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Harnessing Rainwater: Ladang Perlating Jerneh's Experience*

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Any prolonged dry weather will have a big adverse impact on the crop production in the oil palm plantations for up to twelve to eighteen months. Ladang Perlating Jerneh, located in Bahau, Negeri Sembilan is in a rain-shadow area. Besides the El Nino, this estate also suffers from two other inherent limitations i.e. lower annual rainfall (averaging only 1,780 mm/year for the last 10 years) and poor soils (mainly Batu Anam, Durian and Malacca Series).

The approaches implemented since 2013 to mitigate the limitations included the construction of humps and sumps, silt pits, conservation terraces and frond stacking. Most recently utilisation of Ganoderma pits and planting on platforms in the entire 2015/16 replanting was implemented. The hump and sump technique was introduced in 2013 in the 2008 replanting.

It is a common practice in the industry to close back the Ganoderma pits but this estate has made a very bold decision not to cover them (implemented 100%) as they can be utilised instead to store the rainwater. Another approach adopted in the 2015/16 replanting was the establishment of very high density Mucuna bracteata at 1 000-1 200 points per hectare. The objectives are to conserve the soil moisture and to enhance the soil fertility through the return of organic matter to the soils. The estate will "manage" the very vigorous Mucuna bracteata (which is the common "fear" by many planters) by changing the weed management work methods. A rubber company in Medan, Indonesia achieved 2 800 kg per hectare per year of dry rubber from fields planted with 2 000 points per hectare of Mucuna bracteata.

Fronnd stacking systems have an impact on moisture conservation. On this estate it is a standard practice to cut the fronds in the terraces into three pieces and stacked between the palms close to the back of the terraces. In the flat (non-terraced) areas, the fronds are cut into two pieces and stacked between the palms at 90° to the paths.

Keywords: El Nino, rain-shadow, lower rainfall, marginal soils, humps and sumps, silt pits, conservation terraces, Ganoderma pits, platforms, frond stacking, Mucuna bracteata and work methods.

