

Factors affects and responsible for rabi vegetables crops management and adoption in Vadodara district

¹Alkesh Patel, ²Dr.C. M. Patel

¹ Secretary, Agricultural Produce Market Committee (APMC), Baroda, Gujarat, India.

² Director, Research Culture Society.

²Email - director@researchculturesociety.org

Abstract: 240 farmers who were randomly chosen from six villages in the Vadodara district of Gujarat's community development program participated in the study. Twelve independent and one dependent variable were used for the study in order to identify the key elements influencing farmers' adoption of Rabi vegetable crops. The researcher conducted in-person interviews to gather data in January and February of 2022. Coefficient of correlation analysis was used to analyze the data. The management and adoption of rabi vegetable crops was found to be negatively and significantly correlated with operational land holding, age and risk orientation, while positively and significantly correlated with agri marketing related educational status, annual income, use of mass media, and innovative proneness.

Key Words: Vegetables, rabi crop, management and adoption, coefficient of correlation; motivation.

1. INTRODUCTION:

Vegetables crop management and adoption are made up of a wide variety of plants, most of which are annual and from which various portions are consumed, including leaves, stems, buds, flowers, fruits, roots, etc. Among the least expensive sources of naturally nutritious foods are these. When consumed in adequate amounts, they enhance flavor, palatability, and appetite, all of which contribute to the preservation of good health. Additionally, vegetables help shield the human body from some degenerative illnesses. Additionally, they support the neutralization of acids generated during the digestion of fatty and protein-rich diets. Approximately 65-145 mg of ascorbic acid (vitamin C), 150µg of folic acid, 5-7 mg of iron, and 210-410 mg of calcium can be obtained from 150g of tropical leafy vegetables. In India, a great deal of vegetable crops has been introduced thus far. However, a well-thought-out advancement in the field of vegetable production can both meet the issue of providing an appropriate supply of food to a growing population and improve the nutritional needs of individuals. Sweet potato, chilly, spinach, brinjal, peas, beans, pigeon pea, carrot, brinjal, cabbage, cauliflower, tomato, and several spices are among the veggies (Jati, et. al, 1980). 5691 metric tonnes of vegetables are produced annually on 7511 acres of land in Gujarat's Vadodara district. While some farmers cultivate Rabi vegetables in certain regions of the state, the output has not kept up with demand. The production of Rabi vegetables crops in Vadodara district, Gujarat is insufficient mainly due to lack of giving suitable irrigation methods practices and vegetables are imported. Arya et al. (1984) discovered that the main barriers preventing farmers from accepting and implementing new technology in vegetable farming are a lack of coordination, a lack of awareness among farmers in the village, low neighbor adoption, conventional norms, and an unfavorable socio-political system. Physical, socioeconomic, and psychological aspects all have a role in the acceptance of new technology; in a similar vein, farmers' attitudes play a role in the adoption of better technology (Roger, 2003). The purpose of the current study was to investigate the variables impacting Gujarati farmers in the Vadodara district's adoption of Rabi vegetable crops.

2. METHODS & MATERIALS:

The present study was conducted under the farm vegetable crop management and adoption of Vadodara district, Gujarat. The purposive as well as simple random technique was adopted for the study. The district and were purposively selected whereas villages were selected randomly. Under the Padra (Taluka) six villages namely Mujpur, Karakhadi, Masar Chokari, Dabhasa and Sadhi, were selected. A total of 240 respondents, 40 respondents from each village have been selected with method of random sampling. The data were collected in the month of June to Aug 2023 from researchers using personal interview method by interview schedules. The independent variables used were age(X_1), education(X_2), annual income(X_3), operational land holding(X_4), innovative proneness (X_5), economic



motivation (X_6), risk orientation (X_7), mass media exposure (X_8), and one dependent variable Adoption (Y) was selected. Frequency distribution and coefficients of correlation were followed for the analysis of data.

3. RESULT AND DISCUSSION:

An investigation was carried out on the factors responsible for crop management adoption of rabi vegetable in Vadodara district, Gujarat and presented in table 1.

Table.1: Co-efficient of correlation (r) between independents variables and adoption of rabi vegetable crops

Variables	r-value
Age(X_1)	-0.283*
Education status(X_2)	0.252*
Annual income(x_3)	0.241*
Operational land holding(X_4)	-0.375**
Innovation proneness(X_5)	0.229*
Economic motivation(X_6)	0.413**
Risk orientation(X_7)	-0.217*
Mass-media exposure(X_8)	0.192*

** indicates 1% level of significance

* indicates 5% level of significance

Table 1 shows that the association of the adoption of the Rabi vegetables by the farmers was studied in relation to 8 independent variables with the help coefficient of correlation. It was discovered that the adoption of rabi vegetable crops was adversely and substantially connected with age, operational land holding, risk orientation, and usage of mass media, whereas education, annual income, economic incentive, and innovation proneness were positively and significantly correlated.

Age in case of the farmers it was found to be significant but negatively correlated with adoption of rabi vegetable crops. This implies that farmers of younger age were more likely to adopt Rabi vegetables where as older age farmers are rather stick with only cultivation of rice and other cereal crops. This may be due to more willingness, innovativeness and quick learning ability of the younger aged farmers than the older farmers who are slow in catching up ideas with the younger farmers.

The Management and adoption of Rabi vegetables by farmers was found to be positively and strongly connected with **education**. Education assists people in pursuing a broader and more varied exposure to farm enterprise and farm operation, which in turn builds of meticulous observation of output reduction or change. Education also simmers the process of cognitive changes, motivational changes, and motor changes in a good direction. Here, the adoption of organic farming has been found to be favorably and significantly connected with education. The operational connection could be that education plays a utilitarian and decently urbanite function in enhancing the organic farming experience through the use of contemporary technology, which is backed by yearly income and the availability of irrigation infrastructure.

The farmers' management and adoption of Rabi veggies was also found to be strongly connected with their **annual income**. The total amount of money that farmers receive each year from a variety of sources, such as agriculture, animal husbandry, fishing, etc., is referred to as their annual income. A high annual income encourages people to relocate and try something new, like growing vegetable crops, as opposed to abandoning land for nothing. Because rabi vegetable crops are short-lived, they aid in giving farmers an extra source of revenue. As a result, it was discovered that farmers are motivated to cultivate rabi vegetables by their yearly revenue.

Operational land holding was found to be significant and negatively correlated with the adoption of Rabi vegetables by the farmers. This implies that farmers with smaller operational land holding were more likely to adopt rabi



vegetables. Vegetables when grown in a smaller scale are less laborious and easier to manage which in turn yield quality produce. Therefore, farmers with smaller operational land holding were more adoptive than farmers with larger operational land holding.

Innovative proneness implies one being relatively more venturesome and ready to adopt new ideas or technologies relatively earlier than others. Thus, it was found that with the increase in innovative proneness of the farmers there was an increase in adoption of rabi vegetables. This may be due to the willingness of the farmers to try and adopt new things and take responsibilities for the success or failure of the new venture. It was found that young aged farmers were more innovative and receptive as compared with old aged farmers because younger farmers had more mass media exposure and various farm literatures.

Economic motivation was found to be positively correlated with Rabi vegetables management and adoption by the farmers. Farmers who are presently practicing vegetable cultivation were describing various reasons such as additional cash from vegetable crops, short duration in nature, varieties of vegetable crops can be grown in one land and demand of vegetable crops are more as compared to rice. This implies that with increase in income from rabi vegetables, the rate of adoption also increases. This may be due to the fact that Rabi vegetables have enabled the farmers to fetch better price than vegetables of other season which therefore made them more motivated in adopting it.

The management and adoption of Rabi vegetables by farmers was found to be significantly and negatively connected with **risk orientation**. There are risks associated with growing Rabi vegetables, including limited market availability, irrigation needs, and high input costs, which prevent widespread adoption. It follows that farmers who were less risk-averse were more likely to plant vegetable crops like rabi. When it comes to crop management and technology adoption, farmers' adoption behavior is influenced by a variety of factors, including group influence, technology characteristics, information sources, knowledge, awareness, and attitudes.

Farmers were using mass media positively correlated with Rabi vegetables crop management and adoption. When farmers have more mass media exposure they have more access to information related to various kinds of farming such as input facilities and marketing information and other various information relating to crop production. Mass media exposure also motivate farmer to interact with different innovative ideas and ultimately influence to adopt new venture.

4. CONCLUSION:

The study's goal was to pinpoint the key elements that led to Gujarati farmers in the Vadodara district adopting rabi vegetable crops. In contrast, age, operational land holding, and risk orientation were found to be negatively and significantly correlated with the adoption for rabi vegetable crops. Other variables that were positively and significantly correlated with the adoption of rabi vegetable crops included economic motivation, educational status, use of mass media, annual income, and innovative proneness.

REFERENCES:

1. Arya S R S and Sahah S L (1984), New Technology of rainfed Agriculture and identification of constraints on its adoption in mid hills of U.P., *Agril situation in India*. 39 (7):487-496.
2. Jati P K and Patra P (1980), Study of the impact of CADA in diffusion of farm innovations in command areas of Orissa, Unpublished M.Sc.(Ag.) Thesis, College of Agriculture, BBSR.
3. Rogers E M (2003). *Diffusion of Innovations*. 4 Editions, New York: Free Press.
4. Samantaray S K; Prusty S and Raj R K (2009), Constraints in Vegetable Production-Experiences of Tribal Vegetable Growers, *Indian Res. J. Ext. Edu.* 9 (3).