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Master Thesis

SUPPLY AND DEMAND OF FRUITS, VEGETABLES AND PULSES

A market study in Thailand

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7 Summary and Conclusions

In this chapter, a final overview on the techniques used for this thesis, its structure and the results will be given to round the picture of the Thai fruit, vegetable and pulse production and marketing. Although this thesis can only provide limited insights of the whole complex system it tries to enhance knowledge as a basis for further research. Working on the topic of production as well as markets and marketing have allowed the student to gain an overview on different economic processes.

7.1 Background

The background given in this thesis tries to draw a comprehensive picture of a journey from “starting point” of an agricultural product through the different channels down to the final “goal” of the succession. Following different horticultural and agricultural crops way from the field to consumption this study aims to induct conclusions from single cases to a more general view of the different sectors.

In the past 40 years agricultural production as well as the overall economy has undergone enormous changes in Thailand. Getting away from a mono cropping oriented agricultured crop diversification was promoted to secure the small farmers income and stabilize the ecological production conditions. This kind of agricultural policy gained acceptance with farmers in the early period of changing agricultural policies from the 60ies to the early 80ies (Siamwalla, 1991).

But according to economic rules farmers nowadays need to specify and increase their production area of one or a few particular crops to stay in competition. Economies of scale only take effect if an area of competitive size is cultivated.

Therefore, market oriented farming especially with vegetable and fruit production shifted again to high input farming on maximum areas. To handle the risk of overproduction and/or changes in consumers' demands this study was to figure a the demand for fruit, vegetable and pulses according to different socioeconomic groups.

7.2 Methodology

The analysis of this empirical study is mainly based on secondary data with a small share of primary data. The data was collected consulting the most important institutions responsible for agricultural data storage, data banks and extension services (e.g. DOAE, OAE, TDRI, NSO etc.) in Bangkok .

The descriptive part of the study was based on secondary socioeconomic and production related data, as well as general macroeconomic information gcollected from the sources mentioned above.

The data for the cross-sectional regression analysis was comprised of national survey data of 1998 where 52 households from all regions were identified. The time series regression analysis based on production, consumption, and export data of mungbean and income data was set in relation to estimate the elasticities of demand.

7.3 Results

The results of the study focus on descriptive analysis of production and marketing systems, and the comprehensive analysis.

Production systems and pattern are very diversified and are not only clustered regionally according to the most favorable growing conditions, but also located nearby the most important areas of demand, namely the big cities. It showed, that both vegetable and fruit production, as well as pulse production are located mostly in the area around Bangkok and Chiangmai, and due to short transportation distance gaining a comparative advantage over remote areas, even if the growing conditions in the remote areas are more favorable (e.g. pulse production in the North Eastern part of Thailand and the Bangkok area).

The market structures of Thailand are very heterogeneous and have three different distinguishing characteristics: 1) different cash crops go through different marketing channels until they reach the end consumer 2) Traders play a key role within the marketing structure e.g. by buying cash "off-the-field" 3) areas with better market proximity give producers better chances to sell their produce.

The results of the *cross-sectional regression analysis* showed that if age of the household head increases by 10% the expenditures for mango decrease by 7%. If the household income increase by 10% the expenditures for mango increase by

2.1%. If the income increases by 10% the expenditures for rambutan decreases by 2%. If the monthly expenditures for fruits in general increase by 10% the household income will increase by 1.8%.

The results of the *time series regression* analysis showed that if income increase by 10% consumption quantity of mungbean increases by 9.3%. If the price for mungbean of the previous year increase by 10% the production in the current year increases by 0.5%. If the export quantity increases by 10% the farm gate price will increase by 9.4%.

The income elasticities derived from the coefficients from both the time series and cross-sectional analysis are shown below (Table 11).

Table 11 Elasticities Estimated from Coefficients of Regression Analysis

Income Elasticity of Demand of Mango	0.21
Income Elasticity of Demand of Rambutan	-0.2
Income Elasticity of Demand of Mungbean	0.93

Source: own calculations

7.4 Conclusion and Recommendation

The study implies that due to increase in GDP and consequently in household incomes a demand driven flourishing market for agricultural products (especially for highly nutritive products) has evolved which offers diverse opportunities for commercial farming.

To cover the increasing demand and at the same time, to reduce potential risk of over-production farmers should have improved access to information infrastructure. In terms of fruit and vegetable production, farmers producing commercial crops for marketing as well as traders should include peoples preferences according to their socioeconomic status in their enterprise management (e.g. covering increased demand of specific fruit crops like rambutan in rural areas).

In terms of pulse production producers need to take a careful look on the market development also outside the country. As it is shown in the study the world market situation influences the domestic market situation, notably with a time lag of usually one production period. Time trends should be recorded and monitored regularly to supply the farmers with the resulting information. With the knowledge on price movements in both domestic and international markets strong fluctuations in production quantity could be counteracted by reverse production patterns. Thereby, a stable price for the agricultural products and a consequently secure income for farmers would be guaranteed.