

ABSTRACT

PT Perkebunan Nusantara (PTPN) VIII is one of the state-owned plantations focused on rubbers, cocoa, oil palm, cinchona, gutta-percha, and tea. One of the tea plantation managed by PTPN VIII located in Ciater, Subang, West-Java. Not all of the harvest and distribution processes handled by machine in Ciater plantation. Transportation process from harvesting-site to distribution-trucks still rely on labors. Harvested teas are carried in big-sized bag on top their heads. These activities done repeatedly in long time duration, so the labors are at risk of Musculoskeletal Disorders (MSDs) and the results of REBA analysis also showed a high risk-score, 8.

This research aimed to reduce MSDs risk at tea labors with analyzing body posture, work methods, and also tried to *Designed* tea-transportation *Tools* to reduce MSDs risk. *Framework Mechanical Design* and *Tools* (Ulrich-Eppinger) were used as Product *Design* method.

The results of this *Design* showed, the final score of REBA analysis of the *Tools* with side and front platforms, a comfortable hands, also low bag position with wheels is 3. The *Design* of this research was done based on labors need is to facilitate labors during working and reduce Musculoskeletal Disorders (MSDs) risk on labor while transporting tea at PTPN VIII.

Keywords : *Rapid Entire Body Assessment (REBA), transport of tea, Musculoskeletal Disorders (MSDs), Framework Mechanical Design, UlrichEppinger*