Knowledge and Adoption of Commercial Vegetable Growers in District Budgam, J&K

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

The study was conducted on 250 vegetable growers selected from ten villages of Budgam district of Jammu and Kashmir. The basic objective of the study was to ascertain the knowledge possessed and adoption level of growers as well as the economic status of vegetable growers. The result revealed that 50.80 per cent of the respondents had medium level of knowledge, 48.40 per cent of respondents belonged to medium adoption category and majority of 60.80 per cent of the vegetable growers belong to the middle economic status group.

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1. INTRODUCTION

India being predominantly a country of vegetarians, it becomes imperative to attach more significance for the production of vegetable crops. Prospects for export of fruits and vegetables has enhanced with the introduction of liberal trade policies. Vegetables offer a good source of revenue to the growers and play a pivotal role in human nutrition. These are quick growing and yield immediate returns to the growers. These have a vital role to play on the food front as they reduce the demand of cereals [1].

Major vegetable producing countries of the world are: China [473.06 million tonnes (48% world production)]; India [146.55 million tonnes (14% world production)]; USA [35.29 million tonnes (3% world production)]; Turkey [25.83 million tonnes (2.2% world production)]; and Egypt [19.51 million tonnes (2% world production)]. India is the second largest producer of vegetables contributing 14% of world's vegetable production with an area of 8.5 million hectares under vegetables [2].

In Jammu & Kashmir, an area of 63.1 thousand hectares is under vegetables with an annual production and average productivity of 1395.5 thousand MT and 22.1 MT ha^{-1}, respectively, which is higher than the national average of 17.6 MT ha^{-1}. However, in Kashmir division, the area under vegetables is 32.25 thousand hectares producing 7.98 lakh tonnes with productivity of 25 tonnes per hectare which is far below the dietary requirements of 300g per capita per day.

2. METHODOLOGY

Random sampling techniques were used and was considered appropriate as it is a systematic empirical study in which the researcher does not have direct control over independent variables.

The present study was purposively conducted in the selected District Budgam of Jammu and Kashmir as the district is having maximum area under vegetable cultivation. District Budgam consists of four Agriculture Sub-divisions out of which two Sub-divisions viz. Chadoora and Budgam were purposively selected on the basis of maximum area under vegetable cultivation.Agricultural Sub-division Chadoora consists of 7 Agricultural zones and Sub-division Budgam consists of 03 Agriculture zones. Out of these zones only two Agricultural zones viz.

Chadoora and Budgam with maximum area under vegetable cultivation was purposively selected.Agricultural zone Chadoora consists of 31 villages and Agriculture zone Budgam consists of 26 villages, out of each Agriculture zone five villages were selected. In Agriculture zone Chadoora 1.Bugam 2. Nowbugh 3. Gowherpora 4. Batpora, 5. Wathoora and in Agriculture zone Budgam 1. Narkara 2. Galwanpora 3. Bugam 4. Qazibagh 5. Ompora were selected having maximum area under vegetable cultivation. Thus totally Ten villages were selected for the study. A comprehensive list of vegetable growers from the selected villages was procured from the concerned Agriculture Extension Office and a sample of different vegetable growers (small, medium and large) was taken by random sampling method. A total number of 250 out of 1634 vegetable growers from the ten villages were selected randomly with minimum of 0.25 acres of land under vegetable. The respondents were selected on the basis of size of land holding.Three vegetables viz Cabbage, Cauliflower and Knokhol.The knowledge and adoption were categorised into low, medium and high categories.

The interview schedule in accordance to the objectives of the study was prepared and pre-tested with 15-number of farmers not included in the sample. In the light of pre-testing, necessary modifications were incorporated to make it more appropriate.The respondents wilfully expressed their opinion, as a friendly atmosphere was maintained during the interview. The data was collected through personal interview technique and every response was recorded without any prejudice so that the investigator can get firsthand information. The data thus obtained was accordingly tabulated, classified and quantified to drawn necessary inferences and conclusions.

The statistical tools such as Mean, Standard Deviation, Frequency, Percentage and Correlation coefficient (r) were used for the analysis of the data thus obtained.

3. RESULTS AND DISCUSSION

It is evident from the data in Table 1 that, 50.80 per cent of the respondents had medium level of knowledge whereas, 30.80 and 18.40 per cent of respondents had high and low knowledge respectively. The mean and standard deviation of respondents was 41.176 and 12.314 respectively. Patil [3] reported that nearly 30.00

per cent of the respondents had education up to high school, followed by middle school (28.00%) and primary school (27.33%). Nearly 12.00 per cent ofthem were illiterates, while a meager 4.00 per cent of them had education up to college and degree programme. Reddy [4] observed that more number of the respondents had middle school (29.17%) and primary school education (25.83%), whereas high school and higher secondary school was noticed with 12.50 per cent and 11.63 per cent of respondents, respectively. And only 3.33 per cent were noticed to possess graduation but the illiterates were to the extent of 16.67 per cent. Ashok Kumar [5] concluded that majority of the respondents (40.83%) had high school education followed by education up to PUC, illiterate, graduation, primary school and middle school with 19.17, 15.83, 13.33, 7.50 and 3.33 per cent, respectively. Similar results were observed by Patel et al. [6].

The data in Table 2 indicated that, cent per cent of the respondents had the knowledge of recommended methods and time of sowing, followed by recommended varieties (73.80%), yield (71.60%), manures and fertilizers (62.60%), seed rate (60.00%), pesticides, weedicide and chemicals (59.20%), age of seedlings for transplantation (59.00%), major pests (58.80%), spacing (57.40%) and micro nutrient management (24.40%) respectively. Wankhade et al. [7] reported that, cent per cent of respondents had knowledge about recommended time of sowing and stage of harvesting of vegetable crop, followed by more than 80.00 per cent of the respondents having knowledge about preparation of bed for transplanting of vegetable seedling. Rai and Bhupendra Singh [8] found that majority of the respondents (61%) were belonging to medium category of knowledge, followed by high (20%) and low (19%) levels of knowledge, respectively.Most of the farmers (47.50%) belonged to medium level of knowledge about farming practices. Whereas, 33.33 per cent and 19.17 per cent of the respondents fall in high and low levels of knowledge category respectively [5,6].

The data in Table 3 revealed that, 48.40 per cent of respondents belonged to medium adoption category, followed by 32.80 and 18.80 per cent low and high adoption categories respectively. The mean and standard deviation of the respondents was 39.516 and 6.530 respectively.

Table 1. Distribution of respondents according to their knowledge

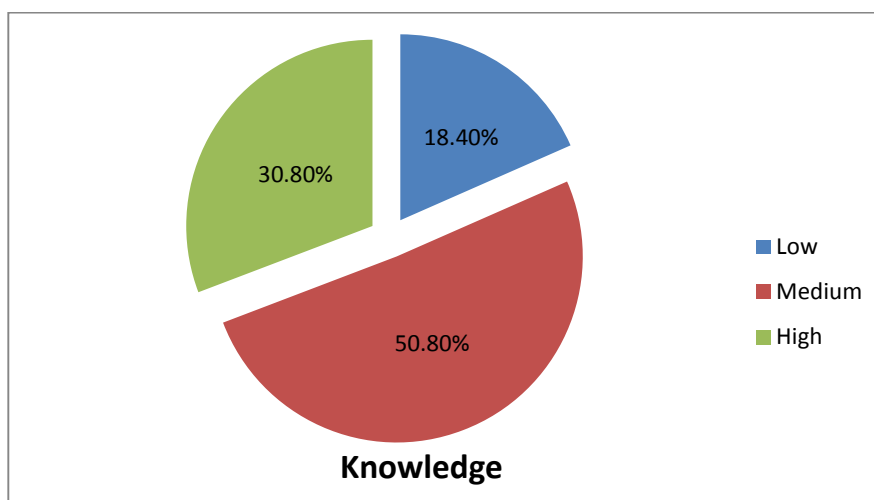| S/No	Category	Frequency	Percentage
1	Low	46	18.40
2	Medium	127	50.80
3	High	77	30.80
Mean		41.176	
S.D		12.314	

Fig. 1. Pie chart of distribution of respondents according to their knowledge

Table 2. Knowledge level of farmers regarding individual vegetable growing practices

S/No	Statement	Freq.	%age	Rank
1	Recommended Varieties.	185	74.0	II
2	Methods of Sowing/ transplanting.	250	100	I
3	Seed rate.	150	60.0	V
4	Age of seedling for transplanting.	147	58.8	VII
5	Spacing..	143	57.2	VIII
6	Manure and fertilizer dosage.	157	62.8	IV
7	Common micro-nutrient.	61	24.4	IX
8	Knowledge about major pest.	147	58.8	VII
9	Pest Management.	148	59.2	VI
10	Days vegetables take to attain maturity.	148	59.2	VI
11	Yield	179	71.6	III

Table 3. Distribution of respondents according to their level of adoption

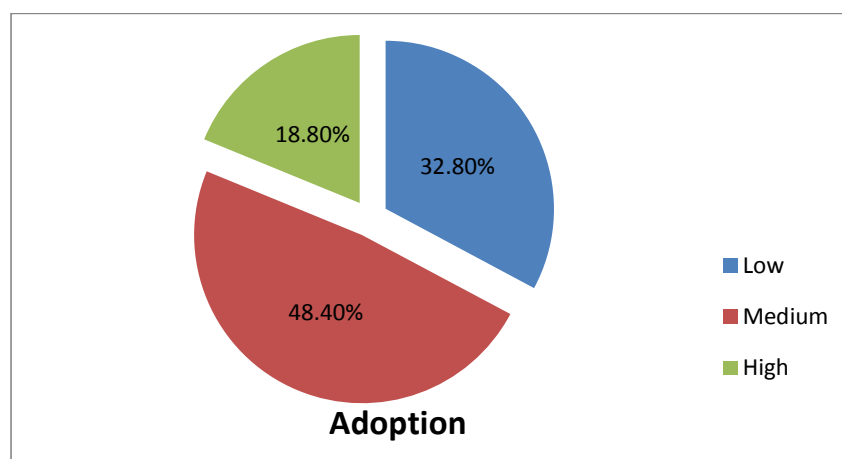| S/No	Category	Frequency	Percentage
1	Low	82	32.8
2	Medium	121	48.4
3	High	47	18.8
Mean		39.516	
S.D		6.530	

Fig. 2. Pie chart of distribution of respondents according to their level of adoption

Table 4 reflects adoption of "recommended package of practices" by individual respondents. Is was evident that 80 per cent of the respondents had adopted the recommended methods of sowing fallowed by recommended Varieties (59.20%), fertilizer dosage (54.80%), Seed Rate (54.00%), Transplanting (53.6%), Time of Harvesting (53.6%), Pest Management (53.20%), Spacing (52.40%) and Micro-Nutrient management (42.40%) respectively. Budihal [9] reported that 65.83 per cent of the respondents were in the medium adoption category, followed by 16.67 per cent and 17.50 per cent were in high and low adoption categories, respectively.

Krishna Kumar and Athimuthu [10] found that two-thirds of the rice growers (65.00%) belonged to medium adopters category, followed by low adopters to the extent of 23.00 per cent and the rest 12.00 per cent fall under high level of adopters. Nagaraj and Katteppa [11] observed that 38.60 per cent of big farmers belonged to medium adoption category. In contrast to this, a similar percentage (32.50%) of small farmers belonged to low level adoption category and more number of farmers (28.90%) belonged to medium level of adoption. Study on knowledge and adoption of integrated pest management practices among vegetable growers of Gadag

district in northern Karnataka indicated that 59.17 per cent of the farmers were noticed in medium adoption group of IPM practices of cabbage crop, followed by 25.83 per cent in low adoption group, whereas 15.00 per cent in high adoption category Reddy [4], Naik [12] and Ashok Kumar [5] revealed that 45.83 per cent of the respondents belonged to medium level of adoption, followed by 33.33 per cent and 20.83 per cent belonged to low and high levels of adoption category, respectively. These results were in close conformity to that of Manjunath [13].

From Table 5, it becomes quite evident that Majority of the vegetable growers 60.80 per cent Belong to the Middle Status group, followed by 22.80 and 16.40 per cent High and Low economic Status group respectively. The mean and Standard Deviation is 5.224 and 1.602 respectively. Ashok Kumar [5] revealed that 45.83 per cent of the respondents belonged to medium level of adoption, followed by 33.33 per cent and 20.83 per cent belonged to low and high levels of adoption category, respectively. These results were in close conformity to that of Manjunath [12].

Table 4. Adoption of vegetable growing practices by the respondents

S/No	Cultural Practices	Adoption level			
		Adopted		Not Adopted	
		Freq.	%age	Freq.	%age
1	Recommended Varieties	148	59.2	102	40.8
2	Methods of Sowing	200	80.0	050	20.0
3	Seed rate	135	54.0	115	46.0
4	Age of seedling for transplanting	134	53.8	116	46.4
5	Spacing	131	52.4	119	47.6
6	Manure and fertilizer dosage	137	54.8	113	45.2
7	Common micro-nutrient	106	42.4	144	57.6
8	Pest Management	133	53.2	117	46.8
9	Time of Harvesting	134	53.6	116	46.4

Table 5. Distribution of respondents according to their economic status

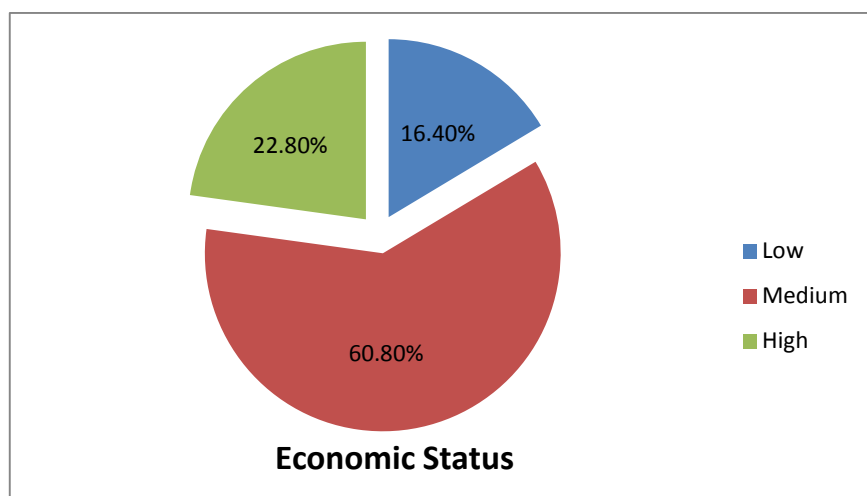| S/No	Category	Frequency	Percentage
1	Low	41	16.4
2	Medium	152	60.8
3	High	57	22.8
Mean		5.224	
S.D		1.602	

Fig. 3. Pie chart of distribution of respondents according to their economic status

4. CONCLUSION

Conclusion and inferences of the study indicated that majority of vegetable growers had medium level of knowledge. It was observed that vegetable growers were in the medium level of adoption of vegetable packages of practices. The study suggests to update their knowledge and increase their level of adoption which will result in higher vegetable production.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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