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Socio-economic status of the tribal farmers of Meghalaya's aspirational district, Ri Bhoi

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Abstract

The aim of the present research is to ascertain the socioeconomic status of the tribal farmers inhabiting Ri Bhoi, Meghalaya's aspirational district. A questionnaire-based survey was carried out in the selected villages of Umsning, Umling Block, Ri Bhoi, Meghalaya from April'2022 to December'2022. 100 respondents were chosen randomly in proportion to the overall population. The data were then translated into a standard score for tabulation. The study reveals that males constitute the majority of respondents at Umsning Block (56%) and that 52% are in the middle age (39-50) and has a medium level of education (44%). Majority of them (68%) belong to scheduled tribes and have medium-sized households (4-6 members). 60% of the farmers owned land of less than one acre, while 60% of the respondents rented land of less than one acre. About 40% of the respondents used surface irrigation techniques like canals, minor tanks and traditional water harvesting structures to irrigate their land. About 58% of respondents have a medium yearly income (20000-50000), and the majorities (70%) do not belong to any farmer's groups or cooperative societies. About 44% of people use the media at a medium level and 44% use information sources at a medium level. The majority of responders (98%) engage in agriculture, horticulture, and animal husbandry on a daily basis. The respondent's two main occupations are farming (94%) and livestock rearing (90%). Most respondents in Umling Block (60%) are male, with 48% belonging to the 39-50 age range and 40% having a medium level of education. Most of them (76%) are scheduled tribes and have medium-sized households (4-6 members). The majority of the farmers (52%) owned land with an area of under an acre, and 62% of respondents rented land with a size of less than one acre for daily use. About 52% of respondents used surface irrigation techniques like canal, minor tanks and traditional water harvesting structure to water their land. 60% of respondents have a medium yearly income (20000-50000), and 74% do not belong to any farmer's groups or cooperative societies. Approximately 46% of people use media at a medium level, and 50% use their information sources in a moderate way. 90% of respondents engage in agriculture-related work, followed by horticulture (80%) and animal husbandry (78%). The respondent's two main jobs are agricultural farming (96%) and animal rearing (80%).

Keywords: Tribal farmer, socio-economic status, Ri Bhoi, Meghalaya

Introduction

Meghalaya is a state in North Eastern India known as "the Abode of Clouds." Its boundaries are to the north and east with Assam and to the south and west with Bangladesh. Its total size is 22,429 square kilometres, and its altitude ranges from 60 to 1961 metres above sea level. The state is known for its hilly landscapes, which have undulating grasslands interrupted up by valleys and rivers. Ri-Bhoi district is the aspirational district of Meghalaya, occupies an area of 2448 km² and has a population of 258,840 (Census, 2011) [3]. The district lies between 90°55'15 to 91°16' latitude and 25°40' to 25°21' longitude. It is bounded on the north by Kamrup district and on the East by Jaintia Hills and Karbi Anglong district of Assam and on the West by West Khasi Hills district. This district is characterized by the rugged and irregular land surface, series of hill ranges which gradually sloped towards the north and finally joins the Brahmaputra Valley. About 71% of the total workers in the district are engaged in the agricultural activities and is blessed with abundant natural resources which can support large number of agricultural enterprises such as piggyery, poultry, fishery,

crop husbandry, horticulture and plantation crops etc. Predominantly, inhabited by Bhois (85%), a Khasi sub-tribe, while rest are Mikir (7%) and others (8%). The district receives an average annual rainfall of 1636.46mm and whole district is divided into two agro-climatic zones namely sub-tropical hilly zone and mild tropical hilly zone. The district is divided into four Community and Rural Development Blocks viz. Umling, Umsning, Bhoiymbong and Jirang which comprises of 579 villages. The population of the Ri-Bhoi district is 2.59 lakhs (male: 132531; female: 126309) with 34.26% decadal growth rate (Census, 2011) [3]. 9.76% (25253) and 90.24% (233587) population lives in the urban and rural areas of Ri-Bhoi district, respectively with population density of 106/Km². Livestock and fisheries have lot of potentials in the state as more than 95% of total population is non-vegetarian. Although eating any form of meat is acceptable in society, pork is preferred above other meats like beef, chicken, and others (Feroze *et al.*, 2010) [6]. It plays an important role in the rural economy by providing work throughout the year, notably to agricultural laborers and small and marginal farmers (Deka *et al.*, 2020) [4]. It has

the potential to overcome poverty and is a source of cash at the time of urgency. The production of livestock and poultry, which has a high nutritive content and is primarily used for human consumption, contributes further to an improvement in the nutritional status of the household's children (Das, 2020) [5].

India has a vast resource of livestock and poultry, which play a vital role in improving the socio-economic conditions of rural masses. There are about 303.76 million bovines (cattle, buffalo, mithun, yak), 74.26 million sheep, 148.88 million goats, 9.06 million pigs, and about 851.81 million poultry (Livestock census, 2019) [13]. However, the number of livestock and poultry population in Meghalaya was 2039103 and 5379532, respectively. Pig (706364), cattle (903570), buffalo (15714), goat (397503), sheep (15679) and goat (397503) comprise the major livestock in the state. The total milk, egg and meat production during the year 2021-22 in Meghalaya was 90,230 tonnes, 1114.62 lakhs no. and 37,300 tonnes, respectively (BAHS, 2022) [2]. Among the livestock rearing practice, pig farming is an integral part of the household livelihoods system in Meghalaya but the domestic production is inadequate to meet the demand for pork. Pork constitutes 11.25% of the meat consumed in the State. However, domestic pork production is inadequate to meet the State's requirements. The annual consumption hovers over 15,000 tonnes of pork, only 13,500 tonnes are produced from live animals slaughtered within the state. 50% of the animals slaughtered within the state are procured from outside the state, indicate 8,250 tonnes shortfall in pork production in the state (GoM, 2020) [7]. Along with crop production, tribal farmers of Meghalaya depend on livestock for their livelihood (Khan *et al.*, 2012) [12]. Livestock production systems are mainly intensive and based on low-cost agro-by-products as nutritional inputs for livestock. In the state majority of the tribal farmers are comprised of landless labourers, small and marginal farmers. It is an integral livelihood support and a source of food for the people of the state as a whole (Tripathi *et al.*, 2019) [20]. Since, detail reports are not available on the socioeconomic status of the tribal farmers inhabiting Ri Bhoi district, Meghalaya. Therefore, the present study designed to ascertain the socioeconomic status of the tribal farmers inhabiting aspirational district, Ri Bhoi, Meghalaya.

Methodology

Study area

The current investigation was carried out in Ri Bhoi District

covering Umling Block and Umsning Block. Umsning Block lies within the latitude 25.7329°N and longitude 91.8854°E while Umling Block lies within the latitude 25.97335°N and longitude 91.858661°E. From these two blocks, a total of nine villages' viz. Sarikuchi, Lalumpam, Borkhatsari, Nalapara, Borgang, Purangang, Nongagang, Umsawkhwan, and Umbir are covered in the present study. Seven villages (Sarikuchi, Lalumpam, Borkhatsari, Nongagang, Borgang, Purangang, Nalapara) are in the Umling block while two villages (Umsawkhwan, Umbir) in the Umsning block. These villages were selected randomly based on the density of the tribal farmers.

Study period and method

The study was conducted during April'2022 to December'2022. A total number of 100 no. of farmers were selected proportionately for this study. The data was collected through a pre-tested structured questionnaire. Both primary and secondary data were utilized for data collection. The primary data was collected through personal interview by the researchers using questionnaire based survey. The secondary data was collected from various publications, magazines, journal, relevant text books and other sources.

Data analysis

The entire data which was collected was then transformed into normal score for tabulation. Keeping in view the objectives of the study and to draw logical conclusion the statistical tests i.e. frequency, percentage etc. were used for analyzing and interpretation of the data. The variables were categorized as low, medium and high or the term applicable so far on the basis of the score obtained (Kaur *et al.*, 2018) [11].

Results and Discussion

Socio-economic profile of tribal farmers in Ri Bhoi district, Meghalaya

The socio-economic profiles of the tribal farmers and distribution of farming activities of the respondents of the Ri Bhoi district, Meghalaya are given in Table 1 and Table 2. In the present study, there are more male than female among Umsning Block respondents (56% to 44%), while there are 60% male and 40% female at Umling Block respondents (Table 1).

Table 1: Socio-economic profile of respondent, Ri Bhoi, Meghalaya n = 100

Sl. No.	Characteristic	Category	Umsning Block		Umling Block		Pooled	
			f	%	f	%	f	%
1	Gender	Male	28	56	30	60	58	58
		Female	22	44	20	40	42	42
2	Age	Young	20	40	20	40	40	40
		Middle	26	52	24	48	50	50
		Old	4	8	6	12	10	10
3	Education	Illiterate	1	2	1	2	2	2
		Primary	10	20	14	28	24	24
		Medium	22	44	20	40	42	42
		Secondary	13	26	14	28	27	27
		Higher Secondary	1	2	1	2	2	2
		Others	3	6	0	0	3	3
4	Household Size	Small	8	16	6	12	14	14

		Medium	34	68	38	76	72	72
		Large	8	16	6	12	14	14
5	Social Category	SC	2	4	3	6	5	5
		ST	47	94	43	86	90	90
		OBC	1	2	4	8	5	5
		Other	0	0	0	0	0	0
6	Land Ownership	Yes	34	68	35	70	69	69
		No	16	32	15	30	31	31
7	Land Holding	Marginal(<1 acre)	30	60	26	52	56	56
		Small (>1-3 acre)	14	28	16	32	30	30
		Medium (>3 acre)	6	12	8	16	14	14
8	Land leased in	Marginal(<1 acre)	30	60	31	62	61	61
		Small (>1-3 acre)	9	18	11	22	20	20
		Medium (>3 acre)	0	0	0	0	0	0
		None	11	22	8	16	19	19
9	Land irrigated	Yes	20	40	26	52	46	46
		No	30	60	24	48	54	54
10	Mass Media	Low	11	22	14	28	25	25
		Medium	22	44	23	46	45	45
		High	17	34	13	26	30	30
11	Member of farmer producer organization / Cooperative Society	Yes	15	30	13	26	28	28
		No	35	70	37	74	72	72
12	Yearly income	Low (< 20000)	12	24	16	32	28	28
		Medium(20001-50000)	29	58	30	60	59	59
		High(>50000)	9	18	4	8	13	13
13	Type of House	Kuccha	7	14	8	16	15	15
		Semi-cemented	24	48	20	40	44	44
		Cemented	19	38	22	44	41	41
14	Source of information	Low	23	46	19	38	42	42
		Medium	22	44	25	50	47	47
		High	5	10	6	12	11	11

The present finding was in agreement with the findings of Mazumder (2020) ^[14], who claimed that 69.4% of the respondents were male in their survey. Additionally, it was observed that in Umsning Block, 52% of the respondents are between the ages of 27 and 38, compared to 40% who are between the ages of 39 and 50 and 8% who are over 51. In Umling Block, however, only 48% of respondents are between the ages of 27 and 38, 40% belong to the young age group (39-50 years), and 12% belong to the old age group (above 51 years). These findings were comparable to those of Shadap *et al.* (2017) ^[18]. From Umsning Block, the majority (44%) of respondents have an education up to the medium level, while 26% have an education up to the secondary level, 20% have an education up to the primary level, 2% have an education up to the higher secondary level, 6% have an education up to the graduate level, and 2% are illiterates. In Umling Block, 40% of respondents have a medium primary education, 28% have a secondary education, 28% have a primary education, 2% have a higher secondary education, and 2% are illiterates. The present findings were in concurrence with Pradeep and John (2022) ^[16] and Marbaniang and Pasweth (2017) ^[15]. The majority (68%) of Umsning Block respondents had a medium household size with 4-6 family members, while 16% have a low (1-3 person) or high (7-10 member) household size. The majority of respondents (76%) in Umling Block have a medium household size with 4-6 family members, while 12% have a small household size (1-3 people) and 6% have a large household size (4-6 members). Earlier, similar finding was reported by Hatai and Singh (2019) ^[8]. The majority of Umsning Block respondents (94%) are Schedule Tribe (ST), 4% are SC (Scheduled Caste), and 2% are Other

Backward Class (OBC), whereas Umling Block respondents are 86% ST, 6% SC, and 8% OBC. The majority (68%) of respondents in Umsning Block own land, while 32% do not, whereas 70% of respondents in Umling Block own land and 30% do not. The majorities (60%) of Umsning Block respondents have land holdings of less than one acre, 28% have land between 1-3 acres, and only 12% own land larger than three acres, while in Umling Block, 52% have land holdings of less than one acre, 32% have land between 1-3 acres, and only 16% own land larger than three acres. The result was comparable to that reported by Kath *et al.* (2019) ^[10]. It also states that the majority (61%) of respondents rented land less than one acre, 18% leased land between one and three acres, and 22% did not lease any land in Umsing Block. In contrast, in Umling Block, 62% of respondents rented land under one acre, 22% leased land between one and three acres, and 16% did not lease any land. It was also observed that in Umsing Block, 40% of respondents used surface irrigation techniques like canal, minor tanks and traditional water harvesting structure to irrigate their land while 60% did not irrigate and depend on rain. Due to hilly terrain, the main challenge faced by farmers is water scarcity during winter season. To overcome it, they construct low-cost rainwater harvesting structures such as jalkund to collect rainwater for irrigation and other purposes. The majority of Umling Block respondents (52%) used surface irrigation techniques like canal, minor tanks and traditional water harvesting structure to irrigated their land while the remaining 48% depend on rain for irrigation. The present study also reveals that approximately 30% of Umsing Block respondents belong to a farmer group/cooperative society, whereas 70% do not. Whereas in

Umling Block, 26% are members of a farmer group or cooperative society, while 74% are not. Vekariya *et al.* (2016) ^[21] in a study observed similar findings. The present findings revealed that in Umsning Block, approximately 48% of respondents live in semi-cemented houses, while 14% and 38% reside in uncemented houses. Whereas 40% of Umling Block respondents live in semi-cemented houses, 16% and 44% live in Kuccha and cemented houses, respectively. The present finding is in accordance with the findings of Sancley and Bose (2017) ^[17]. It was discovered that in Umsning Block, 58% of respondents have a medium yearly income (20000-50000), 24% have a low annual income (< 20000), and 18% have a high annual income (>50000). In Umling Block, 60% of respondents have a medium yearly income (20000-50000), 32% have a poor annual income (<20000), and 8% have a high annual income (>50000) which were consistent with the findings of Hatai and Singh (2019) ^[8]. Radio, television, agricultural magazines, internet media, and newspapers are used by the majority of Umsning Block respondents (44%) at a medium

level, compared to low and high levels of utilization (respectively, 34 and 22%). From the Umling Block, 46% use mass media, including radio, television, agricultural magazines, cyber media, and newspapers, compared to 28% who use low and 26% who use high levels. The present finding was comparable with the findings of Thakan *et al.* (2022) ^[19]. From Umsning Block, around 44% of respondents have a medium level of information source, 46% have a low level, and 10% have received a high level of information. Comparatively, from the Umling Block, 50% of respondents reported having a medium level of information sources, 38% had low levels, and 12% had high levels. Earlier, Vekariya *et al.* (2016) ^[21] reported similar reports.

The lists of the respondents' farming activities from the two studied locations are mentioned in Table 2. It demonstrates that 98% of respondents in Umsning Block are involved in agricultural activities such as the production of rice, maize, and other food crops, whereas 90% of respondents in Umling Block are involved in such activities.

Table 2: Distribution of farming activities of respondent, Ri Bhoi, Meghalaya

Sl. No.	Farming Activities	Umsning Block				Umling Block				Pooled			
		YES		NO		YES		NO		YES		NO	
		Response		Response		Response		Response		Response		Response	
		f	%	f	%	f	%	f	%	f	%	f	%
1	Agriculture	49	98	1	2	45	90	5	10	94	94	6	6
2	Horticulture	39	78	11	22	40	80	10	20	79	79	21	21
3	Floriculture	15	30	35	70	12	24	38	76	27	27	73	73
4	Animal Husbandry	36	72	14	28	39	78	11	22	75	75	25	25
5	Agri. Entrepreneur	20	40	30	60	15	30	35	70	35	35	65	65
6	Agri. Labour	32	64	18	36	34	68	16	32	66	66	34	34

Around 78% of respondents in the Umsning Block engaged in horticultural activities like the production of seasonal vegetables, ginger, pineapples, and other crops. While in Umling Block, 80% of the respondents engage in horticulture activities such the production of seasonal vegetables, ginger, pineapples, and other crops. In Umsning Block, 30% of respondents said they were involved in floriculture, and 24% in the Umling Block. In Umsning Block, the majority (72%) of respondents work in animal husbandry, including raising poultry, livestock (including pigs), and other types of fishing, whereas in Umling Block, 78% of respondents work in animal husbandry, including raising poultry, livestock (including pigs), and other types of fishing. In Umsning Block, 40% of respondents engage in agricultural entrepreneurship, whereas only 30% of respondents do so in Umling Block. The majority of respondents (64%) in Umsning Block engage in agricultural

labour, and 68%) in Umling Block self-identify as agricultural labourers.

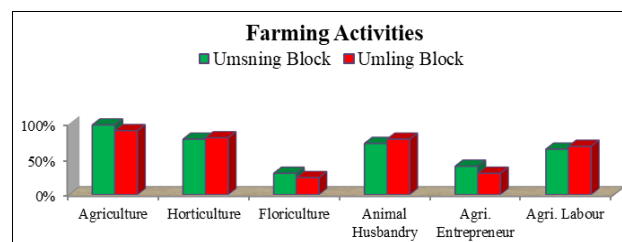


Fig 1: Farming activities of respondents, Ri Bhoi, Meghalaya

The occupations of respondent's in both studied areas are depicted in Table 3, Table 4, Fig. 2 and Fig. 3.

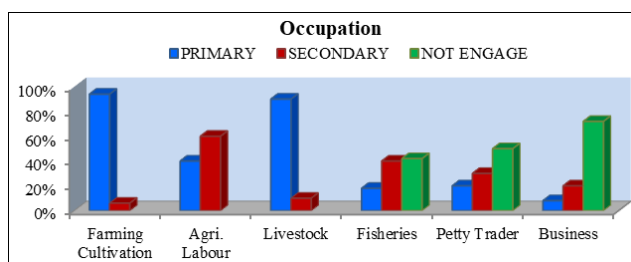
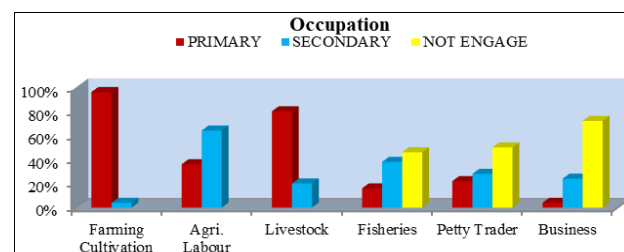
Table 3: Distribution of occupation of respondent, Ri Bhoi, Meghalaya

Sl. No.	Occupation	Occupation (Pooled)					
		Primary		Secondary		Not Engage	
		Response		Response		Response	
		f	%	f	%	f	%
1	Farming Cultivation	95	95	5	5	0	0
2	Agri. Labour	38	38	62	62	0	0
3	Livestock	85	85	15	15	0	0
4	Fisheries	17	17	39	39	44	44
5	Petty Trader	21	21	29	29	50	50
6	Business	6	6	22	22	72	72

Table 4: Occupation of respondent (Pooled), Ri Bhoi, Meghalaya

Sl. No	Occupation	Umsning Block						Umling Block					
		Primary		Secondary		Not engage		Primary		Secondary		Not engage	
		Response		Response		Response		Response		Response		Response	
		f	%	f	%	f	%	f	%	f	%	f	%
1	Farming Cultivation	47	94	3	6	0	0	48	96	2	4	0	0
2	Agri. Labour	20	40	30	60	0	0	18	36	32	64	0	0
3	Livestock	45	90	5	10	0	0	40	80	10	20	0	0
4	Fisheries	9	18	20	40	21	42	8	16	19	38	23	46
5	Petty Trader	10	20	15	30	25	50	11	22	14	28	25	50
6	Business	4	8	10	20	36	72	2	4	12	24	36	72

The majority of respondents in Umling Block (96%) followed by Umsning Block (94%) choose farming as their primary occupation and 6% as their secondary occupation. Similarly, Kharlukhi and Jha (2021) ^[9] reported that 87.5% of the respondents from East Khasi Hills and Ri Bhoi districts have farming as their occupation. In Umsning Block, 40% of respondents choose agriculture labour as their primary occupation, with 60% choosing it as their secondary occupation, whereas 36% of respondents choose it as their primary occupation in Umling Block with 64% of them working in a secondary occupation. The majority of respondents in the Umsning Block (90%) engaged in livestock rearing as their primary occupation, and 10% did so as a secondary occupation. In Umling Block, the majority of respondents (80%) had livestock rearing as their primary occupation and 20% had it as a secondary occupation. Additionally, it was noted that in Umsning Block, 18% of respondents work in fishing as their primary occupation, 40% in secondary employment, and 42% do not work in fishing, whereas in Umling Block, 16% of respondents work in fishing as their primary occupation and 36% in secondary employment. 46% do not work in the fishing industry. Only 20% of respondents in the Umsning Block choose to work as petty traders as their primary occupation, 30% do so as a secondary occupation, and 42% do not. Petty trading is the primary occupation of 22% of respondents in Umling Block, the secondary occupation of 28%, and the unemployed occupation of 50% of respondents. While 8% of respondents choose business as their primary occupation and 20% chose it as their secondary occupation in Umsning Block, the majority (72%) of respondents did not pursue business as their occupation. Whereas 4% of respondents in the Umling Block choose business as primary occupation and 24% as secondary occupation, 72% of respondents do not work in the field of business (Bordoloi, 2021) ^[1].

**Fig 2:** Occupation of respondent (Umsning Block), Ri Bhoi, Meghalaya**Fig 3:** Occupation of respondent (Umling Block), Ri Bhoi, Meghalaya

Conclusion

It is concluded that Umsning Block has a majority of male respondents, 52% in the middle age group, 44% in the education level, 68% in a medium household size, 94% in the ST category, 60% own land below 1 acre, 40% irrigate their land through different methods. 70% do not belong to any farmer's group or cooperative society, 58% have a medium annual income, 44% have a medium level of mass media usage, and 98% take up agriculture, horticulture, and animal husbandry as their daily activities. The majority of respondents in Umling Block are male and 48% belong to the middle age group with a medium education level. 76% have medium household size and 86% fall under the ST category. 52% of the respondents irrigate their land through different methods. 74% do not belong to any farmer's group or cooperative society and 60% have a medium annual income. 46% have a medium level of mass media usage and 50% have medium source of information utilization. The majority of the respondents take up agriculture, horticulture, and animal husbandry as their daily activities.

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