Orapun Srisaeng 2010: Logistics Cost Analysis of A Frozen Shrimp Industry Supply Chain in Thailand. Master of Science (Agro-Industrial Technology Management), Major Field: Agro-Industrial Technology Management, Department of Agro-Industrial Technology. Thesis Advisor: Assistant Professor Ravipim Chaveesuk, Ph.D. 165 pages.

This research was focused on analysis of supply chain operations and logistics costs of major players in Thai frozen white shrimp industry, namely farmers, collectors and processing plants, in order to determine approaches to improve their operations and to reduce their logistics costs. A survey research of Thai shrimp farmers in the key farming areas revealed that small, medium and large farmers followed similar operational patterns and had average production costs of 114.96, 100.47 and 90.52 baht per kg, respectively. It was observed that 60 percent of the production costs was the shrimp feeds. The average logistics costs of small, medium and large farmers were 7.44, 5.20 and 3.97 baht per kg, respectively. More than 80 percent of the logistics costs for all-size farmers was material handling costs, particularly the labour costs. The collectors in southern and eastern parts undertook similar operations as well. Overall, collectors had average logistics costs of 4.73 baht per kg. Material handling costs constituted 69 percent of their logistics costs (mainly labour costs) while 23 percent of logistics costs would be transportation costs. In addition, it was found that logistics costs of southern collectors were 1.46 baht per kg higher than those of eastern collectors since southern collectors must cover larger operational areas. For processing plants, major logistics costs came mainly from procurement at 33 percent and inventory carrying costs at 18 percent. The major procurement costs for large plants was from contract farming sourcing.

Logistics costs reduction approaches for small farmers were to team up in sourcing of production resources especially shrimp feeds, avoid carrying high volume of feeds in stock, and perform feasibility study on switching the source of energy from gas to electricity. For all-size farmers, it was recommended to increase their production yield, especially the use of lower densities of post larvae. For collectors, backhauling and switching to alternative energy sources should be employed to reduce the transportation and material handling costs. Finally, the processing plants must identify their causes of slow-moving goods and more efficiently manage their warehouse.

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