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An insight into the socio-economic and personal dimensions of toria growers in Assam

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ABSTRACT

Toria is an important short-duration oilseed crop cultivated extensively in Assam, particularly as a succeeding crop in rice-based and rice-fallow production systems. Understanding the characteristics and resource position of toria growers is essential for developing appropriate extension strategies and interventions for improving its production and productivity. The present study, entitled “An Insight into the Personal and Socio-Economic Dimensions of *Toria* Growers in Assam,” was undertaken to examine the personal and socio-economic characteristics of farmers engaged in toria cultivation. The study was conducted among selected toria growers of Assam. The data were collected through a structured schedule and analysed using appropriate statistical measures. The findings revealed that majority of the respondents 70.00% belonged to the age group of 29-56 years, with 55.00 % who preferred to live in nuclear family having 3-5 members. Around 50.83 percent of the respondents have only cultivation as their primary occupation with 75.83% of the respondents who had 10-18 years in toria cultivation. Appropriate statistical tools such as Mean, Frequency, S.D were used to analyse the data. The study provides a comprehensive insight into the background and socio-economic dimensions of toria growers and establishes a useful baseline for understanding their agricultural behaviour and developmental needs.

Keywords: Assam, Toria, Insight, Socio economic, Personal dimensions

Introduction

As agriculture is a farmer-centred activity, its adoption and effective utilization of agricultural technologies are influenced by the characteristics and resource position of individual farmers. Personal characteristics such as age, education, farming experience and family composition, together with socio-economic characteristics such as operational landholding, occupation, income, social participation, extension contact and access to information, may influence farmers' decision-making, resource allocation and agricultural practices. Farmers possessing different levels of resources and social and institutional exposure may differ in their ability to access inputs, acquire information, understand recommended technologies and respond to production constraints (Singh *et al.* 2023). Consequently, the personal and socio-economic characteristics of toria growers is important to understand the existing social and economic environment within which toria cultivation is practised. A farmer with a small operational holding and limited income may face different production and investment conditions compared with a farmer having a relatively larger holding and better economic resources. (Mahanta *et al.*, 2020) [1]. Similarly, education and extension contact can influence farmers' exposure to improved varieties and recommended production practices, while farming experience and social participation may affect their decision-making and interaction with agricultural institutions. (Kumar *et al.* 2026) [2]. Thus, the characteristics of toria growers provide an important foundation for understanding their farming behaviour and the factors influencing the development of toria cultivation. Furthermore, understanding the socio-economic characteristics of growers can assist extension agencies in identifying appropriate target groups, designing need-based extension programmes and improving the dissemination of recommended technologies. Such information can help determine whether farmers have adequate access to agricultural information, quality seed, institutional support and other resources required for successful toria cultivation. The importance of examining the farmer dimension is also evident from recent research in Assam. Thus, examining the characteristics of the farmers becomes essential for obtaining a comprehensive understanding of the agricultural production system. In case of toria cultivation, in Assam, where the crop is closely associated with rice-based and rice-fallow farming systems, the personal and socio-economic characteristics of growers provide an important insight into their resource position, farming background, access to information and institutional support, and their capacity to undertake and sustain toria cultivation which would further assist extension personnel, researchers and development agencies in identifying the specific needs of different categories of growers and in formulating farmer-oriented and location-specific strategies for the development of toria cultivation.

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Therefore, an insight into the personal and socio-economic characteristics of toria growers is necessary to obtain a holistic understanding of the farmers involved in toria cultivation and the socio-economic environment in which the crop is being produced. Such an assessment provides a necessary insight into the profile, resource position and prevailing conditions of toria growers and establishes a baseline for interpreting their subsequent agricultural behaviour and developmental needs. Keeping this in view, a was undertaken to gain a comprehensive insight into the personal and socio-economic dimensions of toria-growing farmers in Assam.

Methodology

The present study was conducted in 4 districts of Assam selected among the four agro-climatic zones which include: Golaghat from Upper Brahmaputra Valley Zone, Lakhimpur from North Bank Plain Zone, Kamrup under Lower Brahmaputra Valley Zone and Nagaon from Central Brahmaputra valley zone. Subsequently, 30 respondents from each district who were engaged in cultivation of toria were selected which comprised a total of 120 respondents as a final sample for the study. Thus, a multistage random sampling design was followed for the selection of respondents in the present study. A structured schedule was employed to collect data from the respondent farmers. A set of all total of twelve variables were selected to know the personal, social and economic characteristics of the respondents. Various statistical techniques like mean, standard deviation, frequency, percentage are used for analysis of data. Discussions were

made for each of the variable which are given in the subsequent paragraphs.

Results and Discussion

The results presented in Table 1 revealed that seventy percent of the respondents belonged to the age group of 29–56 years, followed by 15.00 per cent who were in the age group of above 56 years and below 29 years. The mean age of the respondents was 48.05 years, with a standard deviation of 12.02. From the results, it was clear that the respondents aged between 29–56 years were the major group and had a greater level of participation in farm mechanization activities. This helped to bring about a greater recognition of the advantages of farm mechanization, which led to a greater transfer of knowledge among fellow farmers about the use of farm machinery and implements.

The findings are in line with the study conducted by Kalagi (2018) [3].

$n = 120$

2. Educational qualification

Table 2 reveals that most of the respondents (35.00%) were high school passed, followed by (30.80%) who were graduates and above. Fifteen percent of the respondents were middle school passed Primary school (13.30%) and illiterate (5.90%). The result highlights that majority of the subjects had access to better formal education institutions which can be said to be enough for them to learn how to use the machinery properly.

The results align with the findings Mehra (2022) [4].

Table 1. Distribution of respondents according to age

SL.No	Category (years)	f	(%)	Mean	SD
1	Low (Below 29)	18	15.00	48.05	12.02
2	Medium (29-56)	84	70.00		
3	High (Above 56)	18	15.00		
	Total	120	100.00		

$n = 120$

Table 2. Distribution of respondents according to educational qualification

SL.No	Categories	f	%
1	Illiterate	7	5.90
2	Primary school passed	16	13.30
3	Middle school passed	18	15.00
4	High school passed	42	35.00
5	Graduate and above	37	30.80
	Total	120	100.00

3. Family type

The data presented in Table 3 highlights that 55.00 per cent of the respondents preferred to lived in nuclear families and (45.00%) of them lived together in joint families.

The prevalence of nuclear families in the research area implies the gradual transformation of the family structure from joint family system to a nuclear family structure. This pattern may have offered increased flexibility in decision-making and resource management, which further helped them to adopt mechanized agricultural techniques and farm innovations.

Table 3. Distribution of respondents according to family type $n = 120$

SL.No	Categories	f	%
1	Nuclear	66	55.00
2	Joint	54	45.00
	Total	120	100.00

4. Occupational status

The Table 4. shows that (50.83%) of the respondents were engaged in only cultivation, followed by 34.16 per cent of the respondents who were engaged in cultivation along with allied agriculture activities. While 5.00 per cent were engaged in cultivation along with business and 10.00 per cent of the respondents had cultivation along with service as their occupation.

It is evident that majority of the respondents had cultivation as their major occupation while there were some who were engaged in services, however, even they had agriculture as their primary occupation. It served as the basic source of livelihood for most of the respondents. Since agriculture was practiced by all the respondents it is easy to persuade them to use the machinery in large numbers. The findings are in line with the study conducted by Rajkhowa (2019) [5].

$n = 120$

Table 4. Distribution of respondents according to occupational status

SL.No	Categories	f	(%)
1	Only cultivation	61	50.83
2	Cultivation along with allied agricultural activities	41	34.16
3	Cultivation along with business	6	5.00
4	Cultivation along with service	12	10
	Total	120	100.00

5 Operational land holding

The data presented in Table 6 shows a major portion of the respondents, (62.50%) had marginal land holdings, followed by 35.00 per cent who had small land holdings. Only a small portion of the respon

dents i.e 2.50 per cent had semi-medium land holdings. None of the families possessed medium and large sized land holding.

Table 5. Distribution of respondents according to operational land holding $n = 120$

SI. No	Categories	f	%
1	Marginal farmer (less than 1 ha)	75	62.50
2	Small farmer (1 to 2 ha)	42	35.00
3	Semi medium farmer (2 to 4)	3	2.50
Total		120	100.00

*According to "Agriculture Census 2015-16"

6. Source of labour availability

Table 6 reveals that the majority of the respondents eighty percent relied exclusively on their own labour for various agricultural farm activities, while 20.00 per cent utilised a combination of family and hired labour. This shows that there is dominance of family farming in

the study area, whereby members of the family worked together in different agricultural activities. More dependence on owned family labour reveals that farm mechanization can help to reduce labour costs and improve efficiency of farm activities.

Table 6. Distribution of respondents according to their source of labour availability $n = 120$

SI.No	Categories	f	%
1	Own	96	80.00
2	Own + Hired	24	20.00
Total		120	100.00

7. Farming experience in toria

Data in table 7 reveals that 75.83% of the respondents had medium level of farming experience in toria cultivation, followed by 12.50 per cent respondents who had low level of farming experience. Only 11.66 per cent of the respondents had high level of farming experience. Here, the mean was found to be 14.00 and S.D 4.00.

$n = 120$

Table 7. Distribution of respondents according to their farming experience in toria

SI.No	Categories	f	%	Mean	S.D
1	Low(below 10)	15	12.50	14.00	4.00
2	Medium (10-18)	91	75.83		
3	High (Above 18)	14	11.66		
Total		120	100.00		

8. Cropping intensity

The findings revealed that the majority of the respondents (41.66%) had a medium level of cropping intensity, followed by thirty five per cent who belonged to the low category, while only 23.33 per cent had a high level of cropping intensity. The perusal of the study highlights that most of the respondents have used their land resources through multiple cropping. This is where farmers cultivate different crops in

one year. In this case, the proper mechanization of the process to ensure that the farming activities are completed on time will be necessary for multiple cropping. Here, the mean was found to be 142.35 and the S.D was found to be 19.85.

The findings are similar with the results found by Sharma *et al.* (2015) [6].

$n = 120$

Table 8. Distribution of respondents according to cropping intensity

SI.No	Categories	Range	f	%	Mean	S.D
1	Low	Below 122.47	42	35.00	142.35	19.85
2	Medium	122.47-162.17	50	41.66		
3	High	Above 162.17	28	23.33		
Total			120	100.00		

9. Annual income of family

Table 9 reveals that majority of the respondents (79.16%) reported earning annual income in between Rs.0.72-Rs.3.62 lakhs followed by 14.17 per cent who had low annual income of below Rs. 0.72 lakhs. Only a small portion (6.67 %) had high annual income of above Rs.3.62 lakhs.

Here, the mean value was found to be 2.17 and S.D is 1.45

The findings are in line with the study conducted by Kisku (2020) [7] where majority of the respondents belong to the medium annual income category.

Distribution of respondents according to their annual income of family

$n = 120$

SI. No	Categories	f	%	Mean	S.D
1	Low annual income (Below 0.72)	17	14.17	2.17	1.45
2	Medium annual income (0.72- 3.62)	95	79.16		
2	High annual income (Above 3.62)	8	6.67		
Total		120	100.00		

10. Experience in using farm machineries

Data classified in Table 10 shows that 74.16% of the respondents accounts for medium level of experience in using farm machineries followed by 15.00 per cent of the respondents who had high level of ex-

perience. Furthermore, 10.84 per cent had below seven years of experience. The prevalence of the respondents in the medium category could be due to their slow adaptation to the use of agricultural ma-

chines through time. Nonetheless, it is important that more effort could be made by means of training and capacity building programmes to equip farmers with more information and skills for effective use of farm machineries.

Here, the mean score was found to be 11.50 and S.D 6.36.

$n = 120$

11. Training experience

Table 11 highlights that (63.33%) of the respondents received one days of training, followed by 19.16 per cent who had received training of three days and above. 63.33 per cent respondents who had un-

dergone one-day training programmes

As all the respondents had undergone training for farm machineries, it shows that the training programmes has focused much on improving the awareness and technical abilities of the farmers pertaining to farm mechanization. Training for short duration imparted knowledge to the respondents about operation, handling and proper utilization of farm machinery. This type of training would help in increasing technical ability among farmers. But need-based training can improve their operational skills and help in using the latest farm machinery.

Table 10. Distribution of respondents according to experience in using farm machineries (years)

SI.No	Categories	f	%	Mean	S.D
1	Less than 7 years	13	10.84	11.50	6.36
2	7-16 years	89	74.16		
3	Above 16 years	18	15.00		
	Total	120	100.00		

The findings were in agreement with the study conducted by Alam (2021) [8].

$n = 120$

Table 11. Distribution of respondents according to their training experience

SI.No	Categories	f	%
1	1 day training	76	63.33
2	2 days training	21	5.00
3	3 days training and above	23	19.16
	Total	120	100.00

12. Degree of information exposure

Table 12. reflects the distribution of respondents in relation to the frequency of information exposure through various sources. The Weighted Mean Score (WMS) was applied in the ranking of various

sources in relation to the frequency of information exposure. The results showed that KVK personnel was ranked first in terms of the highest WMS of 2.50, which implies that KVK personnel was the most frequent source of information exposure among the respondents. This was followed by Extension Professionals who were ranked second in terms of a WMS of 2.33. Officials from APART under AAU were ranked third in terms of WMS of 2.25, which indicates that there was relatively a high frequency of information exposure from the source. Agricultural Scientists/Teachers under SAUs were ranked fourth in terms of WMS of 2.13. ATMA personnel were ranked fifth in terms of WMS of 1.96, indicating that the frequency of information exposure was comparatively low. Bank officials were ranked sixth in terms of the lowest WMS of 1.75, implying that they were the least accessed sources of information among the respondents.

The findings are similar with the results observed by Alam (2021) [8].

Table 12. Distribution of respondents according to frequency of information exposure $n = 120$

SI.No	Source	Degree of information exposure			WMS	Rank
		Frequently F (%)	Sometimes F (%)	Never F (%)		
1	Officials from APART under AAU	55 (45.83)	40 (33.33)	25 (20.83)	2.25	III
2	KVK personnel	70 (58.33)	40 (33.33)	10 (8.33)	2.50	I
3	ATMA personnel	35 (29.17)	45 (37.50)	40 (33.33)	1.96	V
4	Extension Professionals	60 (50.00)	40 (33.33)	20 (16.67)	2.33	II
5	Agricultural Scientist/teachers under SAUs	45 (37.50)	45 (37.50)	30 (25.00)	2.13	IV
6	Bank officials	25 (20.83)	40 (33.33)	55 (45.83)	1.75	VI

(Figures in parenthesis indicate percentage)

The findings revealed that the toria growers exhibited a diverse personal and socio economic characteristics which reflect their varying demographic, farming experiences, information assessment and extension services.

Conclusion

The study provided an insight into the personal and socio-economic dimensions of toria growers and highlighted the prevailing characteristics of farmers engaged in toria cultivation. The findings revealed that the respondents were predominantly from the middle age group, indicating that toria cultivation was largely undertaken by farmers in

their economically active and productive years. The overall profile of the respondents in terms of educational status, family characteristics, landholding, income, farming experience, social participation and extension-related attributes reflected the diverse socio-economic conditions of toria-growing households. These personal and socio-economic characteristics constituted an important dimension of the toria production system, as they influenced farmers' access to resources, information, improved technologies and institutional support. However, variations in the resource base and socio-economic position of growers highlighted the need for interventions that are responsive to the specific circumstances and requirements of different categories of farmers. The findings provide a useful baseline for designing need-based extension programmes, improving access to agricultural information and inputs, strengthening institutional support and facilitating the adoption of improved production practices. Thus, a clear understanding of the personal and socio-economic dimensions of toria growers can contribute to the formulation of farmer-oriented and location-specific strategies aimed to enhance toria production, improved resource utilization and strengthen the livelihood opportunities of farming households in Assam.

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