

Socio-techno-economic Consequences of Improved Sugarcane Cultivation among Sugarcane Growers

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(Received : March 12, 2022; Accepted : May 24, 2022)

ABSTRACT

One hundred and twenty sugarcane growers were proportionally and randomly selected from Vadodara district of Gujarat. The *ex-post facto* research design was used for the research study. It was found that more than two-fifth (41.66%) of the sugarcane growers had high level of socio-techno-economic consequences, followed by 27.50, 17.50 and 10.84% of the sugarcane growers who had very high, medium and low level of socio-techno-economic consequences, respectively. Only 2.5% of the sugarcane growers were found to have low level of socio-techno-economic consequences. Thus, it can be concluded that majority (69.16%) of the sugarcane growers had high to very high level of socio-techno-economic consequences.

Key words : Socio-techno-economic consequences, sugarcane

INTRODUCTION

Improvement of agricultural practices is the primary aim of modern science and technology. Now-a-days, the development of new technology is not a major problem in most of the developing countries, but the main problems which exist today are diffusion and adoption of these technologies by the farmers. The area under sugarcane is being increased day by day as the scientists of SAUs have been continuously investigating new high yielding varieties of sugarcane, new package of practices and tools and techniques to produce better yield of sugarcane. The packages of practices based on scientific investigation are recommended to achieve higher production in sugarcane. The desired target of production can only be achieved when the majority of farmers are motivated to adopt the recommended sugarcane cultivation practices. Gujarat is one of the sugarcane growing states in India, with high level of urbanization. There are eight different agro-climatic zones in Gujarat. Vadodara district falls under middle Gujarat zone. Vadodara district is leading in area, production and productivity of sugarcane in middle Gujarat. Farmers are cultivating sugarcane crop because there exists Vadodara District Co-Op. Sugarcane Growers Union Ltd. at Gandhara. In fact, it would be necessary to review the socio-techno-economic condition of sugarcane farmers. There are hardly any

detailed researches available on consequence analysis in sugarcane cultivation. Very few systematic studies have been undertaken to know how personal-social, agro-economical, communicational and psychological traits of sugarcane growers are influencing on their socio-techno-economic condition.

Socio-techno-economic consequences (changes) can be influenced by various personal-social, agro-economical, communicational and psychological variables. The adoption of recommended sugarcane cultivation practices and socio-techno-economic consequences (changes) may differ from individual to individual because of their differences in age, education, size of land holding, size and type of family and social participation. Taking this in view, the present study was undertaken to study the socio-techno-economic consequences of improved sugarcane cultivation among sugarcane growers.

METHODOLOGY

The present study was conducted in Vadodara district of Gujarat. One hundred and twenty sugarcane growers were selected by proportionate random sampling method from a list of villages under sugarcane cultivation obtained from respective Taluka Panchayat Office. An interview schedule based on objective of the study was developed and respondents were personally interviewed for

collection of information. Frequency and percentage were used to analyze the data to draw the meaningful conclusion.

RESULTS AND DISCUSSION

In this study, the resultant changes due to cultivation of sugarcane in socio-techno-economic aspects of living were considered as consequences. Aspect-wise information in this regard was collected and the respondents were classified into five levels of socio-techno-economic changes viz., very low, low, medium, high and very high based on index of respective aspects.

More than two-fifth (44.16%) of the sugarcane growers had very high level of change in modern technology-based farm machinery/implements, followed by high (21.67%), medium (16.66%), low (13.34%) and very low (04.17%) level of change in modern technology-based farm machinery/implements (Table 1). It can be concluded that majority (65.83%) of the sugarcane growers had high to very high level of change in modern technology-based machinery/implements. Very high annual income and medium to large size of land holding might be the possible explanation of

this type of results as they purchased relatively costly farm machinery.

More than one-third (36.67%) of the sugarcane growers had very high level of change in household items, followed by 27.50, 22.50 and 10.00% of the sugarcane growers having high, medium and low level of change in household items, respectively. Only 03.33% of the sugarcane growers had very low level of change in household items. It can be concluded that majority (64.17%) of the sugarcane growers had high to very high level of change pertaining to household items.

More than one-third (35.84%) of the sugarcane growers had high level of change in savings and investment, followed by 26.66, 22.50, 10.00 and 05.00% sugarcane growers having medium, low, very low and very high level of change in savings and investment, respectively. It can be inferred from the findings that majority (62.50%) of the sugarcane growers had medium to high level of change in savings and investment as the economic growth of sugarcane growers reached up to the mark.

Nearly three-fourth (72.50%) of the sugarcane growers had very high level of change in food habits, followed by nearly an equal number

Table 1. Distribution of sugarcane growers according to their aspect-wise socio-techno-economic consequences among sugarcane growers (n=120)

S. No.	Aspects	Level of change				
		Very low	Low	Medium	High	Very high
1.	Modern technology-based farm machinery/implements	05 (04.17)	16 (13.34)	20 (16.66)	26 (21.67)	53 (44.16)
2.	Household items	04 (03.33)	12 (10.00)	27 (22.50)	33 (27.50)	44 (36.67)
3.	Savings and investments	12 (10.00)	27 (22.50)	32 (26.66)	43 (35.84)	06 (05.00)
4.	Food habits	00 (00.00)	00 (00.00)	16 (13.34)	17 (14.16)	87 (72.50)
5.	Clothing pattern	00 (00.00)	10 (08.34)	15 (12.50)	17 (14.16)	78 (65.00)
6.	Housing pattern	00 (00.00)	07 (05.83)	22 (18.33)	34 (28.34)	57 (47.50)
7.	Situational factors	08 (06.67)	10 (08.33)	10 (08.33)	66 (55.00)	26 (21.67)
8.	Social status	00 (00.00)	22 (18.34)	35 (29.17)	43 (35.83)	20 (16.66)
9.	Self-sufficiency	00 (00.00)	07 (05.83)	16 (13.33)	51 (42.50)	46 (38.34)
10.	Change in improved technologies	03 (02.50)	07 (05.84)	65 (54.16)	24 (20.00)	21 (17.50)
11.	Knowledge	06 (05.00)	06 (05.00)	31 (25.84)	41 (34.16)	36 (30.00)

Data in parentheses indicate percentages.

(14.16 and 13.34%) of the sugarcane growers having high and medium level of change in food habits, respectively. Thus, it can be said that a vast majority (86.66%) of the sugarcane growers had high to very high level of change in food habits.

Nearly two-third (65.00%) of the sugarcane growers had very high level of change in clothing pattern, followed by 14.16, 12.50 and 08.34% of the sugarcane growers having high, medium and low level of change in clothing pattern, respectively (Table 1). Summarizing the results, it can be said that majority (79.16%) of the sugarcane growers had high to very high level of change in their clothing pattern.

Nearly one-half (47.50%) of the sugarcane growers had very high level of change in housing pattern, followed by 28.34, 18.33 and 05.83% of the sugarcane growers having high, medium and low level of change in housing pattern, respectively. It can be concluded that majority (75.84%) of the sugarcane growers were found in high to very high level of change in housing pattern.

More than one-half (55.00%) of the sugarcane growers had high level of change in situational factors, followed by 21.67% of the sugarcane growers having very high level of change in situational factors. While an equal number (08.33%) of the sugarcane growers had medium and low level of change in situational factors. Only 06.67% of the sugarcane growers had very low level of change in situational factors. It can be concluded that majority (71.67%) of the sugarcane growers had high to very high level of change in their situational factors.

More than one-third (35.83%) of the sugarcane growers had high level of change in social status, followed by 29.17, 18.34 and 16.66% of the sugarcane growers who had medium, low and very high level of change in social status, respectively. It can be concluded that majority (65.00%) of the sugarcane growers had medium to high level of change in their social status.

More than two-fifth (42.50%) of the sugarcane growers had high level of change in self-sufficiency, followed by 38.34, 13.33 and 05.83% of the sugarcane growers having very high, medium and low level of change in self-sufficiency, respectively. It can be concluded that a vast majority (80.84%) of the sugarcane growers had high to very high level of change in self-sufficiency.

More than half (54.16%) of the sugarcane growers had medium level of change in improved technology, followed by 20.00, 17.50 and 05.84% of the sugarcane growers having high, very high and low level of change in improved technology, respectively. Only 02.50% of them had very low level of change in improved technology (Table 1). From the above results, it can be concluded that majority (74.16%) of the sugarcane growers had medium to high level of change in improved technology. It is clear from the data in Table 1 that more than one-third (34.16%) of the sugarcane growers had high level of knowledge about improved practices of sugarcane cultivation, followed by 30.00 and 25.84% of the sugarcane growers having very high and medium level of knowledge about improved practices of sugarcane cultivation, respectively. While an equal number (05.00%) of the sugarcane growers had low and very low level of knowledge about improved practices of sugarcane cultivation. From the above results, it can be concluded that majority (64.16%) of sugarcane growers had high to very high level of knowledge regarding sugarcane production technology.

Overall socio-techno-economic consequences are the assessment of changes in terms of socio-techno-economic aspects. For the present study, the resultant changes occurred due to cultivation of sugarcane crop in terms of socio-techno-economic aspects in last five years had taken into account as consequences. The information in this regard was collected and respondents were classified into five groups (Table 2). More than two-fifth (41.66%) of the sugarcane growers had high level of socio-techno-economic consequences, followed by 27.50, 17.50 and 10.84% of the sugarcane growers having very high, medium and low level of socio-techno-economic consequences, respectively. Only 02.50% of the sugarcane

Table 2. Distribution of sugarcane growers according to their overall socio-techno-economic consequences (n=120)

S. No.	Level of socio-techno-economic consequences	Frequency	Per cent
1.	Very low (up to 49.60 score)	03	02.50
2.	Low (49.61 to 99.20 score)	13	10.84
3.	Medium (99.21 to 148.80 score)	21	17.50
4.	High (148.81 to 198.40 score)	50	41.66
5.	Very high (Above 198.41 score)	33	27.50
Total		120	100.00

growers were found to have very low level of socio-techno-economic consequences. Thus, it can be concluded that majority (69.16%) of the sugarcane growers had high to very high level of socio-techno-economic consequences. The probable reason may be due to the fact that majority of sugarcane growers had medium to large size of land holding, good education level, high annual income and high to very high level of scientific orientation as well as risk orientation. This finding is in contradictory with the findings of Ninama (2015) and Bhoi (2016).

CONCLUSION

Improved sugarcane cultivation practices are responsible for significant change in socio-economic conditions, income, saving/investment and standard of living. Thus, considering the positive impact, steps should be taken to aware farmers towards improved cultivation practices/technologies. Overall, the findings revealed that improved cultivation succeeded up to some extent to increase socio-techno-economic condition of sugarcane growers in middle Gujarat. This will encourage other farmers to take benefits from adoption of new technologies to improve their livelihood.

SUGGESTED REFERENCES

- Bhoi, R. D. (2016). Consequences of lift irrigation project of Sadguru Water and Development Foundation on tribal farmers of Dahod district. M. Sc. (Agri.) thesis, AAU, Anand.
- Chaudhary, M. (2021). Socio-economic impact of cooperative society on its members. *Ann. Agri- Bio Res.* **26** : 109-110.
- Dalvi, M. V. and Pandya, C. D. (2017). Socio-economic status of maize contract farmers of Navsari district. *Guj. J. Ext. Edu.* **27** : 84-87.
- Gopi, R., Narmatha, N., Sakthivel, K. M., Uma, V. and Jothilakshmi, M. (2017). Socio-economic characteristics and their relationship with information seeking pattern of dairy farmers in Tamil Nadu, India. *Asian J. Dairy Food Res.* **36** : 16-20.
- John, G. O., Omede, U. D. and Kalsariya, B. N. (2020). Socio-economic characteristics of small holder farmers in Makurdi local government area of Benue state, Nigeria. *Guj. J. Ext. Educ.* **31** : 55-60.
- Ninama, A. P. (2015). Consequence analysis in relation to socio-techno-economic change among marigold growers of Dahod district. Thesis, AAU, Anand.
- Patel, A. G. (2015). Management efficiency of small scale horticultural nursery growers in Navsari and Valsad districts of South Gujarat. M. Sc. (Agri.) thesis submitted to N. A. U., Navsari.
- Tiwari, G., Singh, P., Lodhi, S., Kumar, M. and Singh, B. (2016). Socio-economic profile of the farmers and their correlation with technological adoption of rice-wheat cropping system in eastern Uttar Pradesh. *Int. J. Agric. Sci.* **8** : 1960-1965.
- Trivedi, S. M., Bhatt, J. D. and Bharodia, C. R. (2020). Social and economic status of women vegetable growers. *Guj. J. Ext. Educ.* **31** : 118-122.
- Vinaya Kumar, H. M., Shivamurthy, M., Govinda, Gowda, V. and Biradar, G. S. (2017). Assessing decision making and economic performance of farmers to manage climate-induced crisis in coastal Karnataka (India). *Climatic Change, Springer.* pp. 143-153.