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Impact of sustainable sugarcane initiatives technology on the sugarcane growers

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Abstract

The study aims to assess the Impact of Sustainable Sugarcane Initiatives (SSI) in Tiruvannamalai district. The data was collected from 120 sugarcane growers during 2017. The ex-post facto research design was used for the study. The study was revealed that among direct impact majority of the respondents increased yield was first ranked. Increased income was second ranked. Among indirect impact of economical impact that majority of the respondents had increased their savings was ranked first with an RBQ value of 90.50. Cultivation of additional crop and also allied activities was ranked second with an RBQ value of 88.83. Social impact of increased organizational participation like farmer's association, Youth club etc., seen and ranked first with RBQ value of 84.50. Increase in the opinion leadership was ranked second with RBQ value of 69.16. In Personal impact majority of the respondents had more outside contact was ranked first with an RBQ value of 92.00 followed by more opportunity to know about the technologies were ranked second with RBQ value of 88.16. The subsidy given for adopting the SSI technologies, technological interventions trainings and demonstrations conducted by Department of Agriculture and agricultural scientists, success stories of fellow farmers were the contributing factors for the increased impact level.

Keywords: Impact, sugarcane growers, Tamil Nadu

Introduction

In India, sugar industry is the second largest industry next to the textile industry is playing a vital role in the socio-economic transformation of country (Wagh, 2015) [4]. The sugar industry is being an important agro-based industry, provides livelihoods to about 6 million sugarcane farmers and around 7 lakh workers who are employed in sugar mills. India is ranked second in sugarcane production in the world after Brazil with an area of 5.31 million hectares and production of 366.8 million tonnes. The productivity is 69.1 tonnes /ha during 2014-2015 (ISMA, 2015) [5].

The major sugarcane growing states in India are Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, Andhra Pradesh, Gujarat, Bihar, Haryana, Punjab and Madhya Pradesh. Among the states, Tamil Nadu occupies fifth position in area (2.55 lakh ha), fourth in production (22.3 Mt) and third in productivity (104 t/ha) in 2014-2015 (Government of Tamil Nadu, 2015).

The sustainable Sugarcane Initiative (SSI) is a new method recommended by the Tamil Nadu Agricultural University (TNAU) which improves the productivity of sugarcane by using less resource and thereby, reduces the input cost also. The SSI is a better method of sugarcane cultivation than the conventional methods which are seed - water - space-intensive. By adopting SSI method, the productivity of cane can be enhanced by practicing drip irrigation with fertigation, optimum plant spacing for easy penetration of sunlight, profused tillering and removal of mother shoot to increase tillers and it was believed that SSI method would be profitable. Farmers are very much innovative, eager to take up any new technologies with great enthusiasm and support. SSI will be a suitable option to solve the present problems of increasing seed cost, labour cost and other soil fertility and productivity related issues.

The benefits of SSI method vary depending on how efficiently farmers use these practices. The farmers work in a synergistic way to save inputs and achieve higher yield per unit area. However, its adoption rate is comparatively low, ranging from 15 to 20 per cent. (Kiruthika, 2014) [6]. On the whole, by practicing SSI, farmers can very well increase their productivity by reducing the use of inputs like fertilizers and saving the vital resources like water simultaneously.

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Methodology

The study was conducted in Tiruvannamalai district of Tamilnadu has the highest area under sugarcane cultivation (37783 ha) in tamilnadu (source: Season and crop report of Tamilnadu: 2013-2014). Tiruvannamalai district comprises of three block namely Chetpet, Kalasapakkam and Polur has maximum number of farmers in sugarcane cultivation. A sample of 120 sugarcane farmers was from sugarcane growing villages using random sampling technique. In each selected blocks, two villages were selected. A list of farmers growing Sustainable Sugarcane Initiatives was obtained from the Assistant Director of Agriculture. All the selected farmers were selected interview schedule. For analysis of collected data, descriptive statistics (frequency and per centage) in this study was used.

Result and Discussion

It is inevitable to study the impact of any technology when it is used in the society. Hence the impact were studied and the findings are presented below. The impact was divided in to two broad categories namely direct and indirect Impact and

the ranking was used to identify the priority of impact.

Table 1: Impact of adoption of SSI technologies- Direct Impact

(n=120)

Sl.no	Direct Impact	Rank					RBQ	Rank
		1	2	3	4	5		
a.	Increased yield	85	20	8	5	2	90.16	1
b.	Increased income	72	22	14	7	5	84.83	2

Majority of the respondents expressed that increase in yield as the major impact created due to the adoption of SSI technology and ranked first with an RBQ value of 90.16. The higher yield might be due to the adoption of drip fertigation, recommended spacing use of drippers in required spacing, intercropping more number of cane tillering, protray nursery seedlings methods, multiple ratooning etc., Increased income was ranked as second with RBQ value of 84.83. The farmers contractual agreement by the cane industry with sugarcane farmers and the direct procurement and the raise in price of cane are the reason for getting higher income.

Table 2: Impact of adoption of SSI technologies- Indirect Impact

(n=120)

Sl.no	Indirect Impact	Rank					RBQ	Rank
		1	2	3	4	5		
I.	Economical Impact							
a.	Increased savings	88	18	6	5	3	90.50	1
b.	Cultivation of additional crops and also allied activities	87	13	10	6	4	88.83	2
c.	More money invested in farming	79	14	10	8	9	84.33	3
d.	Repaid debts	40	15	20	26	19	65.16	4
II.	Social Impact							
a.	Increased organizational participation like Farmers Association, Youth club etc.	73	21	11	10	5	84.50	1
b.	Increased Opinion leadership	55	20	9	15	18	69.16	2
III.	Personal Impact							
a.	Outside contact increased	96	10	7	4	3	92.00	1
b.	Increased opportunity to know about the technologies	83	15	12	8	2	88.16	2
c.	Increased consultation with fellow farmers	65	20	10	14	11	79.00	3
d.	Social recognition from others due to high yield and high income	53	20	11	16	20	71.66	4
h.	Subscribed for farm journal & general publication	5	7	19	35	54	39.00	5

Economic changes

It could be inferred from the Table 23, that an over whelming majority of the respondents had increased their savings was ranked first with an RBQ value of 90.50. Cultivation of additional crops and also allied activities was ranked second with an RBQ value of 88.83. Crop diversification and allied activities like paddy, black gram, red gram, ragi etc. and sericulture dairy farming and also undertaken by the farmers might be the reason for the economic changes. More money invested in farming as ranked third with an RBQ value of 84.33. More money invested in farming like pesticide, weed management etc., Repaid their debts was ranked as fourth with RBQ value of 65.16. The main reason for expansion of their SSI farming area with their increased income.

Social changes

Increased organizational participation like farmer's association, Youth club etc., seen and ranked first with RBQ value of 84.50. Increase in the opinion leadership was ranked second with RBQ value of 69.16. Because of their increased income and increased yield from SSI farming.

Personal changes

It is further evident from the Table 23, that an overwhelming

majority of the respondents had more outside contact was ranked first with an RBQ value of 92.00 followed by more opportunity to know about the technologies were ranked second with RBQ value of 88.16 and increased consultation with fellow farmers was ranked third with an RBQ value of 79.00. The social recognition in the society due to the high yield and high income was ranked fourth with an RBQ value of 71.66 followed by subscribed farm journal & general publication was ranked fifth with an RBQ value of 39.00.

This might be due to medium education, experience, information source utilization and decision making behaviour used in cultivating sugarcane under SSI technology. Almost they were following SSI farming for five years which had resulted in positive impact in different spheres of their life.

Conclusion

The benefits experienced by sugarcane growers shows that, adoption of SSI technology have more crop yield which resulted in more income compared to conventional methods of sugarcane cultivation. Hence, there is need for educating the farmers through trainings and demonstration in a planned manner by concerned departments of agriculture, sugar factory.

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