



A Comparative Study of Housing Conditions among living Sectors in Sri Lanka and among Residential Areas in Tea Industry, Matara District, Southern Part of Sri Lanka

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Abstract Sri Lanka is well-known as one of the most successful cases of human development among South Asian countries, despite widening income disparities among sectors (urban, rural, estate), especially in the estate sector. Tea industry is an important industry in the estate sector, however, working and living conditions which affect the quality of life are generally worse than other. This resulted in a decrease in well-being of the workers' capabilities. This study aims to identify the disparities in housing conditions among living four sectors in Sri Lanka and also residential areas in tea industry. Qualitative and quantitative methods are applied for analysis. To consider the well-being of people, capability approach is also applied. Data in the study relied on the secondary data conducted in 2008/2009, and 302 households' primary data obtained between 2014 and 2015. Three indexes of housing facilities used in this paper are access to drinking water, exclusive toilet facilities, and electricity lighting. Results in comparison between housing conditions and living sectors indicate that people in estates are under the low quality of housing facilities and face the risks under the unsanitary conditions. Statistically, all three indexes showed there are disparities among living sectors. Comparing indexes among sectors, accessibility to safe drinking water in estate has wider disparity than the others two index. Exploring the tea industry based on the management style (RPC, Private estate, Farmer) deeply found private estates are more likely to face disadvantages than others. Accessibility to safe drinking water is lower than in others variables. Among residential areas access to safe drinking water is not statistically significant, but access to toilet facility and electricity is statistically significant at five percent level.

Keywords living conditions, capability, tea industry, rural development

INTRODUCTION

This study focuses on housing conditions of estate as whole country and inside tea industry community, and highlights differences among management styles, whiles providing suggestions to narrow the disparities. Sri Lanka has developed its status as middle income country with achievement of most of the MDG's, even though income and social disparity among citizens and regions has been widening, especially in estate sectors where tea, coconuts and rubber has been cultivated. Tea is one of main industries and financial resources for government. Tea industry is promoted by two sectors; large-scale estate sector and smallholders. Export revenue in 2010 reached 1.37 billion US dollars, which accounted for 16 percent of the total export of the country. However, the poverty rate of estate workers was concerned for this community, accounted for 11.4 percent, compared to the urban average of 5.3

percent and to 9.4 percent of rural in 2009/10 (DCS 2011). The GINI indices increased from 0.43 in 1980 to 0.49 in 2009/10 (Central Bank of Sri Lanka 2012).

Estate sector is classified by cultivation land elevation and area. Cultivation elevation is classified into three; high-grown tea is over 1200 m, mid-grown tea is between 600 and less 1200, and low-grown tea is less than 600m. Cultivation area larger than 20 hectares is categorized as estate sector and smallholder is characterized as smaller than 20 hectares including farmers. Estate workers are protected by the estate labour laws. The quality of life as individual well-being of life is actually valuable for this person (Sen 1992). Working and living conditions in estate, however, are generally harder than other sectors, and the majority of workers have no job security (Wal, 2008). Their economic and social conditions are not enough to enhance their capabilities.

The literature reviews and interviews conducted in August 2012 at up-country found that people in tea estates have been confronted with low income, poor housing and sanitary facilities as well as other basic needs (Kumari 1984, WB 2007 and Chandrabose 2011). Recent studies reveal that number of tea cultivation managed by small holdings has increased, and living conditions in estates have been improved (DCS2005, 2012). Firstly, this study delineates disparity of housing conditions among living sector. Secondly, difference of residential areas based on the management categories will be described, and factors will be described, and factors accounting for these differences will be explored.

METHODOLOGY

Descriptive manner will be applied for this study. The results presented in this paper are based on qualitative and quantitative methods of secondary and primary data collection. Capability approach is also applied for this analysis.

Characteristics of the Secondary Data

Secondary data was from the Child Activity Survey (CAS) which was conducted by the Department of Census and Statistic with the International Labor Organization (ILO) in 2008/09. The objective of CAS was to identify the characteristics of Sri Lanka children. It, however, collected information about housing and household characteristics composed of 16,000 housing units that represent the whole country. Stratification was classified into three sectors of residence: urban, rural, and estate. Differences in housing environments among living sectors, the areas where three sectors existed were chosen from the CAS. Recent management styles of agriculture vary, and the number of small holders and farmers has been increasing. Thus, in this study, data were extracted and sorted from the rural housing variable into farmer and the rural itself. Characteristics of farmer are to own a single house and land, at least one parent is working, ownership of livestock been less than 10 cows and goats, and owns less than 100 chickens.

To deepen the multidimensional understanding of livelihood, the use of income index is not enough. One purpose of this study is to describe difference of dwelling conditions among three areas based on the management styles in tea industry. Therefore, the data on access to safe drinking water, household exclusive toilet, and electricity lighting were adapted for this analysis. Definition of safe drinking water in CAS is “Protected well within and outside premises” “Tube well” “Tap within premises and outside” and “Stream water collected & distributed by pipe lines”. Definition of unsafe water is “Unprotected well” and “River/Tank/Stream/Spring and other”. Stream water collected & distributed by pipe lines, however, is categorized as unsafe drinking water since this survey did not include the scientific evidence. Limitation of this analysis depends on the circumstantial, but is not to be able to show the scientific data.

Target Area and Primary Data

Sri Lanka is composed of 25 districts organized into 9 provinces. The 25 districts are divided into 331 divisions which are further divided into 14021 GN divisions. There are 36822 villages in Sri Lanka (DCS 2013). Ecologically Sri Lanka is divided into two zones based on the availability of rainwater. The southern part of the country where tea cultivation has been planted receives ample rainfall while northern parts of country called the dry zone receive scarce rain.

Primary data were collected at Kotapola Division of Matara District in Southern part of Sri Lanka, famous as one of five tea cultivation areas, called Ruhuna as Low-grown tea. Kotapola division is composed of 110 villages in 37 GN divisions. Where villages and estates existed are evaluated as lower housing conditions in Matara district (DCS 2013). Tea industry in this area has a different story as oppose to upcountry where no villages were at the time of estates establishment. British government during colonial area established huge tea estates on the hillside around low-country, which were surrounded by villages even before the states were introduced (Bronkhorst 2008).

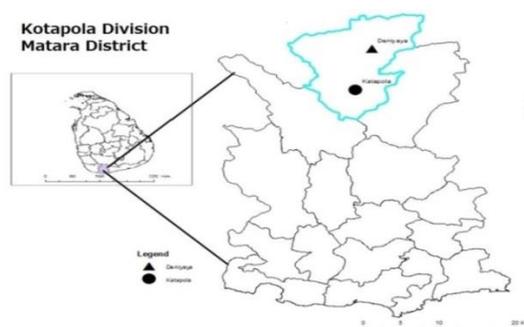


Fig. 1 Location of Deniyaya GN division

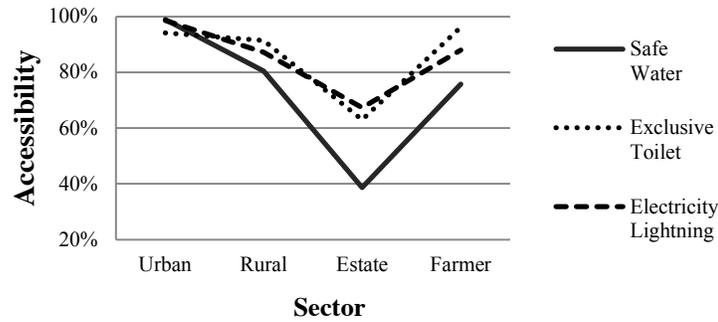
Management style of Sri Lanka tea industry are classified into three; RPC (Regional Plantation Companies=semi-governmental estate), PE (private estate), and Farmer. Survey was conducted in the villages and estates around Deniyaya GN division. Kiriweldola is one of near Deniyaya is the second lowest GN division in Matara District. Primary sample size is 302 housing units which composed of 103 households at 5 RPC estates, 100 households at 22 private estates, and 99 households at individual farms.

RESULTS AND DISCUSSION

Quality of housing affects quality of life. Water affects food and water contamination within the home. Toilet and sanitation conditions not only have influences on public health, but also on individual health. Inadequate lighting leads to eyesight problems, and sometimes sources of lighting causes other issues such as fire or skin problems.

Housing Conditions in Estate Sector

Estate sector is composed of mainly tea, coconuts, rubber and cinnamon in Sri Lanka. Poverty and social disparity in estate are still remained. Housing conditions among four residential sectors can be described through the CAS 2008/09.



Source: CS 2008/09.Ministry of Finance and Planning, Sri Lanka, 2009

Fig. 2 Living condition among residential sectors

Fig. 2 represents the rate of access to three indexes of housing conditions among Urban, Rural, Estate and Farmer. Comparing access to safe drinking water among urban, rural and individual farmer sectors, the percentage of safe drinking water was 38.7. In contrast, in urban, it accounted for 98.9 percent, among rural and farmer, it accounted for 80.4 percent and 75.8 percent, respectively. Cross-sectional analysis was statistically significant at the one percent level between residential sectors and accessibility of safe drinking water, indicating inadequate water facilities at estate sector than other sectors.

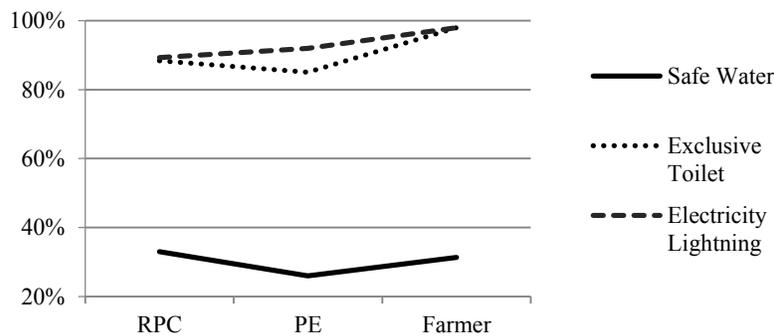
Having an exclusive toilet for households is one of important factors to avoid the spread of disease and prevent daily sicknesses. Comparing the access of the exclusive toilet facility to three sectors, the percentage of independent household's toilet was 63.0. In contrast, in urban, it counted for 94.1 percent, among rural and farmer, it accounted for 91.4 percent and 96.2 percent, respectively. Cross-sectional analysis was statistically significant at the one percent level between residential sectors and accessibility of exclusive toilet for household, indicating less possession of family independent toilet at estate sector than other sectors

Appropriate light at night or in darkness enables people to see things properly, while inappropriate degree of light causes eye problems, and sometimes affect the brain or causes mental disorder. Kerosene or candle is used for lighting in house and on the roads. On the other hand, these have been a cause of fire or burns. Couples in estates during the survey explained about the incidence of burn on their face and body by fallen Kerosene lamp. Using inappropriate resources for light are not only risky for health but also not environmentally friendly. Fig. 2 shows access of electricity in estate, the percentage of electricity among other light resources was 67.34. In contrast, in urban was counted for 98.52 percent, in rural and farmer were counted for 87.16 percent and 88.01percent. Cross-sectional analysis was statistically significant at the one percent level between residential sectors and accessibility of electricity for household, indicating higher possibility to have health problems and accidents than other three sectors.

Comparative results among sectors are not different to the past literature reviews. People living in estate sector are under the low quality of housing facilities and more likely face the risks under the unsanitary conditions. Especially, accessibility to safe drinking water is lower than access to exclusive toilet and electricity. Estates owned by RPCs or companies are generally large and equipping them with adequate infrastructure costs the lot. In wet zones, however, people are more easily have access to natural water than in dry zones without huge equipment. For electricity system in estate, it is difficult for companies to maintain a proper system in such a large area even though electricity system in urban and rural is more likely equipped by government. Structure of housing in estate has an effect on housing facilities. Family living in the attached housing in a row in estate has shared kitchen and toilets rather than family in urban and rural who have lived in a single house with household kitchen and toilets.

Housing Conditions in Tea industry

Compared to other industry sectors in estate, working at tea industry are labor intensive, involvement in working for long hours under harsh environment, and living conditions of estate workers have been pointed out as unsanitary and insufficient. Recent trend in the tea industry is the increase in the number of smallholders for promoting tea production. Conventional management system has been outdated under the current globalization of economics and society. For improving the efficiency in production and management, the government reprivatized the management of state owned estate sector in 1992 (Wenzlhuemer, 2007 and Ute 2004). Compared to the period before reprivatized management system was implemented in 1992, the tea industry management can be categorized into three styles; semi-governmental companies which were privatized called RPC, private estates (PE) which include smallholders, and farmer.



Research Area: Kotapola Division, Matara district, Sothern part of Sri Lanka

Fig. 3 Living Conditions among Management Style

To critically explore the tea industry, three indexes are examined among three management styles in low-country. Fig. 3 describes the access to three indexes among residential areas based on the management styles. Except electricity light, the trend is similar, PE faces more disadvantages than RPC or Farmer. Workers' houses are called "Line-house", where between 2 and 5 houses are attached, and were built during the colonial area to accommodate seasonal temporary workers for coffee production. Kitchen and Toilet outside premises used to be shared with neighbors. Knowledge of public health and sanitary were not enough (Oxfam 2002, Williges 2004). Tea as replacement of coffee in 1867 made the seasonal migrants become permanent residents (Kumari 1984, and Wenzlhuemer, 2007).

Compared among three indexes, accessibility of safe drinking water is lower than other two indexes. The percentage of safe drinking water in RPC was 33 percent, in PE and Famer was counted for 26 percent and for 31 percent, respectively. Cross-sectional analysis was not statistically significant at the one percent level between residential areas among three management styles, indicating accessibility to water facilities of divisions of Kotapola district are under similar circumstances.

In comparison of the access of the exclusive toilet facility among residential areas, the percentage of independent household's toilet was 88 percent in RPC, in PE, it accounted for 85 percent, in Farmer, it counted for 98 percent. Almost all families in Farmer own at least one household toilet within or outside premises, but 7 percent of PE must share it with others, and 8 percent of them have no toilet at home. Cross-sectional analysis was statistically significant at the one percent level between residential areas and accessibility of household's exclusive toilet, indicating there is a difference of possession of exclusive toilet.

Access of electricity light among residential areas, the percentage of electricity among other light resources was 89 percent in RPC, 92 percent was in PE, and Farmer counted for 98 percent. Cross-

sectional analysis was statistically significant at the five percent level. Lighting system in large estates more likely depends on the traditional way rather than other two.

Accessibility to safe drinking water is not different among people at the target area, but toilet facility and accessibility to electricity light is different among residential areas. There are many small or large river surrounding Deniyaya areas and easy access to natural water in stream or rivers. Regardless of self-employee or employed by companies, water environment around target area is under the similar conditions while it contributes to the lower late of access to safe drinking water. Introducing the individual toilet has been promoted by international or local organizations for public and individual health. One of reasons is due to the fact that there are differences in toilet facility among residential regions. Farmers live in a single house rather than sharing the house or rooms, while workers in large or medium estate are more likely to live in line-houses where small houses are attached to each other in one long line row house. As discussed above, electricity is more likely to be provided by government, small private estates are located near the roads and more easily can access electricity. Large estates are strictly regulated by laws and required to provide enough support to meet the basic needs, while small estates infrastructures are dependent on owners' decisions.

CONCLUSION

Soil contamination with pesticide or artificial fertilizer for tea cultivation has affected the quality of drinking water, unsanitary or shared toilet causes illness or disease on living things including human, improper lighting has influences not only on health, but also on people's capability. In this paper, three indexes of housing conditions in residential sector level and industry level were examined. Differences in housing conditions among residential sectors are described through secondary data analysis, and tendency of housing condition in tea industry based on the management styles is explored through primary data analysis.

Result from secondary data analysis showed that disparities among living sectors in Sri Lanka existed in all three indexes. It indicates that people living in estates are under the low quality of housing facilities and face the risks of the unsanitary conditions. Especially, accessibility to safe drinking water is lower than in other two indexes. Result of the second data analysis is not different from the past literature reviews and researches.

To deepen our understanding of difference in living conditions of tea estates based on management style, primary data was applied. Secondary data analysis indicates that farmer housing environments were better than in estates, while primary data analysis in tea industry showed different result. Among residential areas in tea industry, there is no difference in access to safe drinking water at ten percent level and to electricity lightning at one percent level. Access to electricity at five percent level, however, is changed from not significant to statistically significant. There is difference in access to toilet among residential areas. Access to toilet in estate sector (RPC and PE) is different from farmers although not statistically difference at 10 percent level between RPC and PE.

Limitation of this analysis is not to be able to show scientific evidence on safety of drinking water and on sanitary conditions of toilet.

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REFERENCES

- Bronkhorst, J. 2008. From coffee to tea cultivation in Ceylon, 1880-1900, An economic and social history. Brill's Indological Library, Netherlands.
- Central Bank of Sri Lanka. 2012. Economic and social statistics of Sri Lanka 2012. Statistics Department, Central Bank of Sri Lanka, Sri Lanka.
- Chandrabose, A.S. and Sivapragasam, P.P. 2011. Red colour of tea-central issues that impact the tea plantation community in Sri Lanka. Human Development Organization, Sri Lanka.
- Department of Census and Statistics (DCS), Government of Sri Lanka. 2011. Poverty in Sri Lanka (Based on household income and expenditure survey 2009/10). DCS, Government of Sri Lanka, Sri Lanka.
- DCS, Government of Sri Lanka. 2003. Census of agriculture 2002, Small holding sector. Agriculture and Environmental Statistics Division, DCS, Government of Sri Lanka, Sri Lanka.
- DCS, Government of Sri Lanka. 2005 and 2012. Census of tea small holdings in Sri Lanka. Tea Small Holdings Development Authority, Asian Development Bank.
- DCS, Government of Sri Lanka. 2013. Classification of administrative divisions by quality of housing. Sri Lanka.
- Kurihara, S. 2011. Tea estate plantation community in Nuwara Eliya District of Sri Lanka, An introductory overview of social issues and poverty among residents living under the conventional plantation system. *Yokohama Journal of Social Sciences*, 15 (6), 123-135.
- Rachel, K. and Kumari, J. 2013. Plantation patriarchy and structural violence, Women workers in Sri Lanka. Conference on Bonded Labour, Migration, Diaspora and Identity Formation in Historical and Contemporary Context, June 6th - 10th, Paramaribo, Suriname.
- Oxfam. 2002. The tea market: A background study. Oxfam Publications, Oxford, UK.
- Sen, A. 1992. Inequality reexamined, Oxford University Press, UK.
- Wal, S.V.D. 2008. Sustainability issues in the tea sector, A comparative analysis of six leading producing countries. Centre for Research on Multinational Corporations (SOMO), Netherlands.
- Wenzlhuemer, R. 2007. Indian labour immigration and british labour policy in nineteenth-century Ceylon. *Cambridge University Press, Modern Asian Studies*, 41 (3), 575-602.
- Wenzlhuemer, R. 2007. The shinhalese contribution to estate labour in Ceylon, 1881-1891. *Journal of the Economic and Social History of the Orient*, 41 (3), 442-458.
- Williges, U. 2004. Status of organic agriculture in Sri Lanka with special emphasis on tea production system. Ph.D. thesis, University of Giessen, Germany.