

Replanting Tea Lands of Smallholding Sector in Sri Lanka: A Case Study in Galle District

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Abstract— Replanting and also rehabilitation of tea determine both the productivity and sustainability of the tea industry. To achieve the accepted norm of increasing annual replanting rate up to 2%, replantation should be performed in existing old tea lands. However, considering the farmers' perspective, most of them are reluctant to replace their old tea lands with new tea plantations. Therefore, this research study was carried out with the main intention of analysing the factors behind the lesser interest of farmers in replanting old tea lands in Galle district. The cluster sampling method was used and all tea smallholders in Galle district were divided into small clusters according to the GN divisions. Hiniduma west GN division was selected as the proposed cluster where the highest number of small holders presented and the sample size was 30. According to the results, the highest productivity in the sample was 2666kg/ha/yr. It was revealed that the main reasons why farmers pay less interest in replanting were the absence of any other income source during the replanting period(36%), gap of a long period for new harvesting (21%), high labour cost and labour scarcity (21%), limitations in subsidy procedure and difficulties in obtaining subsidies (5%), and difficulties in finding quality planting materials (5%). Therefore, this study recommends to introduce some extra income sources such as self-employments, livestock and home gardening to ensure a source of income for tea smallholders during replanting period. Moreover, present study recommends regulating the existing procedure of giving subsidies and implementing projects to supply and disseminate quality planting materials among tea smallholders.

Keywords— *replanting, small holding tea sector, Galle district*

I. INTRODUCTION

Tea (*Camellia sinensis*) can be identified as one of the most important plantation crops among the other plantation crops grown in the world (Ranasinga, 2020). In the world market tea compete with coffee,

cocoa, alcoholic drinks and soft drinks as a natural beverage (Department of Census and Statistics, Statistical Pocket Diary, 2018). Sri Lanka is the fourth largest producer of tea in the world and the third largest exporter (Bandula, Abewickrama and Zoyza, 2017). Sri Lankan tea industry endure as second earner in value term which could remarked the blooming tea potential as premium quality tea from Sri Lanka in the global market. Tea industry contributes to the national economy in Sri Lanka through foreign exchange earnings, employment as well as GDP earning (Jeevanthi and shantha, 2021). It employees directly or indirectly about 1.5 million people in various disciplines in the trade (Sandika, 2018) and accounts for 0.7% of GDP (Economic Statistics of Sri Lanka, 2019).

The main tea growing areas are located in the central highland and southern inland in Sri Lanka. Country's main tea growing areas are Galle, Rathnapura, Kandy, Nuwaraeliya, Dimbula and Uva. According to the elevation, Sri Lankan tea production classified into main three categories which as high grown tea; 1200m upwards, medium grown tea; between 600m to 1200m and low grown tea; from sea level up to 600m. The total extent of tea cultivation area in Sri Lanka is 200,000 ha (Central Bank Report, 2020) and the total tea production was 278,489MT in 2020. However, this amount was comparatively less than previous years' production (Statistical information on plantation crops, 2018 & Sri Lanka Tea Board, 2021). The amount of tea export in Sri Lanka in 2020 was 265.569 MT (Tea Exporters Association, 2021). The labour issue and adverse weather condition affected to the main tea growing area are the main reasons for this production decline (Ranasingha, 2020).

Sri Lankan tea industry is strengthening by the plantation and smallholding sectors. Smallholding sector has contributed more quantitatively and qualitatively than plantation sector to the tea production in the country. Tea lands lesser than 10 acres considered as smallholdings tea lands.

Currently, Sri Lankan tea smallholding sector has grown in 3,692 Grama Niladhari Divisions and 123 Divisional Secretariat Divisions in fourteen districts in the country (Jeewanthi & Shantha, 2021). Tea smallholding sector contributes 122,448 ha of the total tea extent while they contributing over 74.5% to the total tea production, operating about 393,420 tea smallholders with 397,223 tea holdings with nearly 60% of the total tea extent in the country (Tea Smallholding Authority, 2017).

However, declining tea productivity during past few years enable to the competitors to expand their place in the world tea market (Abewardana, Rathnayaka & Kahandage, 2015). The average productivity of tea smallholder sector in the Low Country is around 2100 kg/ha/yr. and this amount is lower than the potential level of 3000 kg per ha/yr. (Bandula, Abewickrama and Zoysa, 2017). The productivity of tea lands indicated by yield/ha has declined during the last few years possibly due to undesirable weather, soil erosion that leading to infertile soil, pest and diseases, and old age crops. Among those reasons old age crops has a significant effect in decreasing of the productivity. Due to the senility of plantation annual green leaves production, size of tender leaves and the quality of leaves has been decreased (Ganewatta and Edward, 2000). The best economical yield of a tea bush can be obtained up to 20 years and after that the yield starts declining gradually. The possible reasons associated with this economical yield declining are decreasing the vegetative growth of tea bush, died plant parts and weaken plants (Bandula, Abewickrama and Zoysa, 2017). According to the ministry of plantation in Sri Lanka a recent issue faced by tea industry is maintenance of senile and low productive lands. According to the department of census and statistics information in 2005, a total extent of 116,492 ha of tea lands with adult tea bushes exist in the tea smallholding sector. In addition 21,613 ha of tea lands are crops already exceeded 25 years. Therefore immediate actions are encouraged to execute such as replanting.

Replanting and also rehabilitation of tea determine both the productivity and sustainability of the tea industry. According to the data 748ha, 1027ha and 806.46 ha of tea lands were replanted in smallholding sector in year of 2017, 2018 and 2019 respectively (Statistical information of plantation crop, 2018 & Ministry of Plantation, 2020). The ministry of plantation industries of Sri Lanka has announced recently to increase the current

replanting rate of 0.75% per annum to at least 2% to overcome the problem of decreasing land productivity. Annually 2% of tea replantation should be performed in existing tea lands as per the national policy with a view to steadily maintain the extent of tea lands while obtaining the maximum harvest (Tea Smallholding Authority, 2017)

A. Research Problem

However, considering the farmers' perspective most of them are reluctant to replace their old tea lands with new tea plantation and the reasons behind that can be increasing replanting cost, labor scarcity, lack of financial subsidies and finding quality planting materials etc. (Bandula Abewickrama and Zoysa, 2017). Government has been implemented various programs to encourage the farmers for replantation. Extension services are held 3 to 4 days per month. Subsidy program for replantation has been introduced in order to get relief in higher cost for replantation. This subsidy has been provided up to Rs. 500000 per hectare (Sri Lankan Tea Board, 2020).

Table 3: Subsidy scheme for replanting of tea with soil rehabilitation

Stage	Point of Release of subsidy	Approved subsidy amount (Rs/ha)
Uprooting & soil conservation	On completion of operation	130,000
Soil Rehabilitation 1	6 months after planting grass	50,000
Soil Rehabilitation 2	18 months after planting grass	200,000
Planting	On completion of planting	70,000
Maintenance	At the completion of one year after planting	50,000
	Total	500,000

Source: Sri Lanka Tea Board, 2020.

Although having encouragement programs, still there is a problem regarding with the reluctance of farmers for replantation. Since there is no empirical

research studies associated with reluctance of replanting of tea lands by the farmers in Galle district this research study was carried out.

B. Objective of the study

The main intention of this study was analysis of the factors behind the less interest of farmers for replanting old tea lands. Specific objectives were; to find out the productivity of old tea plantations in Tea Small Holding Sector in Galle district, to find out the factors affecting the rate of replanting. Finally, to give recommendations for motivating tea small holders for replanting.

II. METHODOLOGY

Galle district was purposively selected for the study as it produces about 40,000Mt of fresh leaves annually and contributes around 15% of the total tea production of the island. This district has more than 21% of the total tea small holdings and 21% of the total tea small holders of the tea small holdings sector in Sri Lanka. Tawalama, Neluwa, Nagoda, Yakkalumulla, Baddegama, Elipitiya, and Niyagama are the main tea growing DS divisions in Galle district out of total DS divisions, which contribute more than 90% of the total tea small holdings. The cluster sampling method was used and all tea small holders in Galle district were divided into small clusters according to the GN divisions. Out of 36 GN divisions in Tawalama DS divisions, Hiniduma west GN division was selected as the proposed cluster for this study. The sample size was 30 tea small holders in Hiniduma west GN division.

Primary data were collected by personally interviewing tea small holders using a structured questionnaire. In addition to that, interviews with extension officers, Grama Niladhari and other authorized personnel and direct field observations also carry out. Secondary information was collected from the annual reports of Tea Board, Tea Small Holding Authority and relevant research studies. Secondary data from publications of Ministry of Agriculture, Department of Census and Statistics and Central Bank of Sri Lanka also studied. Collected primary data were analyzed by using descriptive and inferential statistical methods. Microsoft excel package and SPSS statistical software were used to analyze data.

III. RESULTS AND DISCUSSION

A. Demographic Factors

The findings in the table 2 illustrate the socio-economics situation of the small holding tea farmers

in Hiniduma GN division. With Regards to the gender of the respondents majority was male (60%) while (40%) were female. Age of the respondent has been classified into four age levels as 25-35 years (6.6%), 35-45 years (33.3%), and 45-55 years (40%) and above 55 years (20%). Majority of farmers had only primary education (45%) while 40% farmers had education up to G.C.E O/L. However, only 15% farmers had education up to G.C.E A/L.

Table 4: Demographic details of the respondents

Socio-economic variable	Percentage
Gender Male	60%
Female	40%
Age 25-35 years	6.6%
35-45 years	33.3%
45-55 years	40%
Above55years	20%
Education primary education	40%
GCE O/L	45%
GCE A/L	15%

B. Status of the tea plantation in Small Holding Sector of Hiniduma GN division.

The results revealed that about 60% of tea small holding farmers mainly depend on the income coming from tea cultivation and 40% of them doing tea cultivation as an extra income source. There are 30% of farmers who maintain tea plantations over 25 years of age and majority of them maintain tea plantations belong to 5-25 years of age. It was revealed that 40% of farmers get extension service regarding tea cultivation while 43% of them get extension service as per month. However, 16% of farmers do not wish to get any extension service. Therefore, extension officers in this area should pay their attention on these farmers and deliver their service by covering all tea small holders in the area.

C. Find out The productivity in tea lands

According to the first objective the productivity of tea lands were calculated as dividing the yield (kg) by land area (ha) and the highest productivity in the sample was 2666kg/ha/yr. and the average productivity was 1462kg/ha/yr. and this is lower than the potential level of 3000 kg per ha/yr. in low country average tea productivity in smallholding sector.

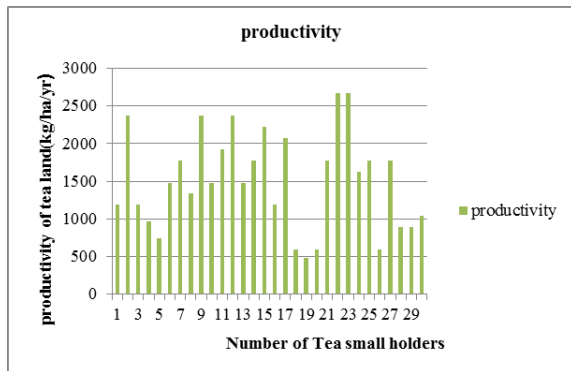


Figure 1: Productivity of tea lands

D. Find out the reasons of the farmers for less interest for replanting

According to the second objective it was attempt to find out the reasons for lack of interest of farmers regarding replanting of tea. It was revealed that only 33% of farmers practice the replanting and 66% of them reluctant to replant their old age tea lands. While considering the reasons for the reluctance of replanting majority of farmers (36%) were stated that, since they mainly depend on the income coming from tea lands they have no any other income source during the replanting period. Another 21% of them were stated that the gap period for new harvesting is too long. Thus they do not wish to replant there old tea lands. Tea plantation required approximately 3 years to get new harvest. A similar research conducted by Bandula, Abeywickrama and zoysa found out 52% of farmers in the sample were pay less interest to replanting due to long rehabilitation period. Therefore it is timely required to tea sector officers to find out ways to reduce this long rehabilitation period and introduce new extra income sources such as home gardening during this time period.

However, another 21% of tea small holding farmers were stated that high labor cost and labor scarcity is their reason for the reluctance of replanting. According to the Jeewanthi and Shantha (2021) the reason for the high labour cost of replanting is the labour shortages in the small holding sector. Considering on the money investment in replanting 9% of farmers were stated that they have replanted old age tea plantations using their personal capital. However, 81% of them have used government subsidies. However, 5% of farmers were stated that there have limitations in subsidy procedure and obtain subsidies is difficult to them. Therefore, government subsidy program should be cover up those barriers faced by the farmers while they obtain

subsidies and it should be effective with more benefits.

According to the results 5% were stated that finding quality planting material is somewhat difficult to them and therefore they pay less interest to the replanting of their old age tea lands. In this regards, multiply and disseminate quality planting materials among tea smallholders is timely required.

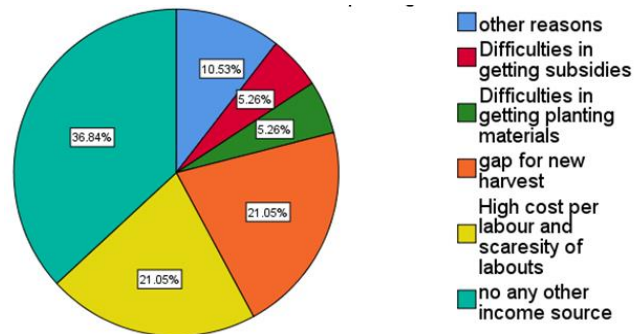


Figure 2: Reasons for less interest in replanting

IV. CONCLUSIONS & RECOMMENDATIONS

As an effort to find solutions to the current issues of low productivity in the tea sector and the reluctant of farmers in moving towards replanting in Sri Lanka, present study paves its way on exploring the problems and prospects of replanting Tea lands in smallholding sector in Sri Lanka with special reference to Galle District. Study reveals that the average productivity of the sample is 1462kg/ha/yr. According to the findings, present study concludes that out of several reasons, the main reason for the low rate of replanting in smallholding sector is loss of earning during the replanting period followed by long gap period for new harvesting. Thus present study recommends to Tea Small Holding Development Authority to introduce some income sources such as self-employments, livestock and home gardening to ensure the tea small holders' income during replanting period. This study also suggests introducing some alternative economic crops such as C4 grasses, oil crops and pulses for rehabilitation instead of the uneconomical grasses such as guinea, Bracharia, which can be used for animal feeding as well as an extra income source for farmers.

Moreover, present study revealed that existing government subsidies program has some limitations and barriers to farmers. Therefore, this study recommends regulating the existing procedure of giving subsidies and introducing an attractive special loan scheme with more benefits to the tea

smallholdings sector farmers. In addition, study recommends implementing projects to supply and disseminate quality planting materials among tea smallholders. Most of tea smallholding farmers live in rural areas, where the knowledge and technology information dissemination are very poor. Thus this study proposes to introduce new technologies to reduce high labor cost of replanting.

This study moreover suggests strengthening extension system of the TSHDA to deliver the messages about the importance and economic benefits of tea replanting to attract the Tea Smallholdings to the tea replanting regularly. Finally, this study directs policy makers in the sector to execute appropriate actions to enhance productivity of tea land through increasing replanting rate.

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