**PALM OIL FRUIT BLASTER: A CASE STUDY OF RULA AND REBA ANALYSIS**

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**ABSTRACT:** The plantation industry is critical to Malaysia's economic growth since it is one of the world's major exporters of palm oil and rubber. The lush palm trees are the driving force behind the country's economy. However, the major development of the palm oil sector in the late 1970s and 1980s had a huge influence on the country's economic success, which people can experience from the 1990s to the present day. The goals of this study are to study workers' postures using RULA and REBA before and after lifting palm oil fruit, as well as to build a new ergonomic tool to alleviate their difficulties. The new tool is designed with ergonomic features that can reduce employee exposure to musculoskeletal disorders (MSD). It also aims to solve the issue while the workers are lifting the palm oil fruit. Furthermore, it aims to identify and determine the appropriate work posture while working as well as reduce the risk of severe posture. This study was performed by applying the Design Thinking process. Empathy, define, ideate, prototype, and test are among the method phases. Each phase provides a dynamic and adaptable standard for developing an Ergonomic Palm Oil Fruit Blaster. The RULA analysis result on the present work posture yielded a score of 7. This score indicates a high level of risk and requires immediate work posture improvement. Meanwhile, the RULA analysis score on the work posture with Palm Oil Fruit Blaster is 4, indicating a reduction from a high risk to a low risk level. It also concludes with a REBA score of 15 for the current tool, indicating high risk, and urges more inquiry and work practice improvements to lower or remove the level of MSD risk for long-term effect. The REBA score after utilizing the new tool is 5, indicating a minimal risk level.

**KEYWORDS:** *Ergonomic; Design Thinking, RULA; REBA*