

## RESEARCH ARTICLE

## Agriculture based livelihood options of inhabitants of tea gardens in Jorhat District of Assam

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### Abstract

The tea garden labour community of Assam represents around 20% of the total population of the state and is one of the biggest contributors to the organised workforce as well as to the economy of Assam. Tea industry is the main livelihood for this mass of people since they were brought to the state by the British colonials. With population explosion and mounting economic pressure, this huge part of the total population is slowly moving towards other occupations other than in tea gardens which cannot employ all of them. Agriculture is the main livelihood for more than half of the total population of Assam and it is obvious that this mass of population are seen to be seeking livelihood options to have better livelihood. Extension workers have been making efforts to attract this population in agriculture based livelihood options. The livelihood of tea garden workers are drifting away from serving as permanent tea garden workers to be engaged in agriculture and allied activities besides being engaged in cottage industry, business/ trading, services, daily wages other than tea gardens and few other petty professions. This study was carried in Jorhat District of Assam during 2011 - 2012 with the objectives to find out present livelihood options of the inhabitants of tea gardens and to determine the agriculture based livelihood options preferred by the tea garden inhabitants. It was found that different agriculture based livelihood among few of them ranged from dairy cattle rearing, field crops cultivation, goatery, piggery, poultry and vegetable cultivation etc. A major portion of the population is tending to dairy cattle rearing adjusting with their situation of work.

**Keywords:** Livelihood options, tea garden inhabitants, field crops cultivation, goatery, piggery, poultry.

### Introduction

The tea garden labour community of Assam, which is the major workforce of the only largest industry of the state, was originally recruited by British colonel from famine stricken areas around the country having various cultural, linguistic and ethnic heritages (Phukan, 1976). The majority of the workers reside in the tea garden along with their dependents. The dependents refer to the workers children under the age of 16 or he/she is a genuine dependent previously on the working strength of the garden and now unable to work. A dependent may be any person normally resident in the garden who owing to physical disability and cannot earn his/her livelihood and who is dependent on a working relation for support (Awasthi, 1964). It implies that though the lives and livelihoods of the tea garden inhabitants remain tied to the gardens and labour lines ever since, with population explosion and mounting economic pressure it is essential that this section of population explore means of livelihood other than the tea garden. According to Chambers and Conway (1991), a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.

Sahoo and Sethi (2011) also mentioned that agriculture has a substantial contribution to the GDP of India. Its importance in the country's economic, social, and political structure goes well beyond this indicator. It holds the key to the overall development of the economy by creating employment, generating income, providing raw materials to the industrial sector and ensuring self-reliance in food production and food security. Keeping the above background, the agriculture-based livelihood options, that, the tea garden inhabitants may seek in future, a study was carried out on the topic "Agriculture based livelihood options of inhabitants of tea gardens in Jorhat district of Assam with the following objectives:

1. To find out the present livelihood options of the inhabitants of tea gardens.
2. To determine the agriculture based livelihood options preferred by the tea garden inhabitants.

### Materials and methods

**Study area:** The study was carried out in three tea gardens of Jorhat district of Assam. Three tea gardens were selected from three sectors of tea plantations present in the state purposively. The Socklatinga Tea Estate was selected from Private Ltd. tea gardens.



Table 1. Different livelihood options prevailing among the tea garden inhabitants (n=120).

Different livelihood options	Frequency	Percentage
Tea garden works	120	100.00
Field crops cultivation	20	16.60
Vegetables cultivation	3	2.50
Fisheries	4	3.30
Poultry	39	32.50
Duckery	15	12.50
Pigeonary	5	4.10
Piggery	33	27.50
Goatery	37	30.83
Dairy cattle rearing	35	29.26
Pottery	1	0.83
Carpentry	5	4.16
Black smith	1	0.83
Plumber	3	2.50
Business or trading	10	8.33
Service	6	5.00
Daily wage labourer other than tea garden	37	30.83
Petty professions	4	3.33

The Kotalgoorie Tea Estate was selected from Public Ltd. tea gardens which are run by Assam Company Ltd. Under Govt. undertaking tea gardens, Cinnamora Tea Estate was selected which is run by Assam Tea Corporation.

*Sample population:* For the selection of tea gardens and respondents, purposive and random sampling methods were used respectively. From each tea estates 40 workers were selected comprising both permanent as well as temporary workers by using random sampling technique. All total 120 respondents were selected from the tea estates for the study.

*Data collection and analysis:* The data were collected through personal interview method. All the respondents were interviewed by the investigator herself at their residence. The interviews were conducted during 10<sup>th</sup> February, 2012 to 30<sup>th</sup> March 2012. Simple frequency, percentage, average and Weighted Mean Square (WMS) were calculated to answer the various relevant objectives of the study.

**Results**

The tea garden inhabitants are surrounded by a number of livelihood options. It was found that their livelihoods were varying from to serve as permanent tea garden workers or to be engaged in agriculture and allied activities. The livelihood options that they perceived to be having were enlisted and scored. A frequency distribution of the respondents to each of the livelihood options and their percentages are given in Table 1. The study revealed that along with the tea garden work livelihoods of the respondents were from agriculture, cottage industry, business or trading, services, daily wages other than tea garden and petty professions. All the respondents have their common livelihood from tea garden works, as 100% of the respondents were tea garden workers.

Majority of the respondent's family (32.5%) have poultry in their livelihood option from agriculture. 4.16% of the respondents reported carpentry from cottage industry as their another livelihood option along with tea garden work. Business or trading was found as livelihood option for 8.33% of the respondents. However a large majority of the respondent's families (30.83%) reported daily wage labourers other than tea garden work as another livelihood option prevailing amongst them. The different agriculture-based livelihood options preferred by the tea garden inhabitants were found out based on their preferences over different livelihood options prevailing amongst them. A frequency distribution of the respondents was done based on their preferences to an agriculture based livelihood option over others (Table 2). From Table 2, it was noted that a total of six agriculture based livelihood options are preferred by the tea garden inhabitants.

Table 2. Distribution of respondents according to preference towards agriculture based livelihood options.

Agriculture based livelihood options	1 <sup>st</sup> preference	2 <sup>nd</sup> preference	3 <sup>rd</sup> preference
Field crops cultivation	32 (26.67%)	28 (23.33%)	12 (10.00%)
Dairy cattle rearing	31 (25.83%)	33 (27.50%)	18 (15.00%)
Goatery	25 (20.83%)	25 (20.83%)	27 (22.50%)
Piggery	23 (19.17%)	15 (12.50%)	28 (23.33%)
Poultry	9 (7.50%)	17 (14.17%)	33 (27.50%)
Vegetables cultivation	0 (00.00%)	2 (1.67%)	2 (1.67%)
Total	120 (100.00%)	120 (100.00%)	120 (100.00%)

Table 3. Ranking of agriculture based livelihood options preferred by tea garden inhabitants (n=120).

Agriculture based livelihood options	WMS	Rank
Field crops cultivation	27.33	II
Dairy cattle rearing	29.50	I
Piggery	21.16	IV
Goatery	25.33	III
Poultry	15.66	V
Vegetables cultivation	1.00	VI
Total	120	100.00

The field crops cultivation was found to be the most dominating agriculture based livelihood option in the first preferences as reported by majority of the respondents (26.66%). In their first preferences, next to the field crops cultivation, dairy cattle rearing were preferred by 25.83% of the respondents. Goatery was reported by 20.83% of the respondents in their first preference which is followed by piggery recorded by 19.17% of the respondents. A small percentage of the respondents (7.5%) preferred poultry in their first preference and vegetables cultivation was not preferred by a single respondent in their first preference. Likewise, it has been found that the most dominating agriculture based livelihood option in second preferences of tea garden inhabitants was dairy cattle rearing reported by a majority of the respondents (27.5%). Field crop was preferred by 23.33% of the respondents and 20.83% of the respondents reported goatery as their second preference. About 14.17% of the respondents preferred poultry and 12.5% of the respondents preferred piggery as their second most preferred agriculture based livelihood option. Unlike the first preference, a small percentage of respondents (1.67%) reported vegetables cultivation as second preference. Poultry was third most preference for majority of the respondents (27.5%) followed by goatery (22.5%). About 23.33% of the respondents reported piggery and 15% of the respondents reported dairy cattle rearing as their third preferred agriculture based livelihood option from all agriculture based livelihood options. However, a small percentage of respondents (1.67%) reported vegetables cultivation as their third preference over all other agriculture based livelihood options.

The frequency distribution of the respondents to the agriculture-based livelihood options preferred by them was used to find out the rankings of the agriculture based livelihood options preferred by the tea garden inhabitants. The weighted mean square (WMS) of the frequencies of the respondents revealed that majority of the respondents prefer dairy cattle rearing which ranked I from all agriculture based livelihood options preferred by them (Table 3). The field crops cultivation ranked II and goatery ranked III among the preferences. Piggery ranked fourth by the inhabitants and poultry was ranked fifth among all the preferred agriculture based livelihood options. However, cultivation of vegetables ranked last by the respondents in their preferences.

Considering the situation of the tea gardens and economic stability of the tea garden workers as well as availability of time and work, it was found that less time for field crop cultivation and lack of money for adopting other agriculture based livelihood options and ease and more benefit in dairy cattle rearing has made the dairy cattle rearing as the mostly preferred agriculture based livelihood option for the mass.

## Discussion

From the study it was found that, the tea garden inhabitants of Assam are engaged in different agricultural as well as non-agricultural activities along with the tea garden works. Different agriculture based livelihood options prevailing among them were field crops cultivation, vegetables cultivation, fisheries, poultry, duckery, pigeonary, piggery, goatery, dairy cattle rearing etc. Poultry, the most dominating agriculture based livelihood gives profit as well as meets day to day needs of eggs in the family. The basic forces that contributed to accept poultry as a common livelihood for most of the tea garden inhabitants is its relatively high production in a shorter time as well as gaining self sufficiency in eggs and meat requirement. In the area of non agricultural activities cottage industry comprising carpentry, black smith and plumber were found among the tea garden inhabitants. However, daily wage labours working in areas other than tea gardens gives a better livelihood for the tea garden inhabitants as wage rate is much higher than the tea gardens. Engaging in petty professions such as electrical, mechanical works were also found to be their other livelihood options along with working in hotels, transport agencies for most of the tea garden inhabitants.

The agriculture based livelihood options that play an important role in the lives of tea garden inhabitants give a better living as all these options provide day to day needs directly or indirectly. It was found that dairy cattle rearing that ranked first have a better scope above all other agriculture based livelihood options in the area of tea gardens. This can be concluded considering their strengths of having available feeds and fodders in nearby areas. Comparatively less time span and ease of management as well as patches of land in the vicinity that can be used for dairy cattle grazing are positive attributes to this livelihood option among the respondents. Goatery, piggery and poultry are those agriculture based livelihood options that require less time for management and gives more production in less time. Leisure time available that can be spared even by being engaged in tea garden work is considered to be positive factor to enhance such agriculture based livelihood for the tea garden inhabitants. Though field crops cultivation was considered as second and vegetables cultivation as sixth most preferred livelihood options, scope for both the options are limited. This may be stated because of lack of available cultivable land which is the main resource to be taken into consideration.

Secondly, as the field crops cultivation as well as vegetables cultivation requires extensive labour force and time, this can be concluded that excessive work load and tight working hours in tea gardens may not permit them to utilize the minimum available land among them fruitfully. Moreover, as the field crops cultivation and vegetables cultivation are nature dependent livelihood options, the uncertainty in rainfall, as well as, lack of technical knowledge for raising such livelihood and low supply of irrigation facilities in their areas can be taken into consideration which may conclude the point of less feasibility for promotion of these two agriculture based livelihood options for the tea garden inhabitants in comparison to all other livelihood options preferred by the tea garden inhabitants.

### Conclusion

The different agriculture based livelihood options prevailing among the tea garden inhabitants and their preferences shows that there is a great scope for dairy based livelihood option in the areas of tea gardens. With proper implication of employment generic schemes and training along with different awareness campaign and skill up gradation or training on improved agricultural technologies and practices may help to bring out agriculture based enterprises in the areas of tea gardens.

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