Profile Characteristics of Sugarcane Farmers Towards Adoption of Sustainable Sugarcane Initiatives (SSI) in Cuddalore District of Tamil Nadu

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C A R A S

Short Communication

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India ranks second among the sugarcane growing countries of the world in terms of both area and production after Brazil. India's share in the world sugar production was 15.03 per cent in 2015-16 (DAC, 2016). During 2015-16, sugarcane area in Brazil was 9.69 Mt. hectare (1 per cent of the country's total area) whereas in India it was 4.95 Mt. /ha which is 3.0 per cent of the total cultivable area in the country. During 2019-2020 the total cane production in India is 370.50 million tonnes. Sustainable Sugarcane Initiative (SSI) is an approach to the cultivation of sugarcane that can reduce inputs - water, chemical fertilizers, seed material and farm space - while improving sugarcane production significantly. It also reduces crop duration and provides a longer period of the cane crushing season to the sugar industry. The study was concerned with the adoption of improved practices, which was a major concern to increase sugarcane production and to save the sugar industries of the country as well as to develop the sugar/gur sector, a promising rural industry.

The respondents of the study area where the registered sugarcane growers of three sugar factories located in the Cuddalore District of Tamil Nadu namely MRK Co-Op Sugar mill, EID Parry Sugars (P) Ltd. and Ambiga Sugars (P) Ltd. The 240 respondents were selected based on the proportionate random sampling method. The data were collected by a pre-well-structured interview schedule and results were analyzed with appropriate statistical tools.

Profile characteristics of the SSI farmers

In any Social Science, it is essential to analyze the characteristics of farmers, which would give a basic and clear understanding about the background of the farmers. This would help in interpreting the data gathered effectively. In this study, fifteen characteristics of the respondents were selected for analysis and were classified into convenient categories for

meaningful interpretation of data. The variables were classified based on the cumulative frequency method. The findings are presented and discussed hereunder.

Age: Age was considered as a factor, since it may reveal the mental maturity of an individual to decide for achieving his needs. It could be observed from (Table 1), that 77.50 per cent of the respondents belonged to middle age group followed by 17.50 per cent in young age group and 5.00 per cent in old age group. Hence, it may be inferred that the respondents under the middle age group were more enthusiastic and interested in involving in SSI cultivation activities [1].

Educational status: Educational status of an individual is considered as one of the most influencing factors in the decision making process in day-to-day life. It could be observed from Table, that more than one-fourth of the respondents (35.00 per cent) had secondary level of education followed by middle school education (30.00 per cent), primary education (18.33 per cent) and college education (11.67 per cent). The percentage of functionally literate and Illiterates categories was found to be very meagre with 1.67 per cent and 3.33 per cent respectively. From the finding, it could be concluded that school level education was common among the respondents since majority of the respondents (83.33 per cent) had education from primary to secondary level. Most of the villages in the study area were having educational facilities up to higher secondary school level. This could be the possible reason for most of the respondents with primary to secondary school level of education [2].

Occupational status: It could be observed from the data in Table that more than seventy percent of the respondents (71.67 per cent) had agriculture as the main occupation and a meagre proportion (28.33 per cent) had been practicing agriculture as their secondary occupation. As cent per cent of the respondents possessed land holdings, hence it is quite natural for most of the respondents to practice agriculture as their main occupation. This is in conformity with the findings of Ramsundar [3] who also reported that the majority of the

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respondents (81.70 per cent) practiced agriculture as their primary occupation.

Table 1 Profile characteristics of the SSI farmers (n=240)

Category	Number	Per cent
Age		
Young	42	17.50
Middle aged	186	77.50
Old	12	5.00
Total	240	100.00
Educational status		
Illiterates	4	1.67
Functionally literates	8	3.33
Primary education	44	18.33
Middle school education	72	30.00
Secondary level of education	84	35.00
Collegiate education	28	11.67
Total	240	100.00
Occupational status		
Agriculture as the primary occupation	172	71.67
Agriculture as the secondary occupation	68	28.33
Total	240	100.00
Annual income		
Low	27	11.25
Medium	172	71.67
High	41	17.08
Total	240	100.00
Farm size		
Marginal farmers	62	25.83
Small farmers	108	29.17
Big farmers	70	45.00
Total	240	100.00
Area under SSI cultivation		
Low	192	8.33
Medium	20	80.00
High	28	11.67
Total	240	100.00
Experience in SSI technology		
Low	18	7.50
Medium	174	72.50
High	48	20.00
Total	240	100.00
Social participation		
Low	13	5.42
Medium	188	78.33
High	39	16.25
Total	240	100.00
Extension agency contact		
Low	5	2.08
Medium	36	15.00
High	199	82.92
Total	240	100.00
Mass media exposure		
Low	50	20.83
Medium	150	62.50
High	40	16.67
Total	240	100.00
Innovativeness		
Low	032	13.33
Medium	126	52.50
High	082	34. 17
Total	240	100.00
Risk orientation		
Low	30	12.50
Medium	140	58.33
High	70	29. 17
Total	240	100.00
Scientific orientation		
Low	54	22.50
Medium	110	45.83
High	76	31.67
Total	240	100.00
Economic motivation		
Low	48	20.00
Medium	90	37.50
High	102	42.50
Total	240	100.00
Training undergone		
Training undergone	224	93.33
Training not undergone	16	6.67
Total	240	100.00
Decision making pattern		
Independent decision	40	16.67
Joint decision with family members	126	52.50
Joint decision with other than family members	74	30.83
Total	240	100.00

Annual income: It could be observed from Table, that majority of the respondents (71.67 per cent) had medium level of annual income followed by 17.08 per cent of respondents with high level of annual income, while only 11.25 per cent of the respondents belonged to low level of annual income category. This might be due to the fact that majority of the respondents were engaged in farming for many generations and earned higher income from sugarcane cultivation in the research locale [4].

Farm size: The size of the farm may influence the decision of the farmers in selection of crops and adoption of recommended technologies. Further, it was considered to be one of the most effective factors influencing awareness, knowledge level and extent of adoption of recommended technologies as per earlier studies among sugarcane cultivators. It could be observed from Table, that nearly half proportionate of the respondents (45.00 per cent) were founded a big farmers category, followed by 29.17 per cent of them under small farmers category only and 25.83 per cent were marginal farmers respectively. The predominance of big farmers cultivating sugarcane in the study area could be the possible reason to depict the obtained farm size among the respondents [5].

Area under SSI cultivation: It could be revealed from (Table 1), that more than three-fourth (80.00 per cent) of the respondents had medium level of area under sugarcane cultivation followed by 11.67 per cent of the respondents with high area under sugarcane cultivation. Only 8.33 per cent of the respondents had low level of area under sugarcane cultivation. It was quite natural that large farm holdings were not essential to cultivate sugarcane on the farm. In addition, majority of the farmer were small farmers. Even with possession of less acres of land, a farmer could cultivate sugarcane under SSI and get high profit. This may be the reason for most of the respondents to cultivate sugarcane under SSI technologies [6].

Experience in SSI technology: From the perusal of data in Table, nearly three-fourth of the respondents (72.50 per cent) had medium level of experience in sugarcane cultivation followed by high (20.00 per cent) and low (7.50 per cent) levels of experience. This might be due to the fact that majority of the

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respondents belonged to middle age category which would have justified with their medium level of farming experience [2].

Social participation: Participation in formal and non-formal organizations like co-operative societies, farmers' discussion groups, village panchayats etc., provides access for more interactions between people. Their conscious participation and deliberation in meetings and discussions in these organizations would have helped them to improve their knowledge, skill and develop favourable attitude. A cursory view of the data in Table, social participation revealed that majority of them had medium (78.33 per cent) level of involvement, followed by high (16.25 per cent) and low level of involvement (5.42 per cent). It may be inferred that from the above findings, that the majority of the respondents are members of social organizations such as agricultural credit society and farmer discussion groups. This might be the probable reason for the medium level of social participation among the majority of the respondents [7].

Extension agency contact: It could be understood from the data in Table, that majority of the respondents (82.92 per cent) had high level of extension agency contact followed by medium level (15.00 per cent). Only 2.08 per cent of the respondents had low contact with extension agency. This might be due to the frequency of visits made by cane officers of concerned sugar mills [3].

Mass media exposure: A glance over the data from Table, shows that nearly two-third of the respondents (62.50 per cent) had medium level of mass media exposure followed by low (20.83 per cent) and high (16.67 per cent) levels. This shows that they were aware and utilized the media sources frequently. This might be the probable reason for the medium level of mass media exposure [8].

Innovativeness: Innovativeness is the degree to which an individual is relatively earlier in adopting the new ideas than other members of his social system. It shows the desire and interest of an individual to seek changes in farming. It is an important character for making changes in his farm when found practicable and feasible. On perusal of data from Table, it may noticed that three-fifth of the (52.50 per cent) respondents had medium level of innovativeness followed by a little more than one-third (34.17 per cent) of the respondents with high level of innovativeness and a small proportion (13.33 per cent) had low level of innovativeness. As most of the respondents were educated, hence they might be willing to take risks in the adoption of new technologies [9].

Risk orientation: Risk preference reflects one's readiness or willingness to use the recommended technologies. It could be seen from the data in Table, that more than half of the respondents (58.33 per cent) had medium level of risk orientation followed by high (29.17 per cent) and low (12.50 per cent) levels of risk orientation. This might be due to the reason that most of the farmers are innovative and progressive farmers. They were willing to expand the area under SSI cultivation. This would contribute that majority of respondents fall under medium level of risk orientation [10].

Scientific orientation: Scientific orientation is a forerunner of farmers' innovativeness as stated by Rogers and Shoemaker [11]. The extension agencies are orienting the farmers to adopt the innovations by highlighting the scientific principles behind them. From the data in Table, it could be seen

that more than two-fifth of the respondents (45.83 per cent) had medium level of scientific orientation followed by high (31.67 per cent) and low (22.50 per cent) levels of scientific orientation. It could be inferred that most of the respondents had medium level of scientific orientation. This might be due to the fact that majority of the respondents belonged to medium level of educational status. This would have enabled them to gain sound knowledge on SSI technologies and thus resulting with better scientific orientation [12].

Economic motivation: Every individual has an urge to earn money. Economic motivation is an important factor which influences the adoption of farm innovations. The data in Table, indicated that majority of the respondents (42.50 per cent) had high level of economic motivation followed by medium (37.50 per cent) and low (20.00 per cent) level of economic motivation. The urge to earn money and desire to increase the socio-economic status and standard of living might have been the reasons for the high level of economic motivation found among the majority of respondents. This finding derives support from the findings Guna [13] who also reported that majority of the respondents were with high level of economic motivation.

Training undergone: Scientists are generating new technologies that are useful for farmers. Since these technologies are on scientific base requires more understanding and acquisition on skills by the farmers to use them. The participation of the respondents in various training programmes helps them to understand and adopt the technologies easily and rapidly in their farm. It is evident from Table, that more than ninety per cent of the respondents (93.33 per cent) have attended the training programme on SSI technologies conducted by the respective sugar mills. Only 06.67 per cent of the respondents had not attended the training programme on SSI technologies. This may be due to publicity and awareness on training programmes by the extension officers and extension personnel of sugar mills [3].

Decision making pattern: The decision is the selection of a course of action. It is a choice from among a set of alternatives. It is to come to a conclusion in accordance with the stated explanations. Farm decision making is an important component because much of the success of farming depends how well the farmers make decisions. It could be found from Table, that more than half of the respondents (52.50 per cent) made joint decision by having consultation with their family members followed by 30.83 per cent of respondents who made joint decision with other than family members. A meagre percentage (16.67 per cent) of the respondents had taken independent decision. It can be therefore concluded that majority of the respondents (52.50 per cent) took joint decisions by consulting their family members while 30.83 per cent of the respondents took joint decisions with other than family members [14].

SUMMARY

Sustainable sugarcane initiative (SSI) is an approach to the cultivation of sugarcane that can reduce inputs - water, chemical fertilizers, seed material and farm space - while improving sugarcane production significantly. It also reduces crop duration and provides a longer period of the cane crushing season to the sugar industry. The study was concerned with the adoption of improved practices, which was a major concern to increase sugarcane production and to save the sugar industries of the country as well as to develop the sugar/gur sector, a

promising rural industry. The respondents of the study area where the registered sugarcane growers of three sugar factories located in the Cuddalore District of Tamil Nadu namely MRK Co-Op Sugar mill, EID Parry Sugars (P) Ltd. and Ambiga Sugars (P) Ltd. The 240 respondents were selected based on the proportionate random sampling method. The data were collected by a pre-well-structured interview schedule and results were analysed with appropriate statistical tools.

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