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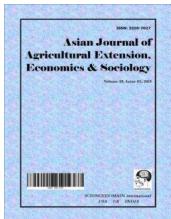
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Livelihood Improvement of Tea Garden Workers: A Scenario of Marginalized Women Group in Bangladesh

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Authors' contributions

This work was carried out in collaboration between all authors. Authors MK and SP together prepared the research design. Authors MK and ACD prepared the interview schedule and collected data. Author MK managed the data analysis. Author ACD performed literature review of the study and wrote the first draft of the manuscript. Authors MK and SP edited the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Aims: Tea is a profitable cash crop in Bangladesh but livelihood of its workers (women) is not emphasized properly. The principle objective of the study was to determine and describe the extent of livelihood improvement of tea garden workers.

Study Design: Livelihood was measured by its five assets i.e. human, natural, physical, financial and social capital. Interview schedule was prepared for livelihood improvement indicators accordingly with four point rating scale i.e. highly improved, moderately improved, slightly improved, not improved at all respectively. Survey was conducted with the women tea garden workers.

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Place and Duration of Study: The study was conducted at Doldoli Tea Garden, one of the three gardens of National Tea Industries, at east Shahi Eidgah of Sylhet Sadar in Bangladesh throughout September to October, 2014.

Methodology: Data were collected from 120 sampled women respondents using interview schedule.

Results: Livelihood status moderately improved for the tea garden workers (63.3%). Social & physical capital mostly improved and financial capital deprived off specially. In case of livelihood improvement indicators; participation in voting (panchayet, local & national elections), availability of pure drinking water and children education ranked top. Livelihood improvement status of tea garden workers was mostly influenced by their condition of formal education, monthly income and communication media exposure.

Conclusion: Financial capital of tea garden workers should be focused with proper importance.

Keywords: *Livelihood; improvement; tea garden worker; marginalized; women group.*

1. INTRODUCTION

Tea is one of the most important cash crops in Bangladesh. It is also an important food commodity of international trade [1]. There are about one hundred and sixty three (163) tea estates in Bangladesh [2]. Bangladesh is producing more than 54 million kg of tea annually from about 49000 hectares of land [3]. Tea cultivation in Bangladesh is spread over the hilly zones on the eastern part mainly in four districts (Sylhet, Moulvibazar, Habibgonj and Chittagong). About 96% annual production (of which 63% is of Moulvibazar district) is contributed by greater Sylhet obtained from 93% (of which 62% is of Moulvibazar district) of plantation area [4]. It can earn foreign exchange equivalent to about 1775 million Taka (about 0.81% of the GDP) annually by exporting about 18 million kg of tea which is 1.37% in export in the word tea trade [3].

Among the plantation crops, tea is a highly labor intensive sector. Historically, the opening up of tea and other plantations worldwide has been built on migrant unskilled labor and women workers constitute the majority of workers of tea garden in India and Bangladesh [5]. The tea garden workers are considered to be among the poorest and most deprived section of organized labor [6]. Livelihood status of the tea garden workers have not been changed over time. Although it may be difficult to establish what constitutes a living wage, it is often claimed that the minimum wage levels are highly insufficient to cover basic needs, because wages in the tea plantation sector are relatively low, even by the plantation sector's standards [7]. The reliance of families on the tea plantations for food, water, shelter, education, health and sanitation makes them extremely vulnerable to closures. The children cannot avail of any reservation facility in

educational institutions; the youth do not enjoy any opportunity in the employment sphere. After passing from the lower primary schools of the gardens, they are forced to join the tea labor workforce as unskilled workers with no educational and alternative employment opportunity. Generation after generation, they remain tied to the gardens. They born in the gardens and die in the gardens. They are the epitome of modern day bonded labor – the forced and unfree labor [8].

In Bangladesh, many researches have been conducted and given importance on the biological & economic aspects of tea plantation and the marketing of tea but study on tea garden workers (women) is still a depriving issue. Their improvement of livelihood status needs to be studied. UNDP [9] in its Millennium Development Goal (MDG) considers livelihood as an important factor responsible for eradicating extreme hunger and poverty and thereby attaining a better human development index. In this consequence, the objectives of the study are as follows.

1. To analyze the livelihood improvement status of the tea garden workers
2. To assess the relationship among the socio-economic characteristics of the workers with their livelihood improvement status.

2. METHODOLOGY

2.1 Study Area, Population and Sampling

Out of 163 tea gardens in Bangladesh, Doldoli tea garden was purposively selected as sample of the study. The garden is one of the three gardens of National Tea Industries of Bangladesh located at east Shahi Eidgah of

Sylhet Sadar. The garden is situated on the northern side, at a distance of about 3 kilometers from Sylhet Sadar in Bangladesh. As sample of the study, 120 female workers out of 186 were randomly selected.

2.2 Variables of the Study and Their Measurement

Various socio-economic characteristics of the workers like age, formal education, working experience, household size, number of dependent member, monthly income, access to credit, communication media exposure were considered as the independent variables of the study. The dependent variable was the livelihood improvement of the tea garden workers and it was measured by the methodology adopted by Haque [10]. Livelihood improvement was determined by their responses using a four point rating scale on five livelihood assets as human, natural, physical, financial and social capital. There were total 19 indicators were used, four of which for human, natural, physical and social capitals each and three for financial capital respectively. The method of assigning scores to the four alternatives in each indicator was as follows:

Extent of improvement	Scores assigned
Highly improved	3
Moderately improved	2
Slightly improved	1
Not improved at all	0

Thus the total score for 19 indicators could vary from 0 to 57. On the other hand, livelihood improvement index for each indicator was calculated by the following formula:

$$\text{Livelihood Improvement Index (LII)} = 3 \times \text{HI} + 2 \times \text{MI} + 1 \times \text{SI} + 0 \times \text{NIA}$$

Here, HI, MI, SI and NIA means total number of tea garden workers mentioned highly improved, moderately improved, slightly improved and not

improved at all of a particular livelihood indicator respectively.

2.3 Data Collection and Analysis

To have primary idea of the study area transect walk, focus group discussion, non- participant observation, story narration and informal discussion were performed. Then in order to collect relevant information from the tea garden worker, a structured interview schedule was prepared. To give the final shape, the interview schedule was pre-tested with 10 tea garden workers. Based on the pretest results necessary correction, modification, alternation and adjustment were made and then finalized the interview schedule. The schedule contains both open and closed forms of questions. Data were collected throughout September to October, 2014 by personal interview. At the end of data collection, the collected data were coded, compiled, tabulated and analyzed. The qualitative data were transferred into quantitative by appropriate scoring technique. Various descriptive statistical measures such as range, frequency, number, percentage, mean, standard deviation, rank order, correlation, F test were used for categorization and describing the variables.

3. RESULTS AND DISCUSSION

3.1 Livelihood Improvement Status

Livelihood improvement score of the tea garden workers ranged from 5 to 44 (possible range 0-57) with mean 26.81 and standard deviation 7.96. They were classified into three categories based on this finding as shown in the Table 1. It is found that livelihood of 63.4 percent of the respondents improved moderately, whereas equal proportion i.e. 18.3 percent respondents were found high and low improvement in their livelihood. Sheheli [11] found that fifty percent of the rural women had medium livelihood status through income generating activities (IGAs) in Bangladesh.

Table 1. Livelihood improvement status of tea garden workers

Sl. No	Level of improvement	Frequency	Percentage	Mean	Standard deviation
1.	Less Improved (score up to 18.85)	22	18.3		
2.	Moderately Improved (score 18.86- 34.76)	76	63.4	26.81	7.96
3.	Highly Improved (above 34.76)	22	18.3		

3.2 Improvement of Livelihood Assets

The mean values of the improvement of each five livelihood assets are shown in the Fig. 1. Here, standard error bar was prepared using standard error value of each asset.

It is found that mean livelihood improvement score for human, natural, physical, financial and social capital were 5.68, 5.18, 6.29, 2.97 and 6.7 respectively.

According to the means of livelihood assets, they were categorized into homogenous subsets as presented in the Table 2. It is found that the highest improvement of livelihood achieved in social capital of tea garden workers followed by physical capital which was found in same homogenous subset with social and human capital. Again human capital fell in same homogenous subset with physical and natural capital. The lowest improvement occurred in financial capital of the respondents.

Increasing the extent of membership in different organizations within tea garden, participation in

voting & different social functions increased social acceptability of the workers that enhances the social capital to be improved mostly. According to Rajasenan [12] in spices and rubber plantation about 80 percent and 90 percent workers have membership in any of the political party in India. On the contrary, poor salary structure, inadequate ration and little scope of savings are the main reasons for the financial capital was improved the least. The result is supported by Khawas [13] who found that majority of garden laborers across tea estates in Darjeeling Hills were not satisfied with prevailing wage structure and had fewer amounts for saving.

3.3 Ranking of Livelihood Improvement Indicators

Livelihood improvement for each indicator was calculated by using livelihood improvement index (LII) and based on LII, rank order for these indicators were made as presented in Table 3.

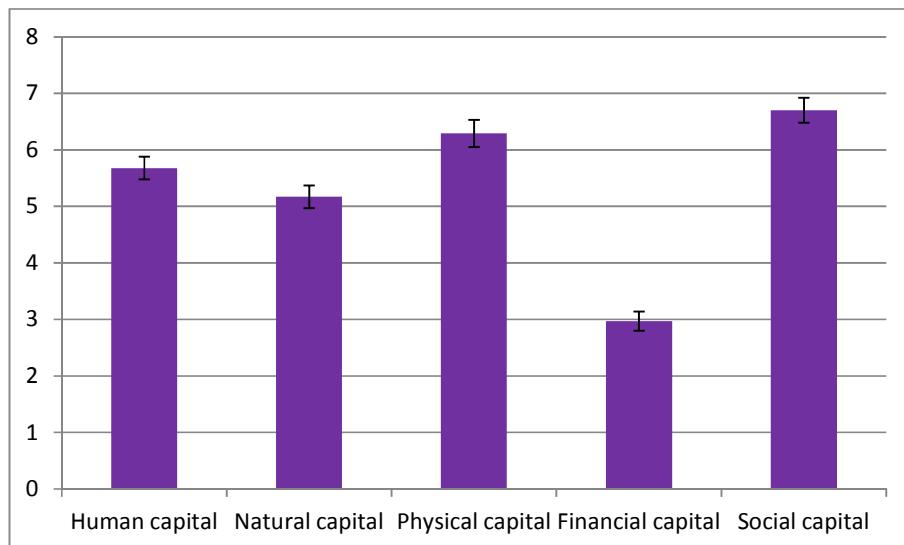


Fig. 1. Bar diagram shows the mean of the improvement of each five livelihood assets

Table 2. Homogenous subsets for livelihood assets

Livelihood assets	Sample size (N)	Subset for alpha= 0.05			
		1	2	3	4
Financial capital		2.9667			
Natural capital			5.1750		
Human capital	120		5.6833	5.6833	
Physical capital				6.2917	6.2917
Social capital					6.7000

Table 3. Ranking of livelihood improvement indicators

Indicators	Extent of Improvement				LII	Rank order
	HI	MI	SI	NIA		
Human capital						
1. Children education	47	26	15	12	251	3
2. Training participation	3	21	30	46	98	18
3. Family healthcare and treatment	15	36	37	12	185	7
4. Opportunities/ access to different jobs for family members	12	31	27	30	148	12
Natural capital						
5. Land ownership	5	4	11	80	41	19
6. Availability of pure drinking water	58	22	16	4	280	2
7. Homestead vegetables/ fruit garden practice	14	24	23	39	136	15
8. Livestock rearing	22	23	25	30	164	10
Physical capital						
9. Conditions of residents/ housing unit	8	33	40	19	155	11
10. Deep tube-well establishment	28	37	13	22	203	5
11. Hygienic toilet establishment	18	43	17	22	187	6
12. Access to electricity	38	21	18	23	210	4
Financial capital						
13. Salary structure to meet family demand	3	21	43	33	114	16
14. Amount & quality of ration provided	7	25	46	22	139	13
15. Scope of savings	4	23	28	45	103	17
Social capital						
16. Extent of membership of different organizations	12	23	35	30	137	14
17. Participation in different social functions	17	35	25	23	174	9
18. Participation in voting (Panchayet, other local & national elections)	72	18	7	3	311	1
19. Social acceptability and status among different communities of society	13	37	39	11	182	8

* HI=Highly improved, MI=Moderately improved, SI=Slightly improved, NIA=Not improved at all, LII=Livelihood improvement index

It is found from the Table 3 that participation in different voting (Panchayet, other local & national elections) ranked top. This indicator highly improved for 72% of the respondents. Formation of panchayet is very important for tea garden workers which mainly deal with the rights and demands of the workers from the garden authority. Tea garden workers mainly participate in voting for selection of panchayet members regularly. In the recent time, their voting in local and national election also has been increased significantly. Hassan [14] found at Lackatoorah tea estate of Sylhet district in Bangladesh that before coming in tea garden 70 percent of workers deny to vote, whereas after engaging in works at tea garden 94 percent of women laborers give vote both in local and national election.

The next top improved livelihood indicator was availability of pure drinking water. 58% tea garden workers agreed it as highly improved. In the community of tea garden workers, NGOs like IDEA, water-aid has installed tube wells for pure drinking water which is used by all residences

over there. Barkat et al. [15] found that most tea garden workers (88%) of Bangladesh use improved water sources for drinking purpose, with 71 per cent using tube-wells.

Children education was the third most improved livelihood indicator. This indicator was found to be highly improved among 47% tea garden workers. Though tea garden workers are mostly illiterate but they are aware to educate their children for better living. Availability of primary school near the tea garden helped to access their children for education.

3.4 Relationship between socio-economic characteristics of the tea garden workers and their livelihood improvement status

Pearson's product moment correlation coefficient (r) was computed in order to explore the relationship between the socio-economic characteristics of the tea garden workers and their livelihood improvement status. The findings are presented in Table 4.

Table 4. Correlation between socio-economic characteristics of the tea garden workers and their livelihood improvement status (N=120)

Socio-economic characteristics	Livelihood improvement (r value)	Tabulated value significant at		Remarks
		0.05 level	0.01 level	
Age	-0.147			Not significant
Formal education	0.222			Positively significant at 0.05 level
Working experience	-0.053			Not significant
Household size	-0.031	0.177	0.231	Not significant
Number of dependent member	-0.021			Not significant
Monthly Income	0.309			Positively significant at 0.01 level
Access to credit	0.078			Not significant
Communication media exposure	0.214			Positively significant at 0.05 level

The findings indicate that formal education, monthly income and communication media exposure of the respondents had significant positive relationship with their livelihood improvement status. Education waxes the knowledge and understanding thus make tea garden workers more aware to develop livelihood assets. Increased income allows them to meet up necessary needs and improves the livelihood assets in a balanced way. Ifeanyi-obi and Matthews-Njoku [16] revealed that years of education and monthly income were found to be the major socio-economic factors affecting livelihood activities of rural people.

Again more exposure to communication media broadens the outlook and increases the consciousness of tea garden workers. Thus significantly contribute to livelihood indicators. Islam et al. [17] found that communication exposure increases the use of knowledge system in improving livelihood status of rural people. So it can be mentioned that there are certain characteristics of the respondents which can shape their livelihood status. Proper nourishment of those characters can fruitfully improve livelihood of tea garden workers.

4. CONCLUSION

Livelihood improvement of tea garden workers is not satisfactory. Comparatively higher improvement of social capital and lower improvement of financial capital reflects the imbalanced development of livelihood assets. Some socio-economic characteristics i.e. formal education, monthly income and communication

media exposure of the respondents significantly affect their improvement of livelihood.

Based on the findings, the following suggestions could be salutary for slowly but surely improvement of their livelihood status.

- Financial capital should be properly addressed. The existing backdated-salary structure (tk/kg tea leaves plucking) should be reconsidered and fixed based on current market price of essential goods and profit from tea garden.
- Ration provided by the authority should be considerable in terms of quantity and nutrition.
- For more facility to access credit and diversified financial involvement, different NGOs and foreign aid providers should be invited.
- Special care should be taken in education aspect and communication behavior of tea garden workers.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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