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A STUDY OF THE RELATIONSHIP BETWEEN LAND SIZE AND, PRODUCTIVITY AND PROFITABILITY OF TEA SMALLHOLDINGS IN SRI LANKA

BY

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DECLARATION

The work described in this thesis was carried out by me under the supervision of Dr. Saman Yapa and a report on this has not been submitted in whole or in part to any University or any other institution for another Degree / Diploma.

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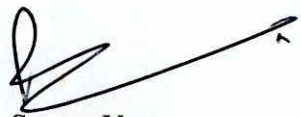
CERTIFICATION

I certify that the above statement made by the candidate is true and that this is suitable for submission to the University for the purpose of evaluation.



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A Study of the relationship Between Land Size and , Productivity and Profitability of Tea smallholdings in Sri Lanka

By

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ABSTRACT

The goal of the research was to increase the productivity of the natural resources base in Sri Lanka to improve people's livelihoods on a sustainable basis. The study examined variation of land and labour productivity as well as of overall profitability of the tea production due to different land holdings sizes. This study was conducted by selecting a sample of tea smallholders from two sub watersheds namely, Horagala and Diyadawa.

The variation of productivity and profitability are determined by making comparisons on parameters of well-fitted yield and production functions. The highest elasticity of labour was for holding size 0.1-0.3 ha, followed by 0.3-0.65ha, and total sample. The elasticities of cost of fertilizer in 0.1 - 0.3 and of total sample are negative. This infers excessive fertilizer application or due to inappropriate time of application by farmers in respective areas, compared to the farmers in 0.3-0.65 ha area. The production elasticities of fertilizer cost were higher and positive in Horagala sub-watershed compared to Diyadawa. This

infers the provision for accommodating more fertilizer to increase the production in Horagala areas. Same inferences apply to the land holding size 0.3-0.65 ha in Diyadawa Thanipita. The elasticity for the cost of conservation seems to be negative for all categories. This infers the fact that the investment for conservation has no immediate impact on production compared to other variables such as fertilizer. In the case of Horagala this was only negative for total sample area. This infers inadequate adoption of conservation practices or poor investment.

The relationship between holding size and production cost indicates consistently inverse relationship. In addition to the holding size the other factors such as labour person days per hectare and cost of fertilizer and agrochemical also indicated inverse relationship. The inverse relationship infers larger farmers are using the land more intensively to obtain higher profitability. The highest mean yield was observed for land holding size category 0.1-0.3 ha in Diyadawa Thanipita and the highes yield variation was indicated in land holding size 0.1 - 0.3 ha of Horagala and the lowest yield variation in holding size 0.1 - 0.3 ha of Diyadaw Thanipita sub-watershed.

The expenditure on conservation practices consistently show negative returns in all categories of Diyadawa and the category of pooled sample in Horagala. This infers marginal returns of the investment due to long term impact on production compared to other inputs. Finally it infers the productivity variation are not identical in two land holding sizes and variation between two holding sizes may not exists within each sub-watershed.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Research is based on a participatory watershed management that aimed at developing and testing a historic interdisciplinary approach to integrate environmental and conservation concerns with production goals. The conservation strategy being tested in research is different from traditional approaches. Research hypothesizes that a package of measures such as type of vegetation /crops appropriate land and water saving and conservation practices, user rights to earn economic and other benefits from the participatory conservation of natural resources are more effective in projecting environmentally fragile lands in water basins and watersheds.

Mean while in consideration with Sri Lanka's Tea industry it plays an eminent role in the economy of the country, while accounting for more than a half of the earnings from agricultural exports of the country and occupies nearly one fourth of the total area under

agricultural exports crops. The tea industry in Sri Lanka has experienced intermittent crises for a very long time which become accentuated owing to the higher cost of production compared to other producer countries and due to depressed prices for tea. To overcome these problems and to meet the task of adjusting to the new challenges of raising productivity and remaining competitive. It is necessary to emphasize on the need for well planned development projects and suitable changes in the short and long term policies to formulate them effectively, reliable, adequate, timely data, both past and current on the tea lands would be required.

1.2 Justification of the research

The goal of research is to increase the productivity of the natural resources base in Sri Lanka to improve people's livelihoods on a sustainable basis. The research planned to increase user share of control over natural resources in two sub watersheds through partnerships based on formed agreements between the state and the user's which contribute to greater production while conserving the natural resources base.

The research is designed to strike a balance between production and protection of natural resources in relation to the utilization of land and water in selected sub watersheds. This is to be achieved through the intensification and institutionalization of participatory processes coupled with appropriate technologies.

A unique feature of research is it focuses on watershed as a basic planning, coordinating and implementing unit. The research approach is being tested and demonstrated in one pilot watershed in Sri Lanka namely Nilwala in the Southern Province (wet zone).

1.3 Objectives of the Research

In the context of recent developments in the land labour utilization patterns in the small holdings sector of tea, as discussed above and elsewhere in the literature, the study proposes to examine variation of land and labour productivity as well as of overall profitability of the tea production due to different land holdings sizes.

The Specific Objectives of this study are,

- To identify and quantify the inputs used for different land holding sizes.
- To examine the relationship between type of input use and production
- To determine the land and labour productivity for different land holding sizes.
- To examine the variation of productivity and profitability across different categories of farm sizes.

1.4 Rationale

Most of tea cultivation in the Nilwala watershed area are undertaken by the small holding sector. There are about 23,120 people permanently living in this area and most of them are virtually dependent on the tea industry for their livelihood (B.S Srimal, 1994). The labour input for the industry in the small holding sector is mostly family labour.

One of the biggest problems identified in this area is the uneven distribution of labour among tea small holdings. Owner families resulting in low overall labour productivity in some cases while in certain other cases low land productivity due mainly to shortage of labour. Some families enjoy excess of labour while others suffer from inadequacies of labour, depending on the extent of land under tea for respective family holdings. In some instances where farm families face with labour shortage, packing takes place for almost 12 hours a day resulting in poor quality made tea. Their planting material and fertilizer in turn, the estates have also depended on the smallholder for green leaf for improving capacity utilization in processing, thereby lowering cost of production.

However the development of the estates and smallholders sectors moved in different directions . The large estates tended to absorb modern technologies remained slow to adopt and participate in new technologies. They also mainly used family labour with little overheads. The situation therefore become characterized by two separate type of cultivation, namely 'large estates' and 'smallholdings' Hence the ownership of tea