

Overcoming issues of oil palm plantations manual work with ergonomic and engineering considerations

ABSTRACT

This paper is an initial study by reviewing current situation and researches to determine the issues with manual works in an oil palm plantation and the need for mechanisation with consideration for the application in the smallholder plantations. The smallholder oil palm plantations in certain areas, activities of harvesting, collecting, loading and pruning are still done using manual tools. The small land size ownership means it is not economical to acquire large machineries and current harvesting technologies to reduce the burden of the plantation works. Therefore, the current practise is still in favour. With the increasing awareness and role of ergonomic in recent days, a new solution for this current situation must be taken action not only for the benefit of human in terms of wellbeing but also towards the better gain margin as human productivity increases. Reviews on this paper is based on the three job scopes that had been identified high risk for musculoskeletal disorders, the use of manual tools and equipment, mechanised option for the manual tools and equipment, and issues with both manual and some developed mechanised solution.

Keyword: Oil palm; Ergonomics; Musculoskeletal disorder; Mechanisation