



Adoption Behaviour Of Farmers Towards Off-Season Improved Cucumber Cultivation Practices In Wokha District Of Nagaland

Lothungbeni Jami¹; Dipak Kumar Bose²; Syed H. Mazhar³

¹M.Sc. Ag. (Agricultural Extension and Communication), SHUATS (Prayagraj)

²Associate Professor, Dept. of Agriculture Extension and Communication, SHUATS (Prayagraj)

³Associate Professor, Dept. of Agriculture Extension and Communication, SHUATS (Prayagraj)

Author's e-mail: lothungjami123@gmail.com

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Abstract

Cucumber is one of the oldest vegetable crop grown widely throughout India as well as tropical and sub-tropical parts of the world. Nagaland, one of the eight states of the north east region is blessed with suitable agro climatic conditions and its soil is suitable for agriculture, where cucumber is grown in all the districts. Cucumber farmers in Nagaland have a lot of potential to venture out economically and establish successful adoption practices.

The study was conducted with the objectives to study the characteristics of cucumber growers, the extent of knowledge and determine the level of adoption by off season cucumber growers and to delineate the constraints faced by the respondents and to obtain their suggestions.

An interview schedule based on the study was prepared and data were collected with the help of interview schedule and processed through primary and secondary tables and statistical analysis. The present study was conducted in Baghty block of Wokha district of Nagaland. A total number of 120 respondents from 4 villages were selected using proportionate random sampling procedure. The respondents were contacted personally and interviewed.

The study revealed that majority of the cucumber belonged to middle aged group, educated between primary and high school level, had medium level of annual income with medium size of land holding. Majority of them had medium year of farming experience, use of sources of information and medium level of extension contact. It was observed that the majority of the respondents had medium level of adoption of recommended off season cucumber cultivation practices.

Keywords: *Socio economic characteristics, adoption, Cucumber growers, Nagaland.*



Introduction

Off-season vegetable cultivation is the growing of vegetables by preponing and postponing the normal time of planting. The agricultural cropping season in India is generally divided into two main seasons. The *khari*f season is characterized by high temperatures, high rainfall and high humidity which generally lasts from July to September and the *rabi* season lasts from October to March. Cucurbitaceae is the largest family in vegetable kingdom and includes highest number of edible types.

Cucumber (*Cucumis sativus* L.) commonly known as ‘kakadi’ or ‘khira’ belonging to the family of Cucurbitaceae is one of the oldest vegetable crop grown widely throughout India as well as tropical and sub-tropical parts of the world. Cucumber is essentially a warm season grown mainly in tropical and subtropical regions. Generally long period of warm preferably dry weather and abundant sunshine are required. The temperature of 18°-20°C is optimum. (**Handbook on Farming for Nagaland**)

Nagaland, one of the eight states of the north east region is blessed with agro climatic condition and soil suitable for agriculture. Nagaland is also one of the states where cucumber is grown in all the districts. Cucumber has been grown by tribals in Nagaland for centuries. It is one of the most important crops of the North Eastern states and Nagaland ranks fifth in area under cultivation and third in production. The districts of Mokokchung, Mon, Wokha, Kohima and Peren produce some of the best varieties of cucumber in the world. A wide variety of cucumber is grown in different parts of the state by different Naga tribe. The total area and production of cucumber in the state accounted for 727 ha and 13345 metric tonnes during 2018-19 (**Statistical Handbook of Nagaland, 2020**).

Cucumber farming unlike other farming requires specialized type of crop husbandry techniques and skill. The demand for cucumber is increasing as it fetches good price and income in a comparatively shorter period of time. This helps the cultivation in fulfilling his financial requirement at needy time.

The present study is therefore an attempt to understand about the potential characteristics of cucumber growing farmers. This may help extension personnel in boosting cucumber production by locating such farmers and by providing necessary facilities to them.



Materials and Methods

The present study was conducted in Baghty block of Wokha district of Nagaland. A total number of 120 respondents from 4 villages were selected using proportionate random sampling procedure. Out of the 4 villages in Baghty block, 3 villages were selected through purposive sampling based on maximum area under cucumber crop.

Data was collected with the help of pre-structured interview schedule. The descriptive research design was used for the present research study.

The socio-economic variables selected for the study were age, education, family size, family type, occupation, land holding, annual income, farm experience, extension contact, mass media exposure and sources of information.

The study was undertaken under the following objectives.

- i. To assess the socio-economic profile of the respondents
- ii. To determine the level of adoption of off season cucumber production practices by the respondents

Results and Discussion

1. Socio – economic characteristics of the respondents

Table 1 revealed that majority (63.33%) of the respondents belong to middle age group. (40.83%) of the respondents had an educational qualification up to high school level. Majority (92.50%) of the respondents was married and 74.16% had nuclear family. Majority (60%) of the respondents had family size up to 5 members. Majority (65.83%) of the respondents had medium level of income and medium (69.17%) level of land holdings (2-6 acres). It was also found that majority (54.16%) of the respondents had medium level of experience (10-20 years) in cultivation. Maximum number (80.83%) of respondents had medium level of extension contact.

Majority (79.17%) of the respondents never use the radio, majority (49.17%) occasionally watch the television, majority (61.67%) daily read the newspaper, it was found that majority (100%) of the respondents never read journals or magazines. It was also found that majority (64.17%) of the respondents get their source of information from frequent interaction with the progressive farmers, majority (54.17%) sometimes interact with their neighbors and with their relatives (64.17%) and majority (55.84%) of the respondents frequently interact with their friends.



Table 1. Socio-economic profile of the respondents.

S.no	Independent Variables	Category	Frequency	Percentage
1.	Age	Young (21-35)	25	20.83
		Middle Age (36-55)	76	63.33
		Old (Above 55)	19	15.84
2.	Education	Illiterate	20	16.67
		Primary	41	34.17
		High School	49	40.83
		Higher Secondary	08	6.67
		Graduate and above	02	1.66
3.	Marital Status	Married	111	92.50
		Unmarried	09	07.50
4.	Type of family	Nuclear Family	89	74.16
		Joint Family	31	25.84
5.	Size of family	Upto 5 members	72	60.00
		Above 5 members	48	40.00
6.	Type of house	Hut	30	25.00
		Cemented	30	25.00
		Semi-cemented	60	50.00
7.	Occupation	Farming	66	55.00
		Farming+Labour	54	45.00
8.	Annual Income	Low (Less than 60,000)	28	23.33
		Medium (60,000-1,00,000)	79	65.83
		High (Above 1,00,000)	13	10.84



9.	Total Land Holdings	Low (<2 acre)		25	20.83
		Medium (2-6 acre)		83	69.17
		High (>6 acre)		12	10
10.	Farming experience	Below 10 years		43	35.84
		10-20 years		65	54.16
		Above 20 years		12	10.00
11.	Extension contact	Low		16	13.33
		Medium		97	80.83
		High		07	5.84
12.	Mass media exposure	Radio	Daily	0	0
			Occasionally	25	20.83
			Never	95	79.17
		Television	Daily	20	16.67
			Occasionally	59	49.17
			Never	41	34.16
		Newspaper	Daily	74	61.67
			Occasionally	14	11.67
			Never	32	26.66
		Magazines/Journals	Daily	0	0
			Occasionally	0	0
			Never	120	100
13.	Sources of information	Progressive Farmers	Frequently	77	64.17
			Sometimes	28	23.34
			Rarely	15	12.50



		Neighbours	Frequently	30	25
			Sometimes	65	54.17
			Rarely	25	20.83
		Relatives	Frequently	15	12.50
			Sometimes	77	64.17
			Rarely	28	23.34
		Friends	Frequently	67	55.84
			Sometimes	47	39.17
			Rarely	6	5.00

2. Adoption behavior of the respondents

The results presented in Table 2 revealed that majority (75%) of the respondents fully adopted the recommended varieties followed by suitable planting time (89.17%), field preparation (86.67%), method of sowing (82.50%), manures and fertilizers (26.67%), harvesting (77.50%) and yield per hac (72.59%) with respect to cucumber cultivation whereas most (58.34%) of the respondents partially adopted spacing, recommended seed rate (18.33%), inter cultivation (20%), weed management (26.67%). It was found that majority (59.17%) of the respondents had not adopted the pest control and (47.50%) respondents had not adopted disease control of the recommended off season cucumber cultivation.

The main reasons of non adoption of the recommended practices were due to inadequate knowledge and exposure of the recommended practices of off season cucumber cultivation. High percentage of non adoption of recommended practices was mainly attributed to their low knowledge and skill with respect to these practices. In absence of the required exposure farmers continued with their traditional practices with more confidence in production as well as management.



Table 2:-Distribution of the adoption level of the respondents about recommended off season cucumber cultivation practices.

Sn	Statements	Adoption level					
		Fully adopted		Partially adopted		Not adopted	
		f	%	f	%	f	%
1	Varieties recommended	90	75.00	-		30	25
2	Planting/ sowing time	107	89.17	-		13	10.83
3	Field preparation	104	86.67	16	13.33	-	
4	Method of sowing	99	82.50	12	10	9	7.50
5	Manures and fertilizers	32	26.67	27	22.50	61	50.83
6	Spacing	25	20.83	70	58.34	25	20.83
7	Seed rate	98	81.67	22	18.33	10	8.33
8	Inter cultivation	20	16.67	24	20	76	63.33
9	Irrigation	76	63.33	27	22.50	17	14.17
10	Weed management	76	63.33	32	26.67	12	10
11	Pest control	40	33.33	9	7.50	71	59.17
12	Disease control	43	35.83	20	16.67	57	47.50
13	Harvesting	93	77.50	22	18.33	5	4.17
14	Yield per hac	87	72.59	16	13.33	17	14.17



Table 3: Distribution of the respondents based on the adoption towards off season cucumber cultivation.

Sn	Category	Frequency	Percentage	Mean	SD
1	Low (<30)	16	13.33	32.8	2.9
2	Medium (30-35)	85	70.83		
3	High (>35)	19	15.84		
	Total	120	100.00%		

Table 3 revealed that 70.83% of respondents were having medium level of adoption followed by 15.84% of respondents having high level of adoption whereas 13.33% of respondents were having low level of off season cucumber crop.

Similar findings were also reported by **Reddy *et al.*, (2018)** and **Venkataramulu *et al.*, (2010)**

3. Association of independent variable with the adoption of recommended practices of off season cucumber cultivation.

Table 4: Association of independent variables with the adoption of recommended practices of off season cucumber cultivation

S.No	Variables	Pearson's correlation coefficient
1	Age	0.185 *
2	Education	0.140 NS
3	Marital status	0.024 NS
4	Type of family	0.141 NS
5	Family size	0.056 NS
6	Type of house	0.131 NS
7	Occupation	0.205 *
8	Land holding	0.131 NS
9	Annual income	0.202 *



10	Farming experience	0.016 NS
11	Extension contact	0.187 *
12	Mass media exposure	0.102 NS
13	Source of information	0.127 NS

* = Significant at $p = 0.05\%$, NS= Non Significant

The result of correlation analysis in above table 4 revealed the significance and non-significance of the socio- economic profile of the people and their adoption behavior towards off season cucumber growers.

Table 4 revealed that independent variables like age, occupation, annual income, extension contact are significantly associated with adoption of off season cucumber growers. It may be inferred that respondent's age, their occupation, income and having high extension contact had relatively higher level of adoption of recommended off season cucumber cultivation practices. Further, the variables education, marital status, type of family, family size, type of house, land holding, farming experience, mass media exposure and source of information was found to be non significant.

Conclusion

It was concluded that majority of the respondents were middle aged people, had education up to high school level and majority are married. Most of the respondents had a nuclear family and most of them lived in semi-cemented house. Majority of the respondents had agriculture as their occupation and majority of them had farming experiences of above 20 years. A large number of the respondents had medium level of income.

It was found that majority of the respondents had medium (70.83%) level of adoption. Variables like age, occupation, annual income, extension contact are significantly associated with adoption of off season cucumber growers. While education, marital status, type of family, family size, type of house, land holding, farming experience, mass media exposure and source of information was found to be non significant.

The researcher hopes that this research study would be highly useful in understanding the personal, socio-economic and psychological characteristics of the cucumber growers with their level of adoption of the improved cultivation practices technology.



References

- [1]. **Bhajipale, D.D., Kharde, P.B and Karangami, R.S (2020)**. Knowledge of improved cultivation practices of watermelon by the respondents. *International Journal of Chemical Studies*, **8**(1): 1157-1160.
- [2]. **Department of Economics & Statistics (2018)** Statistical Handbook of Nagaland. Directorate of Economics and Statistics, Government of Nagaland, Kohima.
https://statistics.nagaland.gov.in/storage/statistical_data/2018/941601130581.pdf
- [3]. **Jha, K.K and Das, R (2019)**. Adoption of recommended production technology by chilli growers in Tripura. *Indian Journal of Extension Education Vol. 55, No. 3, (117-122)*
- [4]. **Melkeri, A.K and Mazhar, S.H. (2018)** Relationship between Profile Characteristics with Knowledge and Adoption of Transplanting Method of Pigeon Pea Cultivation Practice. *Economic Affairs*, **63**(2) : 299-305.
- [5]. **Nayan, R. and Mazhar, S.H. (2016)** Adoption Behaviour of Brinjal (*Solanum melongena* L) Growers in Nawada Block of Nawada District of Bihar. *International Journal of Engineering Technology, Management and Applied Sciences.*, **4**(9) : 44-48
- [6]. **Ngadong, A. and Longkumer, J. (2018)** Knowledge and adoption level of large cardamom cultivators of Anjaw District, Arunachal Pradesh. *Indian Research Journal of Extension Education* **18**(1) pp. 96-100.
- [7]. **Pongener, S and Jha, K. K (2020)**. Entrepreneurial behaviour of off season cucumber growers: an analysis in Mokochung district, Nagaland. **20**(1) pp. 763-768.
- [8]. **Reddy, V., Wakle, P.K., Koshti, N.R. and Tingrae, A.S. (2018)**. Extent of adoption and utilization of sources of information in recommended chilli production technology. *Int.J.Curr.Microbiol.App.Sci.*, **7**(2): 3220- 3227 .
- [9]. **Singh, N.P., Bhardwaj, A.K., Kumar,A and Singh, K.M. (2017)** Modern Technology on Vegetable Production. *International Book Publishing Co., Lucknow, India*, 228-234.
- [10]. **Tangjang, A. and Sharma, A. (2018)**. Problem Faced by the Large Cardamom Growers during Production and Marketing: A Case Study of Tirap District of Arunachal Pradesh, India. *Int.J.Curr.Microbiol.App.Sci.2018. 7*(5): 2561-2573
- [11]. **Thombre, B.M., Atar, R.S. . and Suradkar, D.D. (2013)**. Knowledge of recommended grape cultivation practices by the grape growers. *Agric. Update*, **8**(1&2): 115-118.
- [12]. **Venkataramulu, M., Hanchinal, S.N., and Hirevenkanagoudar, L.V.(2010)** Adoption of improved cultivation practices among chilli growers. *Karnataka J. Agric. Sci.*, **22**(5) : (722-725) 2010