

Collective Action Problems in Quality Control of Oil Palm in Thailand

Why is the quality of fresh fruit bunches delivered to mills to make crude palm oil inferior and what can be done to improve it?

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The Issue:

Fresh fruit bunches delivered to crude palm oil mills often are of a poor quality, resulting in a sub-optimal oil extraction rate, lower crude palm oil production and lower producer prices for fresh fruit bunches.



Objectives:

Investigate why poor quality fresh fruit bunches are harvested.

Investigate why mills do not have quality control standards.

Propose solutions for improving the quality of fresh fruit bunches delivered to crude palm oil mills.



Methodology:

Personal interviews were conducted August-September, 2009 in Thailand with oil palm producers, crude palm oil mill managers, palm oil cooperative members and directors, palm oil association members and Government officials.

The Situation:



Fresh fruit bunches are harvested by laborers who are paid by the quantity, not quality.



Fresh fruit bunches are delivered to ramps (pictured above) or directly to mills. In most cases, producers are paid based on quantity, not quality. Only one mill visited paid producers based on both quantity and quality.



Fresh fruit bunches are processed to make crude palm oil. The average oil extraction rate at most mills in Thailand is 16-17%, which is much lower than it was a decade ago. The main reason for the low oil extraction rate is the inferior quality of fresh fruit bunches that are accepted and processed at mills.



Crude palm oil is the end product at mills processing fresh fruit bunches. Crude palm oil is further refined to make other products.

Why is quality control not utilized to discriminate between poor and good quality fresh fruit bunches?

- Fresh fruit bunches are harvested by laborers who are paid based on quantity, not quality.
- It is costly and time consuming for mill employees to assess the quality of fresh fruit bunches.
- Mills use about 50% of their total capacity and there is an intense competition between mills for fresh fruit bunches.



The above explanations formulate a **collective action problem** at both the mill and producer levels. A collective action problem is a social dilemma in which private interests are at odds with collective interests.

Possible solutions for improving the quality of fresh fruit bunches harvested and delivered to mills:

The literature on game theory suggests that collection action problems cannot be solved unless there is coercion or incentives from the outside. Possible solutions include:

- The Government of Thailand could subsidize mills that use quality control to help offset costs of quality control staff.
- Mills could offer incentives to farmers who deliver good quality FFB, such as discounted input prices and training.
- The Government of Thailand could fine mills or even shut down mills that do not use quality control.

Conclusions:

If the quality of fresh fruit bunches processed at crude palm oil mills were improved, the oil extraction rate would increase which would increase the amount of crude palm oil produced from a given amount of fresh fruit bunches as well as increase the price producers receive for fresh fruit bunches. Due to collective action problems at the mill and producer levels, outside intervention is required to improve the quality of fresh fruit bunches delivered and processed at crude palm oil mills.