Oil Palm: Unexpected Insights on Labour Use from *Plantation Intelligence*

The oil palm industry in Southeast Asia is at the tail end of a major expansion phase. Companies in the region have expanded total harvested area to about 18 million ha in 2012 (FAO, 2012) and are now entering a period of consolidation (Colchester et al., 2011). Continued competitiveness of oil palm in Southeast Asia will occur not by expansion but by intensification. A paradigm change in agronomic management is likely required by plantations in order to compete.

Plantation Intelligence (PI) is an information management approach developed by IPNI SEAP that aims to increase decision certainty by statistical analysis of the performance of oil palm operations at commercial scale. PI offers a process to analyze existing information from oil palm companies and embed it in management decisions covering vast areas of highly diverse operations. This process is specific to a given site, time and management set-up. It helps managers of oil palm plantations make better decisions and back them up with analytical evidence.

After almost two years of analyses, IPNI and various partner plantations have generated a series of interesting and often unexpected insights to guide managers in making decisions without biases. Labour productivity is a major input to oil palm and in some ways of greater concern to managers because of increasing difficulties in getting and retaining people with the skills required to run plantations effectively.

Analysis showed that yield increased with harvesting labour intensity (total annual harvest mandays (HMD) per hectare) up to the 95th percentile. This approximates the 'made yield' that can be expected for a given age, at which point, the block is saturated with HMD. A minimum intensity of about 10-15 HMD/ha is necessary to minimize yield lost due to sub-optimal crop recovery in mature blocks. Any less would mean that crop recovery is inefficient. In contrast, once the 'made yield' level has been reached, additional HMD invested beyond this point is wasted and would be better used in other blocks where HMD/ha is below the required intensity.

There is a strong relationship between harvesting labour intensity and yield response to fertilizer. Plantations need to manage harvesting labour more effectively in order to reach the yield potential for trees of a given age, location and fertilizer regime. Without proper management of harvesting, yield intensification of current oil palm plantations to achieve the demand of edible vegetable oils at 240 million tonnes in 2050 is difficult (Cook et al., 2014).

References:

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