



Effects of Living Conditions on Livelihood Satisfaction in Sri Lanka: Living Sectors and Tea Industry

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Abstract The purpose of this study is to identify the disparity of living conditions and the effects on the living standards' Satisfaction of the households in the Sri Lanka and on the Tea Industry. Sri Lanka has progressively developed its status as middle low income country, while regional income and social disparity has still remained, especially in estate sector. Tea is a main industry of estates. Past studies indicated that people live in the low quality of housing with low income, while different articles mentioned that number of low income family in rural area is larger than in other sectors. This analysis applies a descriptive method with binary logistic regression. Quantitative analysis relies on the secondary data and qualitative descriptions rely on the primary survey. The qualitative analysis revealed that people living on estates are more likely to feel dissatisfaction compared to those living in urban, rural, and farming areas. Alternatively, the results of the survey showed that residents in three residential areas on the tea industry are not much different regarding their livelihood satisfaction.

Keywords livelihood satisfaction, country and regional level, disparity, capability

INTRODUCTION

The estate sector, which has been a mainstay of the economy of Sri Lanka, was developed during the colonial area and has been primarily managed by private owners until the early 1970s, before nationalization. Studies mentioned there is a historical legacy of poor living conditions with low income, poor health, and lower levels of education, especially in tea industry (Salomonsen and Gunasekera, 1995; Chandrabose, 2011), while a change to the estate sector has been recognized after being privatized again in 1992 with the effort of the government and support of international agencies. Other studies have explicated the disparity of each sector. Nine out of ten citizens live in the rural sector, 86.8% of which accounted for the poor in 2013 (UN, 2015). The farmers, who are in the rural sector, cultivate mainly paddy, vegetable, black paper, tea, and grains and are described as working from early morning until evening (Williges, 2004). The urban sector, where the poverty rate is much lower than other sectors, shows higher disparity of income among the residents (Child Activity Survey [CAS], 2009). Disparity in each sector and among sectors has been explored. Factors have been found for each issue, but not many studies have focused on the effect of each factor that has influenced residents' satisfaction and the difference of effects on living standard satisfaction between the estate and other sectors. This paper aims to identify the disparity of living conditions and the effects on the living standards of the households in the estate and in the residential sectors of the tea industry, which is the main industry of estates.

METHODOLOGY

This analysis applies a descriptive method with binary logistic regression. Quantitative analysis relies on secondary data from CAS, which was conducted by the Department of Census and

Statistics (DCS), Sri Lanka with the International Labour Organization in 2008 and 2009. Qualitative descriptions were used for substituting this study, which comes from the primary survey at the Kotapola Division of the Matara District in 2013 and 2014. The capability approach to livelihood provides a theoretical basis for identifying disparity within a multidimensional context.

Characteristics of the Country Level

The objective of the CAS data was to identify the characteristics of Sri Lankan children. It also described housing and household characteristics comprising 16,000 households covering the whole country. Living sectors were classified into three categories: urban, rural, and estate. The data selected for this study were from districts where all three sectors exist. A variety of occupations in the rural were covered but not described explicitly. The main export production from the estate sector is tea, where small holders and farmers have been increasing. Thus, the CAS data were extracted from the rural sector for the farmer. Characteristics of the farmer are living in a single house, owning land where at least one parent is working, and owning livestock of less than 10 cows or goats and less than 100 chickens.

To deepen the understanding of the livelihood of residents in the multidimensional context, examining the income and other index is necessary. Therefore, the living condition variable household income was adapted for this analysis. Living conditions were divided into two variables. One is to focus on privacy protection, and the other one focuses on housing environments. The privacy index included three indices, such as type and ownership of housing, and the number of rooms for individuals. The housing index adapted the data of access to safe drinking water, exclusive toilets, and electricity for lighting and cooking. A limitation of this analysis is that the data did not cover the health index, which is important for well-being, and no natural scientific evidence.

Characteristics of District Level and Tea Industry

Sri Lanka is geographically recognized as two zones with available rainwater. The southern parts of the country where tea lands have been extended receive ample rainfall, while the northern parts of country are the dry zone and receive scarce rain. Sri Lanka comprises 331 divisions in 25 districts. Primary data were collected at Kotapola Division of the Matara District, which is famous as a tea cultivation area located in Low-grown. The housing conditions of the survey villages are recognized as the lower rank in the Matara District (DCS, 2013).

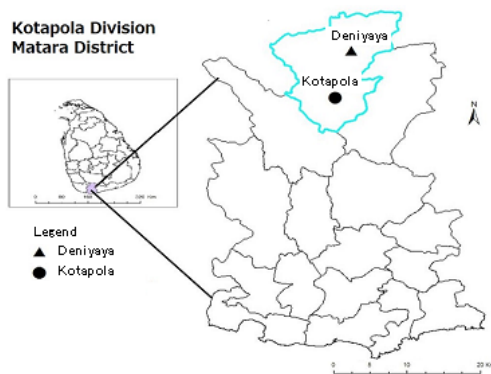


Table 1 Number of GN Division on quality of housing

	Very Low	Low	Average	High	Very High
Sri Lanka	538	1598	3052	4500	4344
Matara District	31	86	177	216	140
Kotapola Division	10	12	14	1	---
Survey Areas	3	1	---	---	---

Fig. 1 Location of Deniyaya GN Division

With the historical changes in the tea industry, its management style is classified into three categories: regional plantation companies (RPCs), private estates (PEs), and individual farmers (IFs). The government created state-owned RPCs, each of which reached an agreement with a private company to improve the efficiency of production, and their tea lands have been leased from the government for 99 years (Wenzlhuemer, 2007; Dilshan, 2012). Interviews and data collection were conducted in the villages and estates around Deniyaya and Morowaka, which are famous for

the Sinharaja Forest Reserve. The villages near Deniyaya are ranked as the lowest for housing conditions in Sri Lanka (DCS, 2013). The primary sample size is 302 housing units, which comprises 103 households at 12 divisions of RPCs, 100 households at 19 PEs, and 99 households of IFs.

RESULTS AND DISCUSSION

The results of the analysis provide a different aspect of relations between living environments and livelihood satisfaction. The satisfaction with Sri Lankan livelihood overall varies among the four sectors, while that in Kotapola was not statistically significant between the three residential areas. The previous studies indicated there were many poor in the rural areas, while the lowest level of living environment was in the estates. By focusing on the main industry of estates and the region where tea cultivation is extended, a different aspect of the past is investigated.

Livelihood in Estate Sector

The CEPA (2005) stated that residents perceived the overall living conditions on estates to have deteriorated over the last 15 years, while Ole and Hubert mentioned (1995) that positive changes to the plantation sector have occurred since 1992¹. Housing built for temporary workers during the coffee plantation era has remained in the traditional manner. Sri Lanka has been tackling ethnic and religious conflicts, malnutrition, housing conditions, education, child labor, and other issues in the estate sector by establishing a ministry, enacting legislation, ratifying international laws, and receiving international support.

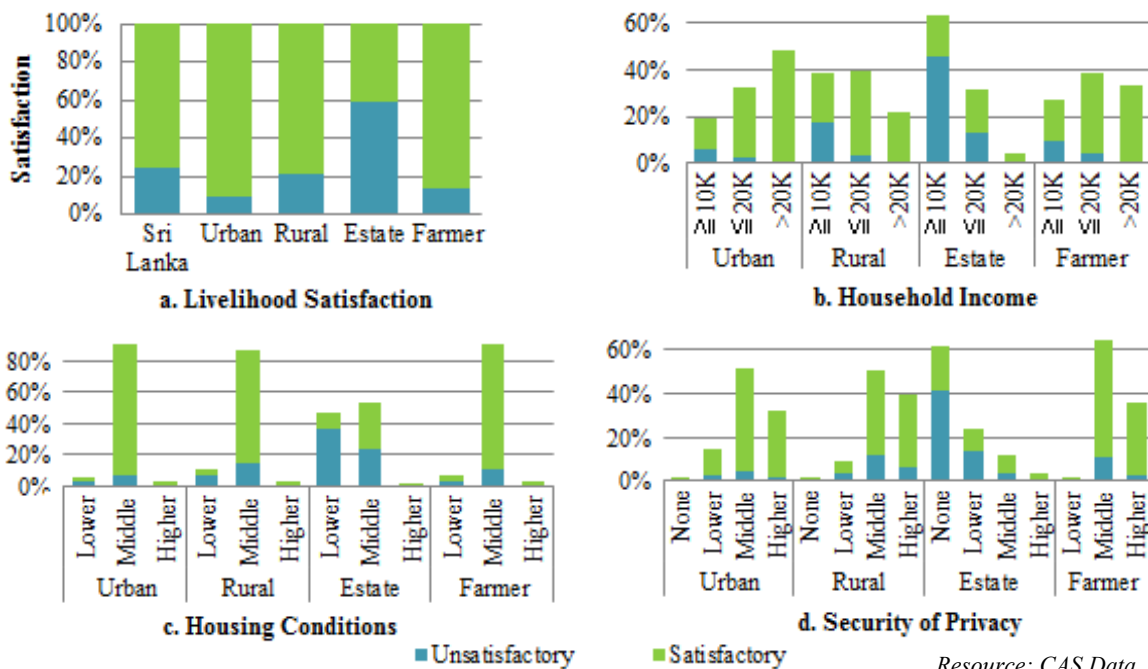


Fig. 2 Livelihood satisfaction and factors in country level

Fig. 2 represents the livelihood satisfaction among urban, rural, estate, and farming sectors. The average satisfaction for livelihood was approximately 25% at the country level. Comparing living sectors shows that highest unsatisfied residents were 59.2% in estates, about 20% in the rural sector, followed by residents in the farming and urban sectors. The different degrees of satisfaction

¹ A reason for the difference between the former and latter is the definition of plantations and estates. Under CAS, estate encompasses both large and small holdings managed by the state and RPCs that are individually or family managed, while the plantation is defined as being more than 20 acres with not less than 10 residential laborers.

lead us to exam the influential factors. Figs. 2a, 2b, and 2c explain the factors related to livelihood satisfaction. Fig. 2b indicates that lower income households are more likely to be unsatisfied compared to higher income households in all living sectors. Generally, in any country, the cost of living in the urban sector is higher than that of the rural sector, but Fig. 2b illustrates that the dissatisfaction rate of the lowest income range in the estate is higher than in the urban sector. Fig. 2c depicts the distribution of housing conditions. The livelihood satisfaction in all living sectors increases when the level of housing conditions is improved. A lower level of housing conditions accounted for 46% in the estate sector, while other sectors comprised 6% to 11%. Satisfaction varies by sector even at the same level. Fig. 2d delineates the distribution of the privacy index. The results of the cross-sectional analysis describe the different trends of satisfaction in each sector. In all living sectors, the more privacy is secured, the greater livelihood satisfaction has been increased. Privacy in the estate sector is more likely to not be secured, and more than 60% of households live in line rooms with no ownership and not a room per a person, while other sectors are categorized as middle or high privacy.

Comparative results of living conditions among sectors are not much different from those of past studies. Living conditions have been affected by regional characteristics. The cross-sectional analysis of each index shows that it is statistically significant at the 1% level between living sectors and each index. People in the estate sector have faced disadvantages on income, security of privacy, and housing compared to those in urban, rural, and farming sectors. The satisfaction of people in the estate sector is more likely lower than others even though each of the three indices are at the same level.

Effect of Living Conditions on Livelihood Satisfaction

This study estimated that the binary logistic regression models contained three factors as explanatory variables and the livelihood satisfaction was taken as a dependent variable. This study coded livelihood satisfaction as 0 for unsatisfactory and 1 for satisfactory. This analysis categorized house income into low, middle, and high, and coded it as 0 if the household income is not in that range or 1 if it is in that range. Thus, low-income families are a natural base group. For housing conditions, this study adopted three categories (low, middle, and high) for assessing sanitary and safety conditions, and coded it as 0 if the families are not in that rank of house conditions or 1 if the families are in that rank. Thus, low-ranking families are a natural base group. This analysis ranked privacy into none, low, middle, and high to assess the protection of privacy and coded it as 0 if the families are not ranked in that category or 1 if they are ranked in it.

Table 2 Logistic regression models

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Sector (Base: Estate)						
Urban	14.216 **	6.226 **	7.865 **	5.863 **	4.18 **	1.747 **
Rural	5.203 **	4.013 **	3.086 **	1.872 **	2.703 **	1.006
Farmer	8.869 **	5.204 **	5.032 **	2.979 **	3.399 **	1.29
Household Income (Base: Low (\leq 10KRs))						
Middle(20K \leq 10K)		6.406 **			5.47 **	6.227 **
High (>20K)		52.33 **			39.675 **	43.502 **
Housing conditions (Base:Low)						
Middle level			6.7 **		4.407 **	3.868 **
High level			101.603 **		19.524 **	15.034 **
Privacy Protection (Base: None)						
Lower level				1.714 **		2.093 **
Middle level				3.534 **		3.297 **
High level				6.266 **		7.195 **
Constant	0.689 **	.315 **	0.223 **	0.489 **	0.1420 **	0.099 **
-2log Likelihood	6834.701	5483.034	6206.679	6627.555	5180.938	5008.316
Cox & Snell R-Square	0.089	0.257	0.171	0.117	0.290	0.308
Case number	6630	6627	6630	6630	6627	6627
Resource: CAD						*p<.05 ; **p<.01

Table 2 describes the outcomes of five models. Model 1 explains how much livelihood satisfaction is greater if living in urban, rural, or farming sectors compared with living in the estate sector. Residents in the urban sector have 14.216^(e2.654) times greater livelihood satisfaction than those living in the estate sector, 5.203^(e1.649) times those in the rural sector, and 8.869^(e2.183) times those in the farming sector.

Model 2 contains the household income index in Model 1. Livelihood satisfaction is 6.406^(e1.857) times greater if the resident income is in the middle level and 52.33^(e3.958) times greater if at the high-income level. Under the household income, the effect of the living sector on livelihood satisfaction is reduced but is still statistically significant at the 1% level.

Model 3 includes the housing condition index. Livelihood satisfaction is 6.7^(e1.902) times greater if at the middle level and 101.603^(e4.621) times greater if at the highest level. Under the housing conditions, the effect of the living sector on satisfaction is reduced in all three sectors, especially in the rural sector. The livelihood satisfaction is still greater in three sectors in comparison with in the estate sector. It is statistically significant at the 1% level. The effect of the living sectors remains.

Model 4 added the privacy protection index. Under the privacy index, the effect of the living sector on satisfaction in urban, rural, and farming sectors are reduced. Highly protected families have 6.266^(e1.835) greater livelihood satisfaction than those with no privacy.

Model 5 contains all indices, which indicate that livelihood satisfaction in rural and farming sectors is almost the same as living in the estate sector after the three factors are considered individually. Living in the urban sector results in a 1.7^(e0.588) times higher satisfactory level than in the estate sector, which is statistically significant at the 1% level.

The models explain the satisfaction degree of each explanatory variable based on the base group and the change of effect of the living sector on livelihood satisfaction. Model 5 shows that income, housing, and privacy are partial factors of disparity on livelihood satisfaction. Satisfaction in the estate sector is lower than in the other three living sectors, which agrees with other studies. The next section focuses on the tea industry, which has been influenced by recent developments in economic growth, social and human development, and globalization. Unlike the country-level analysis, the regional-level analysis shows a different aspect.

Livelihood of Tea Industry in Low-Country

During the colonial era, tea estates on the hillside were established by cutting through the forest, while the low country was surrounded by villages when the estates were introduced (Bronkhorst 2008). To explore the quality of life in the tea industry, this study focused on one area in the low country. When focusing on satisfaction with their living based on the tea management style, this study found a different view of aspects on residents' well-being.

Fig. 3 illustrates the difference of livelihood satisfaction between RPCs, PEs, and IFs in the tea industry based on household income, security of privacy, and housing conditions. The results of the analysis based on management style found that the difference of livelihood satisfaction cannot be observed among the three residential areas. Thus, there is no difference in livelihood satisfaction in RPCs, PEs, and IFs, even though the trends of the three indices are different among the three residential areas. Compared with the CAS data, the residents in estates (RPC and PE) are at the same or higher livelihood satisfaction, but the satisfaction of living as IFs in the survey area is lower than for farmers at the country level.

Fig. 3a shows the income distribution and satisfaction level in the three residential areas based on household income. The percentage of the lowest income families is similar in all residential areas, but the median of household income in RPCs is between 20K and 30K, while those of PEs and IFs are over 30K. It elucidates that residents in RPCs are more likely to receive lower income than others. Fig. 3c demonstrates that housing conditions for farmers are more comfortable than those in RPCs and PEs. Fig. 3d explains the satisfaction with the security of privacy in each residential sector and shows that families in RPCs and PEs face difficulty attaining privacy.

However, comparing satisfaction with privacy among each level except for none category, the cross-sectional analysis is not statistically significant.

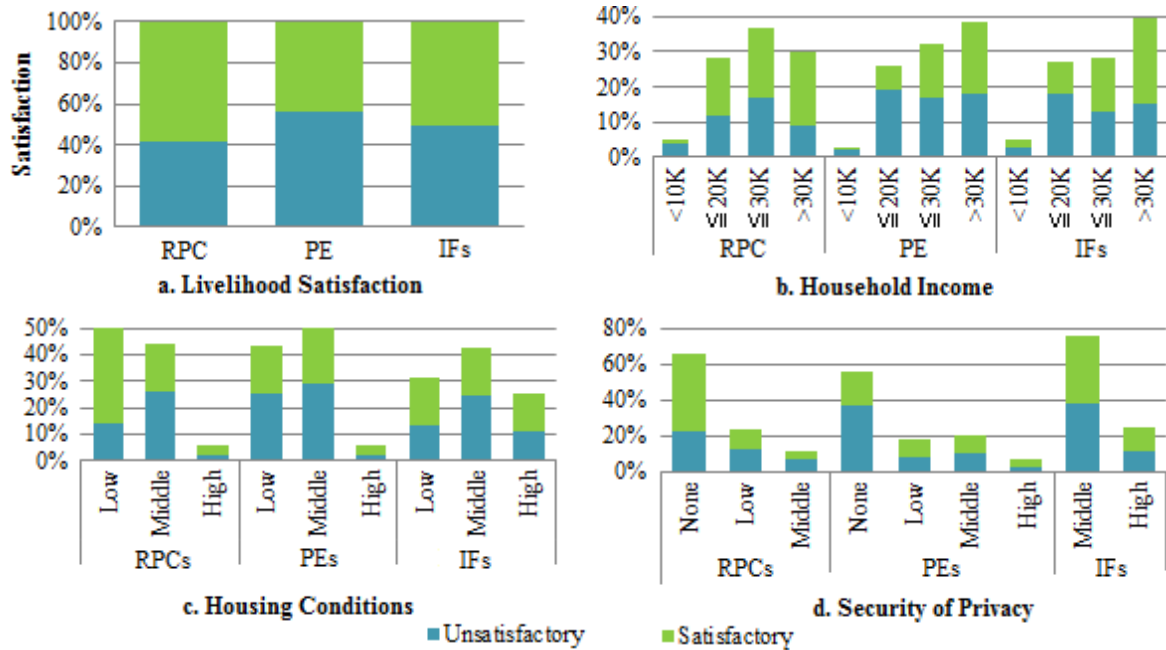


Fig. 3 Livelihood satisfaction and factors in tea industry

While conducting the survey, residents in the estates expressed their hopes to own their line room and a small amount of land in their estates and not rent it from the estate owners, even if they are satisfied with free accommodations. They mentioned that they feel free, and there is no need to care about others and worry about future if they could own it. Residents in RPCs also stated they felt satisfaction with having an exclusive toilet, but getting wood for cooking takes time, and kerosene for lighting is very dangerous. Individual farmers faced low income because of the tea disease, which reduced the production. They mentioned that their income was insufficient for their children’s education and keeping their house properly.

CONCLUSION

The secondary data analysis revealed that people living on estates are more likely to feel dissatisfaction compared to those living in urban, rural, and farming areas. The effect of the privacy is greater influence on the living standard satisfaction rather than other factors. Living conditions have been influenced by the characteristics of the living sectors. People in urban can easily access a variety of jobs with higher salary and live in a single house, and infrastructures are more developed. Those living in rural and farming areas have lived under similar living environments, but farmers live in a single house that protects their privacy. Income on estates is lower than in other areas. Access to better housing conditions is also harder, and living in a line room on estates avoids isolation and tightens the solidarity, while reducing privacy.

Alternatively, focusing on the tea industry in one area drives a different viewpoint on life in the tea industry. The results of the survey showed that residents in three residential areas of different management styles are not much different regarding their livelihood satisfaction. Exploring the relations between factors and satisfaction delineates the different distribution tendencies of each factor among three residential areas, while the satisfaction level is same if families belong to the same range in each factor.

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