

ABSTRACT

Abstract of thesis submitted to the Graduate School of Maejo University in partial fulfillment of the requirements for the degree of Master of Science in Cooperative Economics

**A TECHNICAL EFFICIENCY ANALYSIS IN CHEWING TEA PRODUCTION : A CASE STUDY
ON Krongkanluang Maetonluang ELECTRICITY COOPERATIVE
LIMITED, THEPSADEJ SUBDISTRICT, DOI SAKET DISTRICT,
CHIANGMAI PROVINCE**

By

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The purpose of this research was to study technical efficiency in production of chewing tea. The study was conducted in two steps. The first step was to find out technical efficiency in the production of chewing tea leaves and the second step was to find out technical efficiency in steaming tea leaves by using stoves with and without grates. Linear Programming was used in data analysis and the samples were 132 families of farmers who were members of the Krongkanluang Maetonluang Electricity Cooperative Limited.

The results of the study on technical efficiency of chewing tea leaf production by considering individual farmers revealed that the production factors used by the farmers which affected technical efficiency were number of times of picking tea leaves, labor, planting area, and number of plants per rai. The coefficient values being 1.1361, 0.4648, 0.1424 and 0.0890 respectively. Most of the farmers possessed technical efficiency approximatly over 50 % i.e. 88.00 %. The comparison of using production factors at each level of technical efficiency showed that the use of production factors at a lower level of technical efficiency was greater than that at a higher level.

The results of the study on technical efficiency of steaming chewing tea leaves by considering the use of firewood by individual farmers revealed that the factors affecting technical efficiency were the quantity of leaves steamed at a time, amount of time for each steaming, and size of firewood. The coefficient values being 0.3878, 0.2418 and 0.1878 respectively. The technical efficiency of steaming chewing tea was 63.48 on average. Most of the farmers possessed technical efficiency approximately over 50 % i.e. was 74.99 %. It was also found that the technical efficiency of the farmers using a stove with grate was higher than that of those using one without it.

The comparison of technical efficiency between the stoves with and without grates showed that the farmers using a stove with grate could save 7.0462 cubic metre/family/year of firewood more than those using a stove without grate.