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Evaluation of socio-economic conditions of cauliflower (*Brassica oleracea*) growers in Chaka block of Allahabad district Uttar Pradesh

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Abstract

A study was conducted to ascertain the socio-economic status of cauliflower (*Brassica oleracea*) growers during the year 2015–2016 in Chaka block of Allahabad district Uttar Pradesh. The sample survey conducted on six villages with random selection of 120 respondents was reviewed w.r.t previous surveys to develop theoretically relevant models and select variables to derive hypotheses. A pre-test interview was scheduled to measure variables; collection of primary data from sample cauliflower growers was done through personal interview technique. The findings showed 44.16 percent of respondents aged between 36-50 years, earning Rs.81000-100000 (32.50%) annually, had medium landholding (35.00%) and attended middle school level of education (25.80%). Majority of respondents had medium level of market orientation (44.16%), overall adoption (53.34 %) and information management (57.50%). The study found respondents (70%) seeking informal sources of information and socio-economic variables. Experience in cauliflower production was positive and significant at 0.001 levels in influencing information management behavior of respondents.

Keywords: Cauliflower information management behavior, constraints

Introduction

Agriculture is the backbone of Indian economy 70 per cent of Indian population depends directly on agriculture. India is world's largest producer of vegetables next to China with an annual production around 162.187(Million tonnes) from 92.05 (Million hectare) of land. (Indian Horticulture Database, 2012-2013). Cauliflower (*Brassica oleracea* var. botrytis L.) commonly known as "Phoolgobhi" is the foremost well-known vegetable presented in India in 1822 by Dr. Jemson, who was the Incharge of Botanical Plant, Saharanpur, Uttar Pradesh (Nath *et al.*, 1994) ^[1] and originated from wild cabbage (*Brassica oleracea* var. *sylvestris*) and its centre of origin is believed to be the Island of Cyprus (Kohli *et al.*, 2008) ^[2]. It contributes over 13 per cent to the world vegetable production and occupies the first position in the production of cauliflower, second position in onion and third in cabbage (<https://www.freshplaza.com/article/2166293/india-is-the-world-s-fruit-veg-basket/>).

The vegetable requirement for the country has been estimated 225 million tonnes by 2020. India rank second area and production in cauliflower and Broccoli. World area and production are 1.21 million hectare and 20.88 Million tonne and Indian production and area are 6745 thousand tones and 369 thousand hectares. (Vegetable statistics 2013). More than 40 kinds of vegetable from different groups such as the solanaceous, cucurbitaceous leguminous, cruciferous, root and leafy types are grown in tropical, subtropical and temperate regions vegetables play a major role in daily human diet, since these are most important source of vitamins and minerals, required for maintaining of good health. Since Indians are mostly vegetarian, vegetables are the most important component of vegetarian diet of Indians. The per capita per day consumption of vegetable in India is on an average 125-130 g, but Indian Council of Medical Research recommended taking 285- 300 g of vegetable every day. To meet this requirement we have to produce 220 million tonnes of vegetable in 2020 from the present production level.

To increase the production of cauliflower, as a vegetable crop, several improved varieties have been released during the recent years by several research centres. Concentrated efforts have also been made by the extension worker of horticulture department to promote adoption of improved cauliflower crop production technology but producers have to be convinced, to adopt the improved technologies on their farming system. If scientific method is followed the yield of 400-500q/ha yields whereas the current yield obtained by the farmers of Chaka block of Allahabad district in almost 250-305q/ha, there is wide gap between the product obtained by the farmers.

Thus a big gap between the available technological practices and their rapid transfer to the farmers. There is information explosion around the world and Indian farmers have to keep pace with those developments. Information is viewed as a resource like land, labour and capital. The technical nature of cauliflower cultivation requires that the knowledge of producer is constantly updated and this can be achieved through their enhanced information seeking, evaluation and preservation behavior.

Research studies have also shown the importance of effective communication in promoting technological change in farming. The success of agricultural information sources and channels largely depends on their effectiveness of communication process. Communication, especially human communication can be categorized into many levels. There are at least four levels of communication i.e., (i) Intra personnel, (ii) Inter personnel, (iii) Intra organizational and (iv) Inter organizational communication. Farmers use many information sources and channels for seeking agricultural information on improved farm practices.

Present research work empirically analyses the factors affecting the adoption of information, based on primary data collected from Cauliflower growers. The socio-demographic, farm and market related factors that have a significant impact on mass adoption have been identified. This study will provide practical insights into designing and implementing policies on mass media based information dissemination system as per the informational needs of the Cauliflower growers. The results will also enhance our understanding of the extension agencies in identifying appropriate mass media and interpersonal channels for strengthening the information delivery services by targeting the vegetable growers in a better way. In India it has been estimated that only 35% of the technology available are being used by the farmers but the condition of farmers is far from satisfactory as it should have been. The agricultural development can only be possible by accurate and adequate flow of information to the farmers. This is also important to understand the communication behaviour of the farmers. It is observed from the past research that the farmers do not adopt the production practices due to poor communication with precision and many efforts were made by government and non-government organizations to boost up vegetable production in Uttar Pradesh through disseminating or transferring new technology from research station to the farmers. Most of the efforts were not achieved due to many factors that affect the process and communication is one of the factors. This study will focus on how the information as gathered processed, stored and shared among the cauliflower growers in the Chaka block of Allahabad district in the future to find out technical know-how to disseminate the new technologies to the farm community. Hence, this study will highlight implications to the policy makers, administrations, disseminating technology system involved in extension services.

Research Methodology

Every research conducted on scientific line should have a research design to be followed as per stated problem. For this a design has been drawn from classification of research methods in this study. The descriptive survey research design was followed in the present investigation. Various steps have been followed in this study. The methodological procedures are described as infra.

Selection of block

The Allahabad district is divided into 20 developmental blocks and further in two geographical parts i.e. Gangapar and

Yamunapar. Out of these, Chaka block of the district from Yamunapar area was selected purposively for the study.

Reasons for selection

1. The selected block is less developed as compared to other blocks of the district.
2. Nearest to Allahabad city.
3. Percentage of cauliflower growers are slightly more in number as compared to other parts of Allahabad district.
4. Researcher is also conversant with the language, geography and other aspects of the area.
5. Majority of the farmers were cultivating the cauliflower crop.

Selection of Villages

The list of all the villages of Chaka block was obtained from Block development office. Chaka block has 127 revenue villages. Out of these 6 villages were selected purposively from the selected block, because these villages have maximum area under cauliflower cultivation in the Rabi season.

Pre-Testing and finalization of interview schedule

The interview schedule was pre-tested on few cauliflower growers as respondents of the actual study area. After that, on the basis of the responses of the farmers, the schedule was modified and finalized.

Collection of Data

The data was collected from 120 respondents by interview method. The period of investigation was three month from January 2016 to March 2016. The data were collected, arranged, classified and tabulated systematically.

Results and Discussion

Socio-economic characteristics

This section is devoted to the description of personal, socio-economic and psychological characteristics of the respondents. It is in the fulfillment of the first objective set-up for the study.

Age of the respondents

Age is a factor that can determine the level of dynamics and experience of an individual which affect an individual's ability to make decision and participate in the progress in his community.

Table 1: Age wise distribution of the respondents

Age (in years)	Numbers	Percentage
Young (20 - 35)	41	34.16
Middle (36-50)	53	44.16
Old age (above 50)	26	21.68
Total	120	100.00

The table 1 revealed that (44.16) respondents were in middle age followed by (34.16%) young age and (21.68%) per cent old age. It is inferred that majority of the respondent's falls within the active theory of aging. Activity theory reflects the functionalist perspective that the equilibrium that an individual develops in middle age should be maintained in later years. The theory predicts that older adults that face will substitute former roles with other alternatives. Hage (1991)^[3] reported that 52.70 per cent of the orange growers were from middle age group, whereas 36.44% and 10.83% from young and old age group, respectively.

2 Caste: Caste is a social status in which society placed an individual on the bases of his socio-economic characteristics.

Table 2: Caste wise distribution of the respondents

Caste type	Numbers	Per cent
Upper caste	56	46.68
Other back ward	41	34.16
Schedule caste	23	19.16
Total	120	100.0

The table above showed that most of the respondents (46.68%) belonged to general caste followed by other back ward caste (34.16%) and scheduled caste (19.16%). It can be concluded that most of the respondents belonged to general caste. The finding is in line with findings of Rahul jain (2014)^[4]. reported that most the non-beneficiaries 43.33% belonged to general caste.

Educational status

It is well known that education plays a vital role in human society it is recognized as one of the key instruments through which a society socialize its members and effects the desirable changes in the socio-economic life of its people. Consequently, one attains social competence and optimum individual development. Chikhale *et al.*, (1996)^[5]. Stated that 14.50% of orange growers were educated up to primary level, majority of orange growers (60.50%) were educated up to high school level and 25% of beneficiaries educated up to college level

Table 3: Education wise distribution of respondents

S. N	Educational attainment	Numbers	Percentage (%)
1.	Illiterate	27	22.50
2.	Literate only read and write	26	21.60
3.	Primary school	11	9.20
4.	Middle school	21	17.50
5.	High school	31	25.80
6.	Graduate	3	2.50
7.	Post Graduate and above	1	0.80
	Total	120	100.00

The table 3 indicated that most (25.8%) of respondents attended high school (22.5%) illiterate, (21.6%) literate, (17.5%) middle school, (9.2%) primary school, (2.5%) graduate and (0.8%) post graduate respectively. It inferred that considerable percentages of the respondents had education up to high school and others were illiterates. Devarde (1981)^[6]. reported that majority of the mango growers (77.92%) had education varying from primary to higher secondary level.

Occupation

Occupation is another variable that may influence the behaviour of the people in general and the information management in particular.

Table 4: Occupation wise distribution of respondents

S. N	Types of occupation	Numbers	Percentage
1.	Farming	50	41.70
2.	Farming and labor	8	6.70
3.	Farming and caste occupation	21	17.50
4.	Farming and business	18	15.0
5.	Farming and services	23	19.20
	Total	120	100.00

The distribution of respondents showed in the table 4 the respondents were having farming as their main occupation

followed by 19.2% farming and services, 17.5% farming and caste occupation, 15% farming and business and 6.7% farming and labour. It inferred that majority of the respondents depend on farming for day to day earning. It can be concluded that most of respondents were farmers and having farming as their main occupation.

Annual Income

Income plays a significant role in decision making, adoption of new ideas and participation in economic activities of an individual.

Table 5: Annual Income wise distribution of the respondents

S. N	Income status (Rs)	Numbers	Percentage (%)
1.	21000 – 40000	24	20.00
2.	41000 – 60000	19	15.80
3.	61000 – 80000	14	11.70
4.	81000 – 100000	39	32.50
5.	Above 100000	24	20.00
	Total	120	100.00

The table 5 showed that 32.5% of the respondents were earning Rs. 81000-100000, followed by 20%, 15.8% and 11.7% earning Rs. 21000-40000 and above Rs. 100000 each, Rs. 41000-60000, and Rs. 61000-80000 respectively. It inferred that majority of the respondents are living above poverty line. Mishra and Jha (1985)^[7]. revealed that the income of maize, tobacco, garlic and summer maize of the participating farmers was higher than the income of non-participating farmers

Family type

Individual behavior is often affected by types of family. Person who comes from nuclear family may behave differently with one who comes from joint family.

Table 6: Family type wise distribution of the respondents

S. N	Family type	Numbers	Percentage (%)
1.	Nuclear	65	54.16
2.	Joint	55	45.84
	Total	120	100.00

The distribution of respondent according to the family type shows that majority of the respondents (54.16%) having nuclear family and 45.84% having joint family. The finding is in line with finding of Ningareddy (2005)^[8]. reported that 62.67% of Beneficiaries belonged to nuclear family. Whereas, 37.33% of them belonged to joint family. It can summarized that majority of the respondents belong to nuclear family.

Land holding

Land holding is an important indicator of socio-economic status of a family, size of land holding is closely associated with level of income and standard of living of the household.

Table 7: Land holding size wise distribution of the respondents

S. N	Size of land	Numbers	Percentage (%)
1.	Marginal (up to 1ha)	23	19.16
2.	Small (1.1 to 2ha)	22	18.34
3.	Medium (2.1 to 4ha)	43	35.83
4.	Large (above 4ha)	29	24.17
	Total	120	100.00

The table 7 revealed that 35.83% of the respondents have medium (2.1 to 4ha) followed by 24.17% large land holding

(above 4ha) and others were 18.34% and 19.16% of both small 1.1-2ha and marginal up to 1ha respectively.

Psychological variables

The psychological variables can be a significant factors in promoting creativity or productivity and is often applied in work-group or educational settings. The need for a sense of identity is a psychological principle that is frequently used to create brand-name loyalty in marketing or to develop team spirit in organizational management.

Market orientation

Table 8: Market orientation wise distribution of respondents

S. N	Levels of awareness	numbers	Percentage
1.	Low (1-2)	21	17.50
2.	Medium (3-4)	53	44.16
3.	High (5-6)	46	38.34
	Total	120	100.00

The table 8 revealed that of (44.16%) the respondents fall in medium level of market orientation followed by 38.34 per cent high level and low level (17.5%). It is concluded that considerable percentage of the respondents were having medium level of market orientation.

Economic motivation

Economic motivation is an indicator of how individual related to the adoption of innovation; it is positively and significantly correlated with adoption of innovation Meetakrishna (2000)^[9].

Table 9: Economic motivation wise distribution of respondents

S.N	Levels of awareness	Numbers	Percentage (%)
1.	Low (5-11)	22	18.30
2.	Medium (12-18)	64	53.34
3.	High (19-25)	34	28.36
	Total	120	100.00

The table 9 shows that majority of the respondents 53.34% fails in medium level, followed by high level 28.36% and low level 18.30%. It's concluded that most of the respondents were having medium level of economic motivation. Similar findings were also reported by Hapase (1996)^[10].

Conclusion

Based on the major findings of the study, it was concluded that the majority of the respondents were having medium socio-economic background and medium level in information management behaviour based on their annual income. Information management behavior of individual respondents was positively influenced by individual educational level, annual income, occupation, and market orientation. Also, the study concluded that most of the respondents were ready to accept new technological innovation to boost up their production due to their medium level of adoption, the major constraints faced by the respondents were unawareness about skill to adopt recommended technology, untimely availability of critical inputs and irregular field visits by extension personnel for providing information timely and their major constraints could be solved by providing them appropriate skills about latest recommended technologies of cauliflower production.

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