Thesis Title Analysis of The Transportation System for Rice and Garlic from Chiang Mai to Bangkok

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Abstract

The purpose of the research is to survey the transportation system for rice and garlic from the farms in Amphoe Mae Taeng and San Pa Tong, Changwat Chiang mai, to the export outlet, i.e. Bangkok. The vehicles/containers, road network, terminals, and operation for each stage of rice and garlic transhipment have been studied. The truck operating costs have been estimated using the World Bank's Highway Design and Maintenance Model III (HDM III) and compared with the freight charge.

It is found that the transportation and the marketing system of rice and garlic are quite complex. The opertors in the marketing system are consist of farmers, village - based dealers, town - based dealers , outside dealers , and Bangkok dealers. In addition , in the case of rice , rice cooperatives , village - based and town- based rice mills also play an important role with system. The utility (pick-up) trucks , 6 - wheeled trucks , 10 - wheeled trucks and/or trailers have been used at various degrees in various steps of haulage. Pick-up trucks are

used extensively for farmers and village-based dealers for short haul from the fields to the villages and towns. Heavier trucks are used for regional transport.

The average freight charge for rice transportation by pick-up truck, 6 - wheeled truck, and 10 - wheeled truck are about 11.10 , 0.84 , and 0.48 Baht/ton-kms. respectively and about 2.42, 0.81, 1.04 Baht/ton-kms. for garlic transportation while the corresponding truck operating costs is computed by HDM III are about 1.60, 0.72, and 0.83 Baht/ton-kms. It is confirmed that the cost-efficiency of short-haul transport by small vehicles (pick-ups) are lower than that of long - regional haul due to the higher vehicle depreciation, and loading/unloading(terminal) cost. Longer hauls by 10 - wheeled trucks are more efficient. Finally measures to improve the efficiency of truck-transport have been recommended including the use of vehicles, improvement of farm roads, and management at the terminals.