

Original Research Article

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Knowledge Status of Bhoochetana Programme Beneficiaries about Groundnut Production Technologies

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ABSTRACT

The research study was conducted on impact of training programme on knowledge, perception and attitude of stakeholders towards Bhoochetana programme. The Raichur, Koppal and Bellary districts were purposively selected based on their maximum area under groundnut cultivation. The random sampling procedure is being used to identify 180 beneficiaries. The ex-post –facto research design used for the study. It was observed that 45.56 per cent of the beneficiaries belonged to medium knowledge category followed by low (27.78 %) and high (26.67 %) categories. Majority of the beneficiaries had knowledge about varieties of groundnut suited for the region A large majority (91.11 %) of the beneficiaries had knowledge about recommended seed rate followed by seed treatment with Rhizobium & PSB. Majority (80.56 %) of the beneficiaries had knowledge regarding time of sowing. Whereas, 57.22 per cent of the beneficiaries had knowledge about recommended spacing. Large majority (92.78 %) of the beneficiaries know about application of recommended dose of macro and micronutrients (92.22 %). Majority (64.44 %) of the beneficiaries had knowledge about red headed hairy caterpillar management. Leaf minor management was known to 57.22 per cent of them. Majority (76.66 %) of the beneficiaries had knowledge regarding Tikka disease (leaf spot) management. Half (50.00 %) of the beneficiaries had knowledge regarding rust management. The correlation analyses that, education, farming experience, extension participation, extension contact, cosmopolitaness, risk orientation, economic motivation and management orientation showed positive and significant relationship at 0.01 level of probability. Whereas livestock possession showed negative and significant relationship at 0.05 level of probability.

Keywords

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Introduction

Globally, rainfed areas are hot-spots for poverty, malnutrition and degradation of natural resources. In our country, out of the total geographical area of 329 million ha, 143 million ha is under cultivation, out of which 108 million ha area is rainfed (75%). Rainfed agriculture contributes about 44 per cent of the total food grain production in the country and supports 40 per cent of the population. Bulk of pulses, oil seeds, millets, coarse grains, commercial crops etc., are accounted by the rainfed agriculture. Thus, dry land holds great prospect of contributing substantially to country's food production. Unless the production from these rainfed areas increases, the real breakthrough in agriculture may not be possible. Hence, dry land development strategy is important for agriculture development in the state. Scanty rainfall on the one hand and high density of rainfall on the other are the major threats to the dry land agriculture. Improved crop production technologies with the efficient utilization of natural resources play an important role in increasing the dry land crop productivity and in turn production. Karnataka stands second in possessing area under rainfed agriculture after Rajasthan in the country. Crop yields in dry land areas are quite low ($1-1.5 \text{ t ha}^{-1}$) which are lower by two to five folds of the yield from researchers managed plots. In this context, the Government of Karnataka has taken up an innovative science-led development initiative called Bhoochetana to harness the potential of rainfed agriculture in the state with the help of International Crops Research Institute for Semi - Arid Tropics (ICRISAT) which was launched on 23 May 2009.

More or less similar situation exists in Karnataka. Out of total cultivated area of 123.85 lakh ha, about 70 per cent of the area is rainfed. Major rainfed crops of the state are

jawar, ragi, maize, minor millets, groundnut, sunflower, soybean, pigeonpea, greengram, bengalgram and field bean *etc.* It has been observed that the average yields of these crops by and large in the state are less than the national average and also averages of other states. Further, a wide gap exists in actual yield levels in the farmer's field and yields of field level demonstrations. The main responsibility of extension work lies with the Department of Agriculture. The department is striving hard to bridge the gap between the actual farmers yield and the potential yields of crops, through various extension methods. In India,

the State Department of Agriculture charged with the responsibility of agricultural development has grown into mammoth service organization. The programme has completed five years. Now, it is necessary to study how the Bhoochetana programme has made an impact on knowledge level among cotton growers and relationship with their socio-engineering attributes along with management & situational attributes. In this context, the present study is being conducted to assess the knowledge domain of farm beneficiaries about the improved production technologies of Groundnut.

Materials and Methods

The study was conducted in Raichur, Koppal and Bellary districts of Hyderabad Karnataka during the year 2015-16. These districts were purposively selected because of maximum area under groundnut is being cultivated in Hyderabad Karnataka region. The Ex-post-facto research designs were used for the study. Two talukas from each districts selected & inturn, two villages under each talukas were selected based on the criteria of having highest area under groundnut. Again thirty cotton growers identified from each village. Thus total size constitutes 180 respondents. The standard & structured

schedule used for investigation, which is being tested in non sample area. The systematic random sampling procedure used to finalize Bt cotton growers for the research.

Overall knowledge of Bhoochetana Programme beneficiaries about cultivation practices of groundnut.

It is evident from the data in Table 1 that, 45.56 per cent of farmers had medium level of knowledge, whereas 27.78 and 26.67 per cent of respondents had low and high knowledge, respectively. In the study majority of the respondents were literate with high farming experience (60.00 %), medium extension participation (46.11 %), medium mass media utilization (43.33 %). Further, most of respondents participated in extension activities like demonstrations (56.11%), group meetings (45.56 %) and Krishimela (21.11 %). These factors might have contributed more for possession of medium level of knowledge about groundnut cultivation practices. The above findings are in confirmation of the results of the studies conducted by the Maraddi and Verma (2003) and Sidram (2008).

Knowledge of Bhoochetana Programme beneficiaries regarding individual cultivation practices of groundnut

An appraisal of Table 2 revealed that, cent per cent of the respondents had full knowledge of TMV-2 hybrid groundnut as it is supplied under the Bhoochetana programme to the farmers through Raith Samparka Kendras. To get higher yield farmers should possess prevailing hybrids in the region. With regard to seed rate and sowing time Majority (91.11 and 80.56%) of the respondents had knowledge. Regarding spacing, 57.22 per cent of the respondents had knowledge. These practices are important aspects of cultivation of groundnut crop and do not vary much with

other crop cultivation practices. Trainings conducted by farm facilitators enriched their knowledge regarding these aspects. Therefore more than half of the respondents found to have knowledge about these basic practices. Regarding quantity of FYM to be applied, 76.67 per cent of the respondents had knowledge and most of them (68.88 %) had knowledge about correct time of application. High farming experience of the farmers and usage of FYM is traditional practice in the crop production might be the reason for most of the farmers had better knowledge regarding FYM and vermicompost.

Majority of the beneficiaries know about application of recommended dose of macro nutrients (92.78 %) and micro nutrients (92.22 %), time of application of basal dose (83.39%), intercultivation (73.89 %) and hand weeding (86.64 %). This may be due to regular contact of farmers with farm facilitators working in Bhoochetana programme and also their participation in extension activities conducted by the extension agencies. Majority of the beneficiaries had knowledge regarding management of Tikka disease (leaf spot) (76.66 %), red headed hairy caterpillar (64.44 %), Leaf minor (57.22 %) and rust (50.00 %). Incidence of these insect pests and diseases was high in the study area and efforts by the extension functionaries to impart knowledge regarding management of these pests might be the reason for possession of high knowledge by the farmers. The present findings were in accordance with the results reported by Kanavi (2000) and Budihal (2001).

Relationship between knowledge about groundnut farm beneficiaries with their independent variables

The perusal of the Table 3 reveals that, positive and significant relationship was

observed between education and knowledge level of recommended practices in groundnut crop. The probable reason might be that the recommended practices being complex in nature could be understood better by persons having higher education level. The findings were in consonance with the research findings of Tippeswamy (2007) and Hinge (2009), who found that there was a significant and positive relationship between education and knowledge level.

The farming experience showed positive and significant relationship with the knowledge level of the respondents. Farmers having greater farming experience (more number of years), understand better about practices. This finding is in close agreement with the findings of Nimje *et al.*, (1990) in respect of recommended practices. There was significant association between extension participation and knowledge of recommended groundnut cultivation practices. The participation in extension activities provides opportunities for contrived experiences and serves as reinforcement in gaining knowledge about recommended practices prevailing in other region or locality. The findings are in conformity with the findings of Kanavi (2000) and Rathod (2005). Extension contact is significantly related to knowledge level of recommended practices by the farmers.

Regular contact of extension personnel of various development departments, NGOs and others provides opportunities for the farmers to get more and more knowledge about recommended practices and it also enables them to learn new things. The findings were in line with the findings reported by Prasad (1996) and Maraddi (2006). It was evident that, the variable risk orientation was found to have positive and significant association with knowledge level of the respondents about recommended cultivation practices of groundnut. This implies that farmers, who had favourable risk orientation towards management and scientific knowledge would like to know new ideas wants to take risks in farming and would try to gather more information which could be implied at the field level for increasing production naturally they will prone to acquire more knowledge. The results of the study were in agreement with the studies reported by Maraddi (2006) and Hinge (2009). The Economic motivation of groundnut growers was found to have positive and significant relationship with their knowledge level of recommended practices. The management orientation of groundnut growers was found to have positive and significant relationship with their knowledge level of recommended practices.

Table.1 Overall knowledge of Bhoochetana Programme beneficiaries about cultivation practices of groundnut

n = 180

Sl. No.	Category	Frequency	Percentage
1	Low (mean - 0.425*SD)	50	27.78
2	Medium (mean \pm .425*SD)	82	45.56
3	High (mean + 0.425*SD)	48	26.67
	Mean		9.26
	SD		1.39

Table.2 Knowledge of Bhoochetana Programme beneficiaries regarding individual cultivation practices of groundnut

n=180

Sl. No.	Practices	Knowledge	
		F	%
1	Variety: Bunch type		
	TMV-2	180	100.00
	JL-24	125	69.44
	S-206	112	62.22
	R-2001-03	122	67.78
	TGLPS-3	130	72.22
2	Seed rate: (125 kg/ha)	164	91.11
3	Seed treatment		
i	Chemicals (Thiram 75 WP @3gm per kg of seeds)	18	10.00
ii	PSB : 2.5kg / ha per kg of seeds)	95	52.78
iii	Rhizobium: 2.5 kg /ha per of seeds	120	66.67
4	Sowing time: (June-July)	145	80.56
5	Spacing: (30X10 cm)	103	57.22
6	FYM : 7.5 tonnes/ha	138	76.67
7	Vermicompost : 1 ton/ha	124	68.88
8	Chemical fertilizer:		
i	Macro nutrients (N:P:K) 25:50:25 kg/ha	167	92.78
ii	Micronutrients: (ZnSO ₄ , Gypsum-25 kg, 500kg / ha	166	92.22
9	Time of application of chemical fertilizer: (100 % Basal dose)	151	83.39
10	Intercultivation: 15, 30 and 40 DAS	133	73.89
11	Weed management		
i	Hand weeding: one time	156	86.67
ii	Herbicide application(Pre emergence): Alachlor 50 EC @3 lit/ per ha	44	24.44
12	Pests management:		
	a) Leaf minor : @ 2ml Profenophos or 1mlMonocrotophos	103	57.22
	b) Red headed hairy caterpillar	116	64.44
13	Diseases management:		
	Tikka disease (Rust)	138	76.67
	Leaf spot -@Carbondizum 0.05% or Hexoconozole 0.2% or Difonoconozole 0.1%	90	50.00
14	Intercropping: Groundnut + Redgram (11:1)	96	53.33
15	Yield (TMV-2, 12-14 quintal/ha)	177	98.33

F - Frequency % - Percentage

Table.3 Relationship between knowledge of groundnut farm beneficiaries with their Independent variables

n= 180

Sl. No.	Variables	Correlation coefficient (r)
1	Age	0.047
2	Education	0.279**
3	Farming experiences	0.260**
4	Land holding	0.042
5	Annual income	0.065
6	Material possession	0.080
7	Livestock possession	-0.173*
8	Cropping intensity	0.093
9	Extension participation	0.240**
10	Extension contact	0.246**
11	Social participation	-0.080
12	Mass media participation	0.146
13	Cosmopoliteness	0.237**
14	Innovativeness	0.023
15	Risk orientation	0.265**
16	Achievement motivation	0.088
17	Economic motivation	0.301**
18	Management orientation	0.293**

* = Significant at 0.05 % level **= Significant at 0.01% level NS = Non Significant

In conclusion, the empowerment of knowledge among beneficiaries is being observed due to various training programme conducted under Bhoochetana programme. It was concluded that improvement in the knowledge domain of beneficiaries on production technologies like suitability of groundnut genotype, spacing, water management, pest & disease management is

noticed. Hence this enrichment of knowledge is being influenced by various independent variables of beneficiaries.

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