Employment opportunities	2.09	3.04	0.95	45.45	IV
5	Additional area	1.90	2.61	0.71	37.36	V
6	Creation of infrastructure	1.85	2.50	0.65	35.13	VI
	Overall impact	2.33	3.55	1.22	50.31	

From the above results, it can be inferred that among the all six indicators of impact there was immensely increased impact on the respondents due to adoption of technological interventions of KVK, Utukur. The reason might be due to technological interventions of KVK Utukur such as introduction of new varieties through On Farm Testings (OFTs), Front Line Demonstrations (FLDs) and Cluster

Front Line Demonstrations (CFLDs) conducted by KVK, Utukur at farmers' fields and capacity building programmes like training programmes, field days, method demonstrations and group discussions had played vital role in increasing the knowledge of the farmers about new technologies and adoption of technologies, which made increased impact on the KVK beneficiaries.

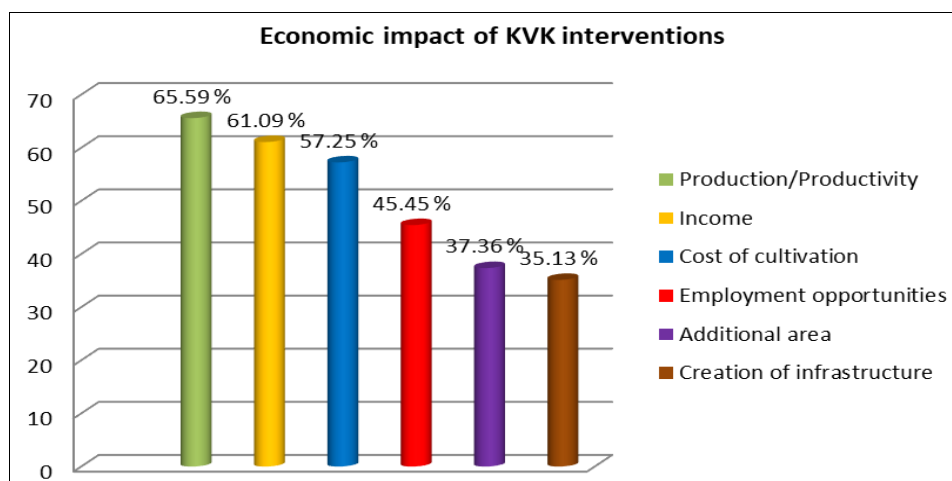


Fig 1: Economic impact of KVK interventions (n=80)

III. Extent of area of technological interventions of KVK Utukur in YSR District

Table 3: Impact of KVK technological interventions on horizontal spread of varieties/technologies (n=80)

S. No	Crop	Technological Intervention	Area (ha)			Impact (% change)
			Before Demonstrations	After Demonstrations	Change in area (ha)	
1	Groundnut	TCGS - 1694	20	3300	3280	+16400
2	Blackgram	TBG - 104	10	4300	4290	+ 42900
3	Bengalgram	NBeG - 452	20	4500	4480	+22400
4	Redgram	LRG-105	10	1350	1340	+13400

From the results of table 3 and Fig. 2, it is revealed that convincing of farmer in instantaneously would rest in wider adoption of technological interventions of KVK. At present Groundnut TCGS-1694 variety is grown in extent of 3300 hectares of area, the probable reasons for adoption of this technology might be high pod yield, resistance to foliar diseases, more no. of branches, market demand and quality of the kernel were the traits perceived by the respondents. Another intervention disseminated by KVK, Utukur was Black gram variety TBG-104 which has been cultivated in 4300 hectares of area in the YSR district, the reasons could be for above trend resistance to Yellow Mosaic Virus and

High yield. Next important intervention was Bengal gram variety NBeG-452 was adopted in 4500 hectares of area and the probable reason could be this variety tolerant wilt, attractive seed and alternative to JG-11 variety. Other intervention promoted by KVK, Utukur was Redgram variety LRG-105, which has been occupied around 1350 hectares area in YSR district. The reason behind this as perceived by farmers that this variety was tolerant to wilt, Sterility Mosaic Disease and Suitable for intercropping in different cropping systems. The above technological interventions are horizontal spread from KVK to farmers and farmers to farmers. Similar results were in tune with the

results of Ganesh Kumar *et al.* (2020)^[2], Ramalakshmi devi *et al.* (2023)^[8] Usha *et al.* (2024)^[9] and Vinit kumar Jaiswal *et al.* (2020).

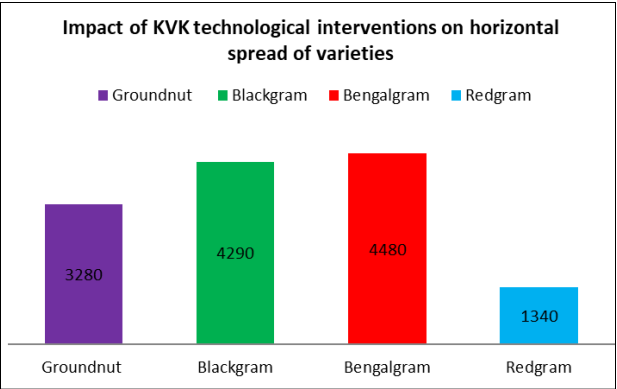


Fig 2: Impact of KVK technological interventions on horizontal spread of varieties / technologies

Table 4: Reasons for Adoption of recommended technologies (n=80)

S. No	Crop	Technological interventions	Reasons for adoption
1	Groundnut	TCGS - 1694	High pod yield, Resistance to foliar diseases, more no of branches, market demand and quality of the kernal
2	Blackgram	TBG - 104	Resistance to YMV and High yield
3	Bengalgram	NBeG - 452	Tolerant wilt, Attractive seed and Alternative to JG-11 variety
4	Redgram	LRG-105	Tolerant to wilt, Sterility Mosaic Disease and Suitable for intercropping in different cropping systems

Conclusion

From the above results it can be conclude that KVK, Utukur technological interventions has played critical role on overall improvement of farming community of Y.S.R. District. Due to regular interaction of KVK scientists with farmers and continuous efforts in organizing training programmes, On Farm Testing (OFTs) , Front Line Demonstrations (FLDs) and Cluster Front Line Demonstrations (CFLDs), field days, method demonstrations and group discussions, awareness programmes, exhibitions, kisan melas and exposure visits etc. had increased knowledge level of farmers which led them to adopt latest technologies and finally to a improved socio-economic condition of the farmers. After completion of five years of KVK technological interventions a significant change was observed in adoption of KVK technological interventions such as Groundnut variety TCGS –1694, Black gram variety TBG –104, Bengal gram variety NBeG – 452 and Red gram variety LRG-105. The efforts of KVK scientists succeeded in increasing awareness, improving the knowledge and adoption of new technologies which led to overall socio-economic impact on the KVK beneficiaries.

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Ethical statement

Respondents gave their informed consent for inclusion before they participated in the study. Informed consent was obtained from respondents for information published in this article.

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