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Exploring profile characteristics of millet farmers in Assam

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Abstract

The present investigation was conducted with the objective to know the socio-economics profile characteristics of the millet farmers towards millet cultivation in Golaghat district of Assam. The study, titled "Exploring profile characteristics of Millet Farmers in Assam" adopted a descriptive research design and employed a multi-stage, purposive-cum-random sampling technique to select 120 respondents from eight sampled villages in the Golaghat district of Assam. Data were collected using a pretested, semi-structured research schedule with the personal interview method. The results of the study indicated that the majority of the farmers belonged to middle age category (69.16%) with middle level school education (33.33%), nuclear family type (63.33%), cultivation as a primary source of occupation (46.67%) with small land holdings (52.50%), Mean value of area and production of millet crop reduces due to low income from millet cultivation but productivity remains constant. Annual income and savings of family is also reduced when compared to the before and after cultivation of millets and the reasons were low market prices for millet, limited access to harvesting and threshing machinery, high labor costs. Regarding expenditure, millet cultivation offers economic benefits as compared the other crops. More than half of the respondents (56.67%) were never attended any training programme regarding millet cultivation.

Keywords: Socio-economic, profile characteristics, millet cultivation, training programme

Introduction

Millet is a very nutritious grain gaining popularity among farmers due to its durability and capacity to endure changes in temperature. India is the greatest global producer of millets, accounting for around 40% of total world production, and is the second-largest supplier, producing nine widely recognized varieties of millets (Gowri and Shivakumar, 2020) [7]. Millets have significant health benefits, including their potential role in reducing the risk of diabetes, cardiovascular diseases, and obesity highlighted by the research work (Kumar *et al.* 2016) [9]. Millets, often referred to as "nutri-cereals", are emerging as a crucial solution due to their rich nutritional profile and adaptability to adverse climatic conditions. Millets like finger millet, pearl millet, and sorghum are packed with essential nutrients such as iron, calcium, fiber, and amino acids, making them ideal for combating malnutrition and chronic diseases. India stands as the leading producer of millets globally, contributing 38.6% of the world's millet production and is one of the primary consumers of this nutritious grain (FAO, 1995).These small grains are comparable to other staple cereals like rice and wheat in nutritional value, with some varieties offering superior protein, fat, and mineral content.

In India, over 15% of the population is undernourished, making them susceptible to a range of health issues, while over 25% of the population lives in poverty. Many methods, including commercial fortification, medical supplementation, dietary diversification, and bio fortification, are used to augment diets with nutrients (Yadava *et al.,* 2017) [21]. Recognizing this potential, the Assam government launched the Assam Millet Mission to promote the cultivation, processing, and consumption of millets in the region. The Assam Millet Mission aims to empower small and marginal farmers by providing them with quality seeds, technical know-how, and market linkages, thereby enhancing the commercial viability of millet crops in local and national markets (Government of Assam, 2022) [6]. Promoting millet cultivation can bring about a significant socio-economic transformation of the farming community of Assam. Therefore, it is imperative on the part of researchers to explore profile characteristics of farmers engaged in millet cultivation which may provide valuable insights for devising suitable policy interventions in sustainable millet production.

Materials and Methods

In this study, a descriptive research design was adopted. The research was undertaken during 2024 in the Golaghat district of Assam to investigate the profile characteristics of millet farmers and identify strategies to address them, providing a comprehensive understanding of the issues. The research covered all eight blocks of Golaghat district,

selecting purposively one Agricultural Development Officer (ADO) circle from each block. One village was purposively chosen from each ADO circle based on the highest number of millet growers, resulting to the selection of RupkoliaChuk, Joraguri, Talsibari, Dhulia Gaon, ChutiaGaon, BorahiGaon, Borpak, and Padumoni villages. And from each of the villages, fifteen millets farmers were selected randomly and thus, a total of total 120 respondents were included for the study. To explore the profile characteristics of respondents, a total of thirteen number of variables namely age, education level, family type, family size, occupation of the family, labour availability, operational land holding, millet type, area, production and productivity of millet, annual income of family, influence to grow millet, savings and expenditure from millet and training exposure were selected. Data were collected through personal interviews and face-to-face interactions using structured research schedule.

Results and Discussion

Socio-economic profile of Millet Farmers towards Millet Cultivation in Golaghat District of Assam. The respondent's descriptions were based on personal, social and economic characteristics which are presented as under:

1. Age

Table 1: Distribution of the respondents according to their age

SL. No.	Category	Respondents		Mean	SD
		Frequency	Percentage		
1	Below 34 years	14	11.67	43.98	10.52
2	34-55 years	83	69.16		
3	Above 55 years	23	19.17		
Total		120	100.00		

The findings in Table 1 reveals that majority 69.16 percent of respondents belonged to the age group of 34 to 55 years, followed by (19.17%) in the age group of above 55 years. Only (11.67%) are in the age group below 34 years, with a mean age of 43.98 years and a standard deviation of 10.52. This indicates that majority of respondents are in the age group of 34 to 55 years, which is typically characterized by greater energy and enthusiasm for adopting new practices. Since millet is a relatively new crop in this area, people in this age group are motivated to grow millet, seeking potential benefits and innovation in their farming practices. This finding aligns with the studies of Tripathi (2021) [19].

2. Education Level

Table 2: Distribution of respondents based upon Education level

SL. No	Category	Respondents	
		Frequency	Percentage
1	Illiterate	8	6.67
2	Can read/write	12	10.00
3	Primary school	14	11.67
4	Middle school	17	14.17
5	High school	40	33.33
6	Higher secondary	16	13.33
7	Graduate and above	13	10.83
Total		120	100.00

It is revealed from Table 2 that majority 33.33 percent of respondents had completed their education at the high school level, followed by (14.17%) who had completed middle school, (13.33%) at the higher secondary level, (11.67%) at the primary school level, and (10.83%) who were graduates or above. Additionally, (10.00%) of respondents were found to be functionally literate. Among of them, (6.67%) were completely illiterate. From the above findings it can be concluded that about half of the respondents fall into the category of higher secondary education level, while only eight individuals are illiterate. Nevertheless, the majority of the respondents are literate and possess at least basic reading and writing skills, indicating a considerable level of education. This may be attributed to the impact of various educational development programs, such as the Sarva Shiksha Abhiyan, the National Literacy Mission, and NIPUN Assam Mission etc. This finding is in line with the findings of Ankita (2023) [1] and Tripathi (2021) [19].

3. Family Type

Table 3: Distribution of respondents based upon family type

SL. No.	Category	Respondents	
		Frequency	Percentage
1.	Nuclear Family type	76	63.33
2.	Joint Family type	44	36.67
Total		120	100.00

A possible reason for this trend could be the preference for personal space and autonomy, which is often associated with nuclear family structures. Additionally, urbanization and evolving socio-economic conditions might influence this preference, as urban lifestyles tend to promote smaller family units. This shift can also reflect the growing emphasis on individual autonomy, career-focused priorities, and flexibility in decision-making, which may lead nuclear families to be more open to adopting innovative agricultural practices, including millet cultivation. Conversely, joint

families, with their extended family ties, may face more traditional norms and may adopt new farming practices at a slower pace due to the collective decision-making process. The similar findings were also reported by Kumar *et al.* (2024) [10].

4. Family Size

Table 4: Distribution of respondents based upon family size

SL. No.	Category	Respondents		Mean	SD	CV
		Frequency	Percentage			
1	Up to 4	39	32.50	5.475	1.76	32.29
2	5 to 7	60	50.00			
3	Above 7	21	17.50			
Total		120	100.00			

Table 4 shows that half of the respondents family had 5 to 7 members, followed by (32.50%) who had up to 4 members) and only (17.50%) had more than 7 members. The mean family size is 5.475, with a standard deviation of 1.76 and a coefficient of variation (CV) of 32.29.This indicates that while the medium family size is the most common, there is still considerable variation in family sizes among the respondents. A likely explanation for this distribution could be the balance between economic considerations and cultural norms. Medium-sized families tend to be more common in rural areas where economic activity, including agricultural labour, requires a certain number of people for farm management and household work. The results are in conformity with the findings of Chapke (2022) [3] and Rafi *et al.* (2023) [17].

5. Occupation of the family

Table 5: Distribution of respondents based upon occupational status

SL. No	Category	Respondents	
		Frequency	Percentage
1	Only cultivation	56	46.67
2	Cultivation + Allied Agricultural activities	46	38.33
3	Cultivation + business	10	8.33
4	Cultivation + service	8	6.67
	Total	120	100.00

Table 5 reveals that majority 46.67 percent of respondents relied on cultivation as their main occupation, while (38.33%) combined cultivation with allied agricultural activities, (8.33%)engage in both cultivation and business, and (6.67%) pursue cultivation alongside service for their income and livelihood. The high percentage of respondents engaged in cultivation and allied agricultural activities indicates that the rural community is closely tied to traditional agricultural practices. Given that most families are involved in agriculture; it is plausible that they can be encouraged to adopt millet farming on a larger scale. As millet farming presents a viable alternative for sustainable farming. This finding matches the results reported in the studies of Hussain *et al.* (2024) [8].

6. Labour Availability

The Table 6 indicates that majority of respondents 43.33 percent utilized a combination of both family and hired labor, followed by (36.67%) who relied on family labor, and (20.00%) who used hired labor. This trend can be attributed to the partial availability of labor within their own families, prompting them to supplement it with hired workers to meet the labor demand, especially during peak agricultural seasons. The reliance on both family and hired labor reflects a strategic approach to optimizing workforce availability while balancing cost-efficiency. Additionally, smaller family sizes, as previously discussed, may limit the availability of family labor, necessitating the engagement of external labor to sustain agricultural productivity and operations. This finding is consistent with the results reported in the studies of Wakhet (2019) [20].

Table 6: Distribution of respondents according to their Labour Availability

SL. No.	Category	Respondents	
		Frequency	Percentage
1	Family labor	44	36.67
2	Hired labor	24	20.00
3	Both (family + hired)	52	43.33
	Total	120	100.00

7. Operational land holding

Table 7: Distribution of respondents according to their operational land holding

Sl. No	Category	Respondents	
		Frequency	Percentage
1	Marginal farmers (up to 1 ha)	45	37.50
2	Small farmers (1.1-2 ha)	63	52.50
3	Semi medium farmers (2.1-4 ha)	8	6.67
4	Medium farmers (4.1-10 ha)	4	3.33
Total		120	100.00

The Table 7 indicates that majority 52.50 percent of respondents were small farmers, followed by marginal farmers (37.50%). A smaller proportion of respondents were semi-medium farmers (6.67%) and medium farmers (3.33%). This distribution highlights the dominance of small and marginal landholdings among the farming community in the study area. The prevalence of smaller landholdings can be attributed to the fragmentation of agricultural land due to family inheritance practices, where land is divided among heirs over generations. This has led to reduced plot sizes for individual farmers. Furthermore, the limited availability of cultivable land in the region and the growing population have intensified this trend leaving most farmers with small and marginal holdings. This finding aligns with the studies of Pandey (2018) [15] and Murali (2021) [14].

8. Millet Type

Table 8: Distribution of respondents according to their millet type

Sl. No	Category	Respondents	
		Frequency	Percentage
1	Foxtail millet	102	85.00
2	Finger millet	18	15.00
Total		120	100.00

Table 8 reveals that majority 85.00 percent of respondents

cultivated foxtail millet, while only (15.00%) cultivated finger millet. A key reason for this preference is the overlap in sowing times for finger millet and paddy. Paddy, being a primary staple crop in the region, is sown during June and July, which coincides with the preparation and early growth period of finger millet, typically sown in September and October. Farmers prioritize paddy cultivation due to its critical role in ensuring their livelihoods and food security. Consequently, they opt for foxtail millet, whose sowing time does not conflict with that of paddy. This finding aligns with the studies of Mallika (2022) [13].

9. Area, Production and productivity of millet (Year wise)

9 (a) Area under millet

Table 9 (a): Distribution of respondents according to their area under millet

SL. No	Year	Category	F	(%)	Mean	SD	CV	T-Value	P-Value
1	2022-23	Low (<0.22 ha.)	36	(30.00)	0.51	0.29	56.86	10.15	.000**
		Medium (0.22-0.80 ha)	53	(44.17)					
		High (> 0.80 ha)	31	(25.83)					
		Total	120	100.00					
2	2023-24	Low (<.09 ha.)	53	(44.17)	0.26	0.17	65.38		
		Medium (0.09-0.43 ha)	40	(33.33)					
		High (>0.43 ha)	27	(22.50)					
		Total	120	100.00					

The data in Table 9 (a) shows the landholding distribution of respondents for millet cultivation in the years 2022-23 and 2023-24. In 2022-23, Majority 44.17 percent of respondents fell into the medium landholding category (0.22-0.80 ha), while (30.00%) were in the low category (<0.22 ha), and (25.83%) were in the high category (>0.80 ha). In contrast, in 2023-24 majority 44.17 percent of respondents fell into the low landholding category (<0.09 ha), while (33.33%) were in the medium category (0.09-0.43 ha), and (22.50%) were in the high category (>0.43 ha). Similar results were reported by Lokesh *et al.* (2022) [12].

When comparing the two years, the mean landholding area for millet cultivation significantly decreased from 0.51 ha in 2022-23 to 0.26 ha in 2023-24. This reduction highlights a substantial decline in the average area dedicated to millet farming. The t-value (10.15) and p-value (0.000**) further indicate that this decrease is statistically significant. This suggests that farmers have notably reduced the area allocated for millet cultivation, reflecting a significant shift in farming practices, likely influenced by challenges or reduced interest in millet farming. The decline in millet cultivation area can be attributed to farmers' low perception towards millet farming, primarily driven by several issues like farmers face challenges in accessing fair market prices for millet, and they also lack proper infrastructure such as machinery for harvesting and threshing the crop. As millet cultivation requires considerable manual labor, the labor costs associated with it are high. However, the returns from millet farming are often low, as farmers are offered unfairly low prices for the crop. This economic imbalance has led many farmers to reduce the area dedicated to millet cultivation and shift to other vegetable crops, which are more profitable.

9 (b) Production of millet

Table 9 (b): Distribution of respondents according to their production of millet

Sl. No	Year	Category	F	(%)	Mean	SD	CV	T-Value	P-Value
1	2022-23	Low (<2.73 q)	23	19.17	7.06	4.33	.61	9.88	.000**
		Medium (2.73-11.39 q)	69	57.50					
		High (>11.39 q)	28	23.33					
		Total	120	100.00					
2	2023-24	Low (<1q)	12	10.00	3.40	2.40	.70		
		Medium (1-5.80q)	81	67.50					
		High (>5.80q)	27	22.50					
		Total	120	100.00					

The data in Table 9 (b) reveals the production distribution of millet for the years 2022-23 and 2023-24. In 2022-23, the majority of farmers 57.50 percent had medium production (2.73-11.39q), followed by (23.33%) with high production (more than 11.39q) and (19.17%) with low production (less than 2.73q). In 2023-24, the majority of farmers 67.50 percent had medium production (1-5.80q), followed by (22.50%) with high production (more than 5.80q) and only (10.00%) with low production (less than 1q). The results are in conformity with the findings of Lalita (2014) [11].

This shift, with a decrease in low production and a change in the production categories in 2023-24, reflects a reduction in millet cultivation. The challenges farmers face, such as limited market access, low prices, and high labor costs, have contributed to this decline. As a result, many farmers reduced their production of millet and shifted to more profitable and less labor-intensive crops. Statistical analysis shows a t-value of 9.88 and a p-value of .000, indicating a statistically significant difference in production levels between the two years. Additionally, the mean production decreased from 7.06 in 2022-23 to 3.4 in 2023-24, and the coefficient of variation (CV) increased from (.61) to (.70), reflecting a shift in the variability of production amounts. These findings underline the growing economic pressures

faced by farmers, leading to a reduction in millet production over the two years. As the area reduced but if they used improved technology they increased production but they didn't used scientifically used technology.

9 (c) Productivity of the millet

Table 9 (c): Distribution of respondents according to their productivity of the millet

SL. No	Year	Category	F	(%)	Mean	SD	CV	T-Value	P-Value
1	2022-23	Low (<11.41q)	30	25.00	13.78	2.37	17.19	.140	.889^{NS}
		Medium (11.41-16.15q)	74	61.67					
		High (>16.15q)	16	13.33					
		Total	120	100.00					
2	2023-24	Low (<11.62q)	25	20.83	13.74	2.12	15.42		
		Medium (11.62-15.86q)	92	76.67					
		High (>15.86q)	3	2.50					
		Total	120	100.00					

The data as indicated in Table 9 (c) shows the productivity distribution of millet in quintals for the years 2022-23 and 2023-24. In 2022-23, the majority of farmers 61.67 percent had medium productivity (11.41-16.15q), followed by (25.00%) with low productivity (less than 11.41q) and (13.33%) with high productivity (greater than16.15q). In 2023-24, the majority of farmers 76.67 percent had medium productivity (11.62-15.86q), followed by (20.83%) with low productivity (less than 11.62q) and only (2.50%) with high productivity (greater than 15.86q). This finding matches the results reported in the studies of Lokesh *et al.* (2022) [12].

The data indicates a slight decrease in high productivity and a shift in the distribution of low and medium productivity between the two years. However, the differences between the two years are not statistically significant, as the t-value is .140 with a p-value of .889, indicating that there is no significant change in productivity from 2022-23 to 2023-24. The mean productivity remained relatively stable at 13.78 quintals in 2022-23 and 13.74 quintals in 2023-24, with the coefficient of variation (CV) showing minimal change, decreasing from 2.37 to 2.12.

10. Annual income of family and income from millet

10 (a) Annual income of family

Table 10 (a): Distribution of respondents according to their annual income of family

Category	Range	F	(%)	Mean	SD	T-Value	P-Value
Before millet	Low (<0.33lakhs)	28	23.33	1.37	1.04	13.917	.000**
	Medium(0.33-2.41lakhs)	62	51.67				
	High (>2.41 lakhs)	30	25.00				
	Total	120	100.00				
After millet	Low (<0.24lakhs)	31	25.83	1.29	1.05		
	Medium(0.24-2.34lakhs)	60	50.00				
	High (>2.34 lakhs)	29	24.17				
	Total	120	100.00				

The data in Table 10 (a) illustrates the income distribution of respondents before and after millet cultivation. Before millet cultivation, the majority of farmers 51.67 percent had a medium income (₹0.33-2.41 lakhs), followed by (25.00%) with a high income (greater than ₹2.41 lakhs) and (23.33%) with a low income (less than ₹0.33 lakhs). After millet cultivation, there was a slight shift, with 50.00 percent of farmers in the medium income category, (24.17%) in the high income category, and (25.83%) in the low income category. The mean income decreased from ₹1.37 lakhs before millet cultivation to ₹1.29 lakhs after millet cultivation, with a slight increase in variability as reflected by the SD (1.04 to 1.05). The t-value of 13.917 and p-value of .000 indicate a statistically significant reduction in income after millet cultivation. This finding is consistent with the observations reported in the studies of Parasar (2017) [16].

The decline in income may be attributed to issues such as low market prices for millet, high labor costs, and limited access to harvesting and threshing machinery. These challenges have led farmers to perceive millet cultivation as less profitable compared to alternative crops, which may also explain the reduction in the share of farmers in the high-income category after millet cultivation.

10 (b) Income from millet

Table 10 (b): Distribution of respondents according to their income from millet

Year	Category	F	(%)	Mean	SD	T-Value	P-Value
2022-23	Low (<6,000)	36	30.00	20.23	14.05	7.22	.000**
	Medium (6,000-34,000)	51	42.50				
	High (>34,000)	33	27.50				
	Total	120	100.00				
2023-24	Low (<3,500)	39	32.50	11.70	8.17		
	Medium (3,500-19,900)	48	40.00				
	High (>19,900)	33	27.50				
	Total	120	100.00				

The data presented in Table 10 (b) highlights the income distribution from millet cultivation during 2022-23 and 2023-24. In 2022-23, the majority of farmers 42.50 percent earned a medium income (₹6,000-34,000), followed by (30.00%) in the low income category (less than ₹6,000) and (27.50%) in the high income category (greater than ₹34,000). In 2023-24, a similar trend was observed, with 40.00 percent of farmers in the medium income category (₹3,500-19,900), while the low income category increased to (32.50%) and the high income category remained constant at (27.50%).The mean income from millet cultivation decreased from ₹20,230 in 2022-23 to ₹11,700 in 2023-24, with a reduction in variability as reflected by the SD (14.05 to 8.17). The t-value of 7.22 and p-value of .000 indicate a statistically significant decline in millet income over the two years. The decline in income is closely tied to a reduction in the area under millet cultivation during the same period. Farmers reduced millet cultivation because it failed to meet their profit expectations, particularly compared to other vegetable crops grown during the same season. Vegetables, unlike millet, provided better returns and could be sold easily in local markets, as there is no dedicated market for millet. The lack of fair market access, coupled with high labor costs and limited machinery for harvesting and threshing, further discouraged farmers from continuing millet cultivation. These factors collectively pushed farmers to shift to crops that offered more immediate and reliable profitability.

11. Influence to grow millet

Table 11: Distribution of respondents according to their influence to grow millet

SL. No	Category	Frequency	Percentage
1	Peer groups	14	11.67
2	Relatives	5	4.17
3	Fellow farmers	14	11.66
4	State department support	66	55.00
5	Research org./SAUs/KVKs	21	17.50
Total		120	100.00

Table 11 illustrates the sources of information and support accessed by farmers regarding millet cultivation. The majority of respondents 55.00 percent relied on state department support, followed by (17.50%) who engaged with research organizations/SAUs/KVKs. Smaller proportions of farmers obtained information from peer groups (11.67%), fellow farmers (11.66%), and relatives (4.17%). This finding aligns with the studies of Chaudhary (2021) [4].

The significant reliance on state department support can be attributed to the ongoing Assam Millet Mission, a government initiative aimed at promoting millet cultivation. Under this mission, the state department has actively worked to raise awareness among farmers about the benefits of millet, provided guidance, and encouraged the expansion of millet cultivation to improve both area and production. This proactive approach has made the state department the most prominent source of information for farmers.

12. Savings and Expenditure from millet
12 (a) Savings (before and after millet cultivation)

Table 12 (a): Distribution of respondents according to their savings (before and after millet cultivation)

Category	Range	F	(%)	Mean	SD	T-Value	P-Value
Before millet	Low (<0.18 lakhs)	37	30.84	0.86	0.68	16.19	.000**
	Medium (0.18-1.54 lakhs)	58	48.33				
	High (>1.54 lakhs)	25	20.83				
	Total	120	100.00				
After millet	Low (<0.10 lakhs)	31	25.83	0.78	0.68		
	Medium (0.10-1.46 lakhs)	59	49.17				
	High (>1.46 lakhs)	30	25.00				
	Total	120	100.00				

The data in Table 12 (a) presents the distribution of respondents based on their savings before and after adopting millet cultivation. Before millet cultivation, Majority 48.33 percent of respondents had medium savings (0.18-1.54 lakhs), followed by (30.84%) in the low savings category (< 0.18 lakhs), and (20.83%) in the high savings category (> 1.54 lakhs). After millet cultivation, Majority 49.17 percent of respondents had medium savings (0.10-1.46 lakhs), followed by (25.83%) in the low savings category (< 0.10 lakhs), and (25.00%) in the high savings category (> 1.46 lakhs). These above findings are supported by Sahu (2010) [18].

The comparison reveals that while the mean savings decreased slightly after millet cultivation (from 0.86 to 0.78), the overall distribution shifted slightly. Despite this shift, the statistical significance (t-value of 16.19 and p-value of 0.000**) indicates that the change in savings levels before and after millet cultivation is meaningful and impactful. This suggests that millet farming has had a significant effect on household savings. Furthermore, the absence of specific markets for millet and low profitability compared to other crops like vegetables limited their ability to increase savings significantly. Many farmers preferred vegetables because they could sell them in local markets with better returns and lower costs. Farmers mainly deposit their savings in Grameen bank and DAAC office.

12. (b) Expenditure (before and after millet cultivation)

Table 12 (b): Distribution of respondents according to their expenditure (before and after millet cultivation)

Category	Range	F	(%)	Mean	SD	t value	p value
Before millet	Low (<0.12 lakh)	49	40.83	0.51	0.39	2.185	.031*
	Medium (0.12 -0.90lakhs)	48	40.00				
	High (>0.90 lakh)	23	19.17				
	Total	120	100.00				
After millet	Low (<0.10 lakh)	36	30.00	0.50	0.40		
	Medium (0.10-0.90 lakh)	54	45.00				
	High (>0.90 lakh)	30	25.00				
	Total	120	100.00				

The data in Table 12 (b) outlines the distribution of respondents based on their expenditure before and after millet cultivation. Before millet cultivation, (40.83%) of respondents fell into the Low expenditure category (below ₹0.12 lakh), followed by (40.00%) in the Medium category (₹0.12-₹0.90 lakh) and (19.17%) in the High category (above ₹0.90 lakh). After millet cultivation, (30.00%) of respondents were in the Low expenditure category (below ₹0.10 lakh), while (45.00%) were in the Medium category (₹0.10-₹0.90 lakh) and (25.00%) in the High category (above ₹0.90 lakh). This finding has been supported by the findings of Sahu (2010) [18].

The comparison reveals a noticeable shift, with an increase in the proportion of respondents in the medium and high expenditure categories after millet cultivation. This shift highlights rising living costs and increased investment in agricultural inputs, such as labor, and other essential resources. While millet cultivation offers economic benefits, these gains are often offset by the growing expenses associated with daily needs and farming operations. Statistical analysis indicates a significant difference in expenditure levels, with a t-value of 2.185 and a p-value of .031. The mean expenditure remained relatively stable at₹0.51 lakh before millet cultivation and ₹0.50 lakh after millet cultivation, but the slight rise in standard deviation (from ₹0.39 lakh to ₹0.40 lakh) suggests variability in spending patterns among respondents.

13. Training exposure

Table 13: Distribution of respondents according to their training exposure

SL. No.	Categories	Frequency	Percentage
1	No training	68	56.67
2	One training	52	43.33
Total		120	100

Table 13 reveals that the majority 56.67 percent of respondents had not attended any training programmes due to poor communication facility and farmers have very low eagerness to attend the training programmes followed by 43.33% in the one training category.

Conclusion

The study revealed prevalence of diverse profile characteristics among the millets Farmers in Golaghat District of Assam, emphasizing several key insights. The study revealed that the majority were in the medium to old-age category, with medium levels of formal education, and belonged to nuclear and medium-sized families. The respondents primarily engaged in cultivation as their major occupation, had small to marginal landholdings, and were mostly involved in foxtail millet cultivation. When comparing the two years data of the area and production the mean landholding of area and production of millet cultivation significantly decreased. Annual income of family is reduced when compared to the before cultivation of millets. Millet farming has had a significant effect on household savings but due to absence of specific markets for millet farmer's attained low profit. Regarding expenditure, millet cultivation offers economic benefits as compared the other crops, these gains are often offset by the growing expenses associated with daily needs and farming operations. More than half of the respondents had never attended any training programme regarding millet cultivation. State department of agriculture and other concerned departments need to play a pivotal role in influencing the farmers towards millet cultivation, providing guidance, and encouraged the expansion of millet cultivation to improve both area and production. The findings also underscore the need for targeted policy interventions to enhance better marketing strategies and opportunities to sell their production, improve training and awareness activities and facilitate greater social participation that will lead to sustainable improvement millet production.

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