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Constraints faced by the farmers in purchasing process of pesticides for red chilli in Palnadu district of Andhra Pradesh

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Abstract

The present study was to know constraints faced by farmers purchasing process in Palnadu district of Andhra Pradesh. Palnadu district was purposively selected as it occupies first place in chilli area sown in Andhra Pradesh. The analytical tools employed Garrett's ranking technique. High price of pesticides was the major constraint while purchasing of pesticides from the respective pesticide dealers and lack of credit availability from the RBK

Keywords: Purchasing process, Garrett's ranking, pesticides

Introduction

Agriculture is the backbone and dominant sector of the Indian economy. Agricultural sector needs to be on boom if a country like India wants to feed its increasing population, the agricultural sector must be continuously growing, but this is impossible without finding a solution to the pest issues that cause significant crop damage. The usage of chemicals has increased in India as a result of the commercialization of agriculture.

Pesticide consumption in India was accounted to 63284 metric tons, whereas in state of Andhra Pradesh it was accounted to 1759 metric tons (Department of plant protection, quarantine, and storage, 2021-22). Pesticide usage increased rapidly for the last 2 decades at 12 per cent each year (Kumar *et al.*, 2017).

Growing technologies in agriculture, such as high producing varieties and hybrids, are become more susceptible to pests and diseases. Insects caused greater damage than pathogen and weeds. However, global consumption is around 47.5%, insecticides are around 29.5%, fungicides are 17.5% and the rest accounts for 5.5%. India accounts for 76% of the overall pesticide consumption in comparison to worldwide usage of 44% (KS Rajmohan *et al.*, 2020). Farmers recognized the pesticides importance used for control pests and diseases, thus pesticides usage is more and became integral part of crop production. Pesticides include insecticides, herbicides, nematocides, fungicides, plant growth regulators, and other compounds are important for crop production.

Farmers commonly purchase their pesticides from local pesticide dealers and they act a vital in providing the source of information about the products and their distribution function. Dealers influence the quantity and types of pesticides used by farmers in addition to selling them

pesticides. Buying decision is a set of many decisions which may involve a product, brand, quality, dealers, time and price. The objective was set to study the buying behaviour of farmers and constraints faced by them in purchasing pesticides.

Materials and Methods

For this study Palnadu district was purposively selected as it occupies first place in chilli area sown in Andhra Pradesh. Three mandals of Palnadu district were selected. Two villages from each mandal totally six villages were identified and from each village 20 farmers were selected randomly, making a sample size of 120 farmers. A well framed schedule was developed based on objectives. The data pertaining to the present study were obtained through survey method and enquiries were made with the help of pre-tested schedules. The present study was related to the agricultural year 2022-23. The secondary data regarding the mandal-wise and village-wise crop acreage details of chilli crop in Palnadu district were collected from the District agriculture officer (DAO) and Mandal agriculture officer (MAO). Descriptive statistics and appropriate statistical tools like Garrett's ranking were employed in the study.

Results and Discussions

Socio-economic profile of farmers

Table 1: Age categorization of chilli farmers (n =120)

S. No.	Categories	Frequency	Percentage
1	Young age (up to 35)	41	34
2	Middle age (36-55)	55	46
3	Old age (above 55 years)	24	20
	Total	120	100

A glance at Table 1 depicts that, out of 120 sample farmers, 46 per cent of the respondents were middle-aged (36-55 years), followed by 34 per cent of the respondents were young aged (up to 35 years) and 20 per cent of respondents were old aged (above 55 years) It shows that age categorization reveals that greater percentage of sample farmers were in the middle age group.

Table 2: Education level categorization of chilli farmers (n =120)

S. No.	Categories	Frequency	Percentage
1	Illiterate	44	37
2	5 th class	17	14
3	7 th class	14	11
4	10 th standard	31	26
5	Intermediate	6	5
6	Graduation	8	7
	Total	120	100

Table 2 confers that, 37 per cent of the farmers were illiterate, followed by 26 per cent of the respondents were 10th standard, 14 per cent of the respondents had education level up to 5th class, and 11 per cent of the respondents had education level of 7th class and 7 percent of the respondents had graduation and 5 percent of the respondents had intermediate. The educational status reveals that majority of respondents were illiterate, followed by 10th standard.

Table 3: Family size categorization of chilli farmers (n =120)

S. No.	Categories	Frequency	Percentage
1	Small (Up to 3 members)	25	21
2	Medium (4-7 members)	95	79
	Total	120	100

The table 3, shows that, among the 120 respondents, 79 per cent of respondents belonged to middle sized family, 21 per cent of respondents were having small size family, It shows that majority of the respondents had medium (4-7 members) sized family.

Table 4: Annual income categorization of chilli farmers (n =120)

S. No.	Categories	Frequency	Percentage
1	Low (<1 lakh)	59	49
2	Medium (1-3 lakhs)	48	40
3	High (above 3 lakhs)	13	11
	Total	120	100

The above table 4, shows that, 49 per cent of sample farmers were of low income group with less than 1 lakh per annum, followed by 40 per cent were having medium income group with 1-3 lakhs per annum, while 11 per cent were in high annual income group with above 3 lakhs. Among the sample farmers higher percentage of the farmers belonging to the

low income group.

Table 5: Farm size categorization of chilli farmers (n =120)

S. No.	Categories	Frequency	Percentage
1	Marginal (up to 2.5 acres)	39	32.5
2	Small (>2.5- 5 acres)	60	50
3	Medium (>5-10 acres)	14	11.5
4	Large (above 10 acres)	7	6
	Total	120	100

The table 5, shows that, among chilli farmers, small farmers were of 50 per cent having farm size of >2.5-5 acres, 32.5 per cent of the respondents were marginal farmers having farm size of up to 2.5 acres, 11.5 per cent of the respondents were medium farmers having farm size of up to >5-10 acres while the remaining 6 per cent were large farmers having farm size of above 10 acres. It can be inferred that majority of the chilli farmers were having small farm size.

Table 6: Farming experience categorization of chilli farmers (n =120)

S. No.	Categories	Frequency	Percentage
1	less than 5 years	9	7.5
2	5-15 years	42	35
3	Above 15 years	69	57.5
	Total	120	100

The Table 6 indicates that, 57.5 per cent of the respondents are having above 15 years of farming experience, followed by 35 per cent of respondents are having 5-15 years of farming experience while 7.5 per cent of the respondents are having less than 5 years of farming experience. It was inferred that, majority of sample chilli farmers had above 15 years of farming experience.

Table 7: Sources of credit categorization of chilli farmers (n =120)

S. No	Categories	Frequency	Percentage
1	No requirement of credit	21	17.5
2	Money Lenders	50	41.5
3	Neighbors/Friends/Relatives	12	10
4	Banks	37	31
	Total	120	100

The above Table 7, shows that among sample chilli farmers, 41.5 per cent of respondents were depended on money lenders for credit, 31 per cent were depended on banks, 17.5 per cent were no requirement of credit, and 10 percent were depended on neighbors/friends/relatives. This shows that the majority of chilli farmers depended for credit on money lenders as the process for availing credit from money lenders was easy, quick and they are available nearest to them all the time.

Table 8: Mobile phone usage categorization of chilli farmers (n =120)

S. No	Categories	Frequency	Percentage
1	Smart phone	70	58
2	Basic mobile	50	42
	Total	120	100

A study of table 8 shows that among chilli farmers, 58 per cent of chilli farmers had smart phones while 42 per cent of the farmers had basic mobile for their daily communication.

This shows that more than half of the farmers were having smart phones for getting the information about production technologies, marketing and post-harvest technology.

Table 9: Mass media exposure categorization of chilli farmers (n =120)

S. No.	Categories	Regularly		Occasionally		Never		Total score	Mean score	Rank
		NR	S	NR	S	NR	S			
1	Viewing Agricultural programs in TV	21	63	96	192	3	3	258	2.15	I
2	Attending agricultural meetings	2	6	54	108	64	64	178	1.48	II
3	Demonstrations	1	3	39	78	80	80	161	1.34	III
4	Reading farm magazines and journals	0	0	35	70	85	85	155	1.29	IV
5	Attending field days	0	0	24	48	96	96	144	1.20	V
6	Reading leaflets/ folders/ pamphlets	0	0	16	32	104	104	136	1.13	VI
7	Listening to agricultural programs in radio	0	0	2	4	118	118	122	1.02	VII
8	Reading newspapers related to agriculture	7	21	6	12	47	47	80	0.67	VIII

NR: Number of respondents; S: Score

The Table 9 showed that, viewing agricultural programmes in TV which recorded a mean score of 2.15 followed by attending agricultural meetings with a mean score of 1.48. Demonstrations, reading farm magazines and journals, attending field days, reading leaflets/ folders/ pamphlets, listening to agricultural programs in radio mean scores of and 1.34, 1.29, 1.20, 1.13, 1.02 respectively. The last rank was given reading newspapers related to agriculture with mean score of 0.67. This shows that the sample farmers were viewing agricultural programs in television as they telecast the programs related to current problems with visuals and recommendations given by the experts.

Table 10: Major occupation categorization of chilli farmers (n =120)

S. No	Categories	Frequency	Percentage
1	Agriculture	95	79
2	Agriculture + Animal husbandry	25	21
	Total	120	100

From the above Table 10, Agriculture was the major occupation for 79 per cent of the chilli farmers, followed by Agriculture + Animal husbandry was the other major occupation for 21 per cent of the chilli farmers. This infers that agriculture was the major occupation for most of the farmers.

Table 11: Secondary occupation categorization of chilli farmers (n =120)

S. No	Categories	Frequency	Percentage
1	Dairy	48	40
2	Sheep/Goat Rearing	25	21
3	Poultry	12	10
4	Others (Daily labours and Non-farm employees)	35	29
	Total	120	100

From the above table 11, it shows that the majority (40 per cent) of the respondents had dairy as the secondary occupation, followed by daily labours and non-farm employees with the 29 per cent. The other secondary occupations are sheep/goat rearing and poultry were having 21, 10, percentages respectively. This shows that majority of the farmers were having dairy as their secondary occupation.

Constraints faced by the farmers during pesticides purchase from private dealers and RBK.

The details regarding the constraints faced by the farmers while purchasing pesticides was collected and summed up to get the total scores. Garrett's mean score was calculated from the total score and rankings were given according to it. The data was presented in Table 12.

Table 12: Constraints occurred to the respondents during purchasing of pesticides from the private dealers (n =120)

S. No.	Categories	Total score	Garrett's mean score	Rank
1	High price of pesticides	8660	72.2	I
2	Preferred brands are not available	7750	64.6	II
3	High interest on credit	7496	62.5	III
4	Forced sales of other products with highly demanded pesticides	6464	54.7	IV
5	No reduction in price of pesticides	6122	51	V
6	Variation in price of pesticide brand	5923	49.4	VI
7	Poor quality of products	5730	47.8	VII
8	Offering credit only to some products	5105	42.5	VIII
9	lack of credit availability	4078	34	IX

Table 12 show that the high price of the pesticides was ranked first by the chilli farmers with a mean score of 72.2, The last rank was given to the lack of credit availability in the market with mean score of 34. This showed that, high price of pesticide, Preferred brands are not available, High interest on credit, were considered as the primary constraints faced by the farmers. Forced sales of other products with

highly demanded pesticides, No reduction in price of pesticides, Variation in price of pesticide brand, Poor quality of products, Offering credit only to some products were also important but not as primary. The least importance was given to lack of credit availability in the market.

Table 13: Constraints during the purchase of pesticides from the RBK (n =120)

S. No	Categories	Total score	Garrett's mean score	Rank
1	Lack of credit availability	7917	65.9	I
2	Preferred brands are not available	5523	46.0	II
3	Fixed prices	5471	45.5	III
4	Untimely supply	5209	43.40	IV

From the above table it showed that, Lack of credit availability regarding pesticides was given rank one by the chilli farmers with Garrett's mean score of 65.9, The last rank was given to untimely supply by the sample farmers as with Garrett's mean score of 43.40. This inferred that, Lack of credit availability, preferred brands are not available were the primary problem faced by the chilli farmers. fixed prices were secondary constraints faced by farmers. The least importance was given to untimely supply.

Summary and Conclusion

In this study concluded that constraints faced in purchasing of pesticides in palnadu district was High price was the major constraint faced by the farmers during the purchase of pesticides from private dealers. Lack of credit facility was the major constraint faced by the farmers during the purchase of pesticides from RBK.

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