



Disparity in Quality of Life and Education Attainment of Children within the Tea Sector: Case Study in Low-Country in Sri Lanka

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Abstract In Sri Lanka, household income and living standards in the estate sector are lower than those in other sectors. The tea sector is an important industry in the estate sector, where the structure has changed over time, with an increase in smallholders and improvements in living conditions. This change has made the living environment and educational opportunities within the tea sector no longer uniform. This paper aims to identify the disparity in quality of life and education attainment of children and attempts to describe the structure of the differences behind these disparities by focusing on the three management types. Quantitative and qualitative methods were applied to this analysis. Primary data for 302 households were collected between 2013 and 2015. Six indicators of the environment surrounding children and two indices of education attainment were used. Four indicators show statistically significant disparities among management types. A comparison between the six indicators and management types indicates that people on the PEs are more likely to live under the low quality of life and face the difficulties, which are related to the social structure of the management type to which the households belong.

Keywords children, disparity, quality of life, education, tea sector

INTRODUCTION

This study focuses on the environment surrounding children and the education attainment of children between management types in the tea sector. Sri Lanka has been a transit point for trade for centuries, and was colonized by Western countries in the early 16th century. Tea was developed as a colonial plantation crop by the British Empire. After independence in the 1970s, large-scale estates were nationalized, and later, their management was privatized. Concurrently, private estates could expand the cultivation area, and smallholders have been encouraged to join the tea cultivation, so that the management types of tea cultivation have been no longer uniform. The transition to a market-based economy in 1990s and the end of the civil war in 2009 led to social development and diversification of people's values, which also have expanded the employment opportunities outside the estates. Today, people need to have more than a basic education to work and live outside the estates.

Many studies have reported on the living environment and education attainment of children living on estates as well as on the recent improvements in estates, while there have been few comparative studies focusing on the management type. This study attempts to delineate the differences in quality of life and education attainment of children based on management type. The context and structure behind these differences have also been described.

MATERIALS AND METHODS

A descriptive design was applied to this analysis. The results presented in this paper are based on the quantitative and qualitative methods of primary data collection. Questionnaires and interviews were collected between 2013 and 2015 in Kotapola Division, located in the northern part of the Matara district, where the tea sector is economically important. Tea cultivation in this area is carried out by Regional Plantation Company-RPC, Private Estate-PE, and Individual Farmer-IF.¹ The sample size is 302 housing units, comprising 103 households in 2 RPCs, 100 on 19 PEs, and in 99 IFs in a total of 11 villages. Table 1 shows an overview of children aged 5-17, target children are 196 in RPCs, 205 on PEs, and 133 in IFs.

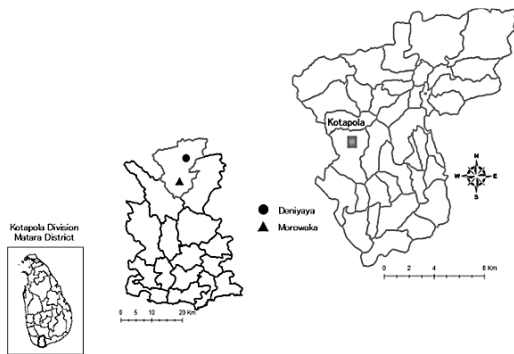


Table 1 Number of households, people and children

	RPC	PE	IFs
Household:	103	100	99
People:	491	480	424
Children:	106 (Boy) 90 (Girl)	117 (Boy) 88 (Girl)	72 (Boy) 61 (Girl)

Fig. 1 Location of Morowaka and Deniyaya

The questionnaire is based on the Child Activity Survey 2008/09 (CAS 08/09),² which was jointly conducted by the Sri Lankan government and the International Labour Organization (ILO). This study used the same variables as in the CAS 08/09. The quantitative analysis used the environment and education attainment as the dependent variables and the management type as the independent variable, and conducted a χ -square test³ to find the differences in the environment and education attainment among management types. The environment surrounding children consists of six indicators: a. household income, b. head of household education level, c. housing condition, d. environmental safety, e. economic activities and f. housework activities of children. The education attainment consists of two indices: attendance and repeated years/dropouts.

FINDINGS

1. Environment Surrounding Children

Quality of life is an important aspect of individual well-being. Indicators a and b focus on the household condition, selecting the economic status of the household and the educational achievement of the head of the household. Indicators c and d focus on living conditions, selecting the variables of privacy and settlement status, and safe and sanitary environment. Indicators e and f both focus on the activity status of children at home, selecting economic activities to earn income and housework activities for family.

¹ The RPCs were composed of 12-29 estates and managed 15,000-25,000ac of cultivated land, but they had not enough assets, which prevented funding for new investments, causing difficulties in management (Nihal 2011). In order to improve the RPCs' management, privatization was carried out in 1995 through the sale of 51% of the controlling interest in each, initially 20 RPCs were privatized and later 3 RPCs were added (ADB 2004). Their tea land is currently leased from the government for 99 years, and 286 plantations are managed by 23 RPCs (MPI 2012). Between 1951 and 2005, the number of small farmers increased by 368%, while estates with 100ac or more declined by 57% (Herath and Weersink 2007). The present management type is State-owned estates, RPC, PE, and IF.

² The CAS data covers the demographic characteristics of children, their school attendance, economic activities, health and safety, housing, and household characteristics. It also presents information on perception of parents/guardians on their children working and other characteristics pertaining to the children aged 5-17 years. Data in this paper extracted 3,683 households from 9 districts where mainly tea estates were located.

³ In this paper, p-value less than 0.05 is considered statistically significant.

Household conditions: The impact of family situation on children has been studied in various fields. Table 2 shows the household income by management type. The average monthly income of 302 households is Rs. 26,970, while it is Rs. 25,151 in the RPCs, Rs. 26,534 on the PEs, and Rs. 29,303 in the IFs. Though IFs have a higher average income, more IF households are below the poverty line.⁴ This is because of the different income structures of each management type. The main source of income for IFs comes from the sale of tea leaves and side jobs, whereas for estate households, it is the salary from the estate.

Table 2 Household income

	RPC	PE	IFs
Average Income	Rs. 25,151	Rs. 26,970 Rs. 26,534	Rs. 29,303
Poverty Line		5,511 Rs	
No of Household below Poverty Line	9	6	16
Household Income	<20K: 58 (29.6%) 20K<30K: 73 (37.2%) >30K: 65 (33.2%)	56 (27.3%) 72 (35.1%) 77 (37.6%)	45 (33.8%) 38 (28.6%) 50 (37.6%)

Rs.130 =1USD in 2014

Table 3 Head of household education level

	RPC	PE	IFs
None	57 (29.1%)	102 (49.8%)	6 (4.5%)
Low*	111 (56.6%)	89 (43.4%)	63 (47.4%)
High**	28 (14.3%)	14 (6.8%)	64 (48.1%)

* Low: Grade 9 (compulsory education) or less

** High: above compulsory education

IFs' income comes from harvest yield, which is highly dependent on the cultivation area, as well as from other crops or jobs. The greater the cultivation area or more side jobs they have, the higher the income they receive. At the time of the survey, tea leaf disease was prevalent, reducing tea leaf yield and their income. Though social security is available, they generally do not receive it because they do not enroll in it. The main source of income for people on estates comes from the estate itself. The salary for RPC employees is uniform whereas for PE employees, it varies from estate to estate. For RPCs, the salary is decided every other year through wage board discussions held by RPCs and trade unions and government. This was Rs. 620 (Rs. 450 + benefits) per day in 2014.⁵ The salary is not reduced if employees appear, even if they do not meet quotas. They also receive Employees Provident Fund (EPF), Employment Trust Fund (ETF)⁶, gratuity, attendance bonus, profit bonus, and other benefits. For PEs, the daily salary is generally lower than that of RPCs in the range of Rs. 350-500.⁷ Salary is not paid if an employee is unable to work for any reason. Benefits, such as EPF and ETF, are guaranteed on larger estates, but are not always guaranteed on the medium-sized and not guaranteed on the small estates.

The cross-sectional analysis of household income among children shows that it is not statistically significant between management types, but it is statistically significant for the head of household education level. This indicates that there is no large difference in household income among children by management type (Table 2), but there is a difference in the head of household education level between IFs and the two estate types (Table 3). The difference in the head of household education level may be attributed to the social conditions of the time in which they were born. Their average age was 52 years old, indicating that they were born in the 1960s and the 1970s. The nation was growing economically, but due to regional disparities and internal conflicts, compulsory education could not be implemented nationwide and equal educational opportunities were not available.⁸

Living conditions: The living space in which children live has a significant impact on their development. In many countries, owning a home is a status symbol, but it also protects privacy and keeps people from moving from place to place. It also helps to create an environment in which

⁴ Poverty Line: taken as half the median household income of the total population

⁵ According to Manager, if employees were registered as full-time workers, 25 working days per month were guaranteed with 17 days paid holidays per year, with nominal quota of 20-22kg of leaf plucked per day. Salary is guaranteed regardless of weather or insufficient yield.

⁶ EPF is a social security scheme of employees and EPF is to help employees to save a fraction of salary every month.

⁷ Work schedule was around 22 days per month and quantity of leaf plucking was determined to be around 25kg per day,

⁸ This survey also found that the higher their education level, the more they perceived education as important and vice versa.

children can settle down. Living conditions were divided into two indicators. One focuses on the housing itself, whereas the other focuses on the environmental safety of the living space. Housing condition is generated from three variables: i. ownership (not owning single house=0, and owning a single house=1), ii. type of housing (line house=0, single house=1); and iii. the number of rooms for each person (less than one room=0, more than one room=1). It is classified as high if all three are satisfied, medium-high if two are satisfied, medium-low if one is satisfied, and low if none are satisfied. Environmental safety is generated from four variables: i. safe drinking water (unsafe=0, safe=1), ii. exclusive toilet facilities (shared or none=0, owned=1), iii. safe lighting source (no lighting or non-electricity=0, electricity=1); and iv. safe energy sources for cooking (non-gas/electricity=0, gas/electricity=1). It is classified as high if all four are satisfied, medium-high if three are satisfied, medium if two are satisfied, medium-low if one is satisfied, and low if none are satisfied. Table 4 shows the housing condition and environmental safety of children by management type.

The cross-sectional analysis of housing condition and environmental safety among children between management types is statistically significant. Table 4 shows that housing condition is different between management types and that children on PEs are more likely to live in lower housing condition. This is because IFs own a single house, whereas most children living on the estates live in the provided line-house, which has 1-2 rooms⁹ or a single room with a veranda. Thus, most of the IFs' children belong to the medium category or above, but most of the children of the two estate types belong to the low category. Line-houses originally were built for temporary workers during the coffee plantation era, when the plantation economy was introduced, and estate owners have provided them to workers who do not have access to housing. Line-houses have remained in the traditional manner and are often regarded negatively, as a relic of the colonial period. A notable difference between RPCs and PEs is their right to residency. People in RPCs can stay in line-houses after retirement, even if their family members are not working,¹⁰ but people on PEs cannot stay unless they are working, and are required to move out after leaving their jobs.

Table 4 Housing condition and environmental safety

Housing	RPCs	PEs	IFs	Safety	RPCs	PEs	IFs
Low	140 (74.5%)	140 (71.8%)	N/A	Low	3 (1.5%)	N/A	1 (0.8%)
Medium-low	41 (21.8%)	19 (9.7%)	N/A	Medium-low	13 (6.7%)	28 (13.7%)	2 (1.5%)
Medium-high	7 (3.7%)	28 (14.4%)	104 (78.2%)	Medium	120 (61.5%)	135 (66.2%)	81 (61.0%)
High	N/A	8 (4.1%)	29 (21.8%)	Medium-High	58 (29.8%)	41 (20.1%)	49 (36.7%)
				High	1 (0.5%)	N/A	N/A

Low=0, Medium-low=1, Medium-high=3, High=4

Low=0, Medium-low=1, Medium=3, Medium-high=4, High=5

Environmental safety in the survey villages was recognized as the second from the bottom of 650 divisions in Matara (DCS 2013) and the CAS 08/09 indicated that it on estates was worse than on non-estates. This survey observes a similar distribution between the estates and IFs; when comparing RPCs with PEs, PEs are in a lower category. Overall, this survey found that children living on PEs tend to live under more unstable and less secure living conditions than IFs and RPCs.

Children's activities: Doing some work for the family is a social and cultural norm in Sri Lanka. Long hours of these activities not only take children away from school, but also deprive them of the opportunities they need to experience as children, which adversely affects their health and development. This study categorizes children's activities into two indicators: one focusing on economic activities and the other on housework activities for the family. Our survey found that the average number of hours spent by children on daily activities (sleeping, eating, leisure, school, and housework) was around 20.5 hours, suggesting that economic activities¹¹ that exceed 3.5 hours may affect other activities. Table 5 shows the definition of child labour used in this study and Table 6 shows the average activities' hours and activities status.

⁹ Space of a room is approximately 10 feet×12 feet. People owning a house was 15% in RPC and 28% on PEs.

¹⁰ Ownership belongs to the RPCs.

¹¹ Economic activities are mainly engagement in tea cultivation or working for the family business, regardless of having income or not.

Table 5 Definition of child labour

Age	Economic Activities	Housework Activities
5-12 years	More than 5 hours a week	More than 15 hours a week
12 year and over	More than 15 hours a week	More than 25 hours a week

Table 6 Children’s activities

Economic Activities	RPCs	PEs	IFs	Housework Activities	RPCs	PEs	IFs
Average hours	1 hour and 14 min			Average hours	1 hour and 20 min		
None	173 (95.6%)	169 (87.6%)	99 (76.2%)	None	46 (25.4%)	48 (24.8%)	34 (26.2%)
Work	008 (4.4%)	12 (6.2%)	25 (19.2%)	Housework	108 (59.7%)	109 (56.5%)	74 (56.9%)
Child labour	—	12 (6.2%)	6 (4.6%)	Child labour	27 (14.9%)	36 (18.7%)	22 (16.9%)

The cross-sectional analysis of children’s economic activities is statistically significant between management types, but that of housework activities is not statistically significant. This indicates that differences among children exist in economic activities, but not in housework between management types. The average daily activity time of the children engaged in economic activities was 1 hour and 14 minutes. Children in RPCs were not engaged in child labor, whereas 6.2% of children on PEs and 4.0% of those in IFs were engaged. As for housework, many children in all management types worked for their families, with average daily activity time of 1 hour and 20 minutes. Child labor engagement is 14.9% for RPC, 18.7% for PEs and 16.9% for IFs. Children on PEs are more likely to engage in child labour.

2. Education Attainment and Educational Environment

This survey found that 86.1% of households stated the importance of education for their children, and wished for them to have a better future through high-quality education and professional knowledge. Figure.2 represents the children's school attendance by management type, and Figure.3 represents the repeated years/drop-out experiences. In terms of management types, the cross-sectional analysis of both education attainment is statistically significant.

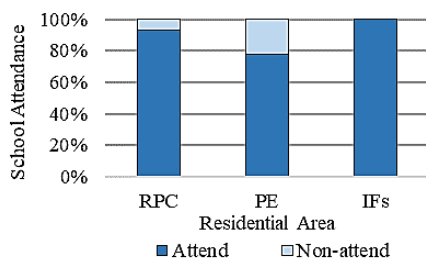


Fig. 2 School attendance

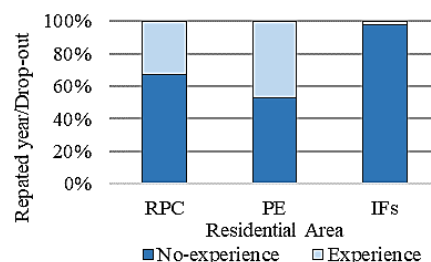


Fig. 3 Repeated years / dropout

All IFs children attended, whereas 6.9% and 22.4% in RPCs and PEs did not attend, indicating that attendance of children living on the PEs was poor (Fig.2). For repeated years/dropout experiences, the same trend can be observed; 33.2% in RPCs and 47.4% on PEs were not in the appropriate grade for their age (Fig.3).¹²

The cost of education can be noted as a factor in giving up children's education. This includes stationery, reference books, transportation, private tutoring fees, and school repairs. Transportation to and from school increases the burden of educational expenses, and has a bearing on commute

¹² Secondary analysis of the CAS 08/09 data showed that the ratio of school non-attendance was around 10.3% in the non-estate sectors, while around 15.5% on estates.

safety (Wal, 2008).¹³ The average expenditure per child is Rs.1,324 overall; Rs.960 for RPCs, Rs.855 for PEs, and Rs.2,583 is for IFs. The percentage of households not spending is 2.6% for RPCs, 14.6% for PEs, and 1.5% for IFs, indicating that IFs spend more on their children's education than RPCs and PEs.

Behind this education expenditure is the attribution that each management type has. Children in IFs could go to relatively large schools, better equipped, and with better-quality teachers located in the central town, but it requires for school facilities and the distance from their home requires more time and money to commute. Children in RPCs go to schools on estates or locally, and school buses are arranged for those whose residential areas are far from schools. Children on PEs usually go to schools close to their home so that they do not require long-distance walking or transportation (Table 7). However, if children wish continue with senior secondary education (≥ 12 grades), there is likely to be no school on the estate or near home.¹⁴ Thus, they must take a bus for commuting, which costs the household.

This survey found that the educational environment of both estates' households is more favorable in terms of distance, time, and modes than IFs, but less favorable in terms of quality of education and educational opportunity.

Table 7 Distance from home to school and mode of travel

	RPC	PE	IFs		RPC	PE	IFs
<1km	58 (34.5%)	44 (28.2%)	13 (10.2%)	Walking	87 (50.6%)	89 (56.7%)	23 (18.0%)
1 \leq 3km	48 (28.6%)	82 (52.6%)	25 (19.7%)	Car/ Motorbicycle	16 (9.3%)	2 (1.3%)	13 (10.2%)
3 \leq 5km	43 (25.6%)	23 (14.7%)	14 (11.0%)	Bus/School bus	69 (40.1%)	66 (42.0%)	92 (71.8%)
>5km	19 (11.3%)	7 (4.5%)	75 (59.1%)				

DISCUSSION

This study attempts to delineate the disparity in quality of life and educational environment and examine how these are related to the social structure of the management type to which the households belong.

Table 8 Quality of life and education attainment between management types

<u>Household Condition</u>		<u>Living Condition</u>		<u>Children Activity</u>		Education Attainment
H-income	Head Ed	Housing	Safety	Economic	Housework	
No different	Different	Different	Different	Different	No different	Different

χ -square test ($p=0.05$): Significant = Different, No significant = No different

Table 8 shows the result of χ -square test on the quality of life and education attainment of children. This survey found that four indicators show statistically significant disparities among management types. The results of the comparison between the six indicators and management types indicate that people on the PEs are more likely to live under the low quality of life and face the difficulties, which are related to the social structure of PEs.

Table 9 presents an overview of the social structure of each type of management. IFs are self-employed and their income depends on the amount of tea leaves harvested and their side jobs. While both estate types' workers are salaried, employment conditions for RPCs are more secure

¹³ Tea cultivation areas are generally located on the slope in the mountain. In the survey area, buses are available on the main roads, but not on the side roads or narrow streets, in which covered with trees and grass, and few road lamps and few pedestrians. Therefore, family who arranges a travel mode such as bike, car or three-wheeler drives their children to school for safety.

¹⁴ Schools below university are in Sinhala or Tamil medium. Most the children living on the estate go to Tamil medium schools, but are limited. Only one school of Grades 12 and above is available. (5 schools in Tamil medium in Matara, 4 schools are located in the survey areas)

than for PEs. Low-income households are unable to make ends meet, which is a factor in child labor and leads to non-spending on child education. As shown in Table 2 and Figure 2 and 3, despite the fact that a larger number of low-income IF households are below the poverty line, their children's education attainment is better than that of either estate type. This indicates that children's education attainment is not only related to household income, but also to a combination of factors such as the stability of one's livelihood, living environments, the educational environment, and parental awareness.

Table 9 Social structure of each management type of tea sector

	Estates		IFs
	RP	PE	
Cultivation area	≥ 50 ac	Large (L) ≥ 50 ac Medium (M) 50–10ac Small (S) ≤ 10 ac	around 0.5–5ac
Living Zone	Estate	Village & Town	Village & Town
Household Condition	<ul style="list-style-type: none"> •Salary: Same for all RPCs decided based on negotiation with RPC & Trade Union •EPF, ETF, Other benefits 	<ul style="list-style-type: none"> •Salary: Depend on the estate •L : EPF, ETF, Other benefits M: depend on estate S : generally, no-benefits 	<ul style="list-style-type: none"> •Productivity & Side business • Generally not join in Social security
Living Condition	<ul style="list-style-type: none"> •Residence: Generally provided by the estate, long-term workers have residency rights after retirement. • Managed by PRCs, but residents can modify. 	<ul style="list-style-type: none"> •Residence: Generally provided by estate, but residency rights depend on the estate. •Managed by PE. Residents can modify if owner allows. 	<ul style="list-style-type: none"> •Owing land & house •Maintain by themselves
Education	<ul style="list-style-type: none"> •Pre-school: provided by estate •1-11G: on estate or nearby home •12-13G: Generally outside Town 	<ul style="list-style-type: none"> •Pre-school: in village •1-11G: generally nearby home •12-13G: Generally outside Town 	<ul style="list-style-type: none"> •Pre-school: in village •1-13G:nearby home/town/city

This survey found that estate workers and families usually live in residences provided by the estate where they work, and their children go to schools nearby or on the estate. However, while the right of residence is recognized in RPCs, it is often not granted on PEs. PE workers who quit their jobs often move with their families to new estates that offer better salaries and benefits. It seems that they have more freedom of choice in their living conditions than those living in RPCs or IFs do. If the new residence is in the same living area, children can commute to the same school as before, but the change in commuting condition may exacerbate their financial burden. Moreover, relocation between estates can affect the stability of children's livelihoods, put their safety at risk and increase child labor. Children's development can be influenced by the environmental safety of their living space. However, neither PE owners nor their residents tend to invest in facilities for their homes because they do not stay there for long periods of time. Owing to inadequate energy infrastructure, children are exposed to the risk of accidents caused by kerosene and firewood. Furthermore, collecting firewood and fetching water increases children's working hours at home, which indirectly affects their learning.

CONCLUSION

This study found that children's quality of life varies between management types, and a disparity in education is also observed. Investigating into estate management types, we found that children living on PEs generally suffer from poorer living conditions and education due to the discrepancy in the social structure of each estate management type to which the children belong.

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