ABSTRACT

Coconut (Cocos nucifera L.) is a plant with very diverse uses for example food and non-food purposes. Coconut can be processed onto coconut fruit extract. Coconut can be used as an ingredient for UMKM *in the culinary field, which is used from fruit to processed in the form of coconut milk. One of the* UMKM *in Indonesia is* Villa Klapa *which processes coconut into the final product of coconut milk. Based on observation, the production process already used a machining process for the grating and squeezing part. However, the packaging process used simple tools that work manually with the help of an operator. The operator's posture at work was included in the action level three of the* RULA *value, which requires investigation and changes in the near future so that the risk of musculoskeletal disorders can be minimized.*

Cup packaging tools was designed using the Quality Function Deployment method and an ergonomic approach using the Rapid Upper Limb Assessment (RULA). *Quality Function Deployment was chosen with the aim of producing products that have maximum quality based on user needs for the proposed product. Ergonomics approach using Rapid Upper Limb Assessment* (RULA) *was chosen with the aim of analyzing the operator's body posture in its original condition and then comparing the original body posture with the proposal so that changes in body posture can be known. The design concept was selected using a morphology chart so that the choices for each criterion can be defined by writing or drawings.*

The proposed product was designed using the Quality Function Deployment method. The research resulted in a cup packaging device with six holes and assisted by the machining process. The machining process was in the filling of coconut milk into the packaging and in the pressing process for packing the cup so that the tool can reduce the operator's workload and have a better posture. The original RULA *condition was assessed from the worker's left side and the proposed* RULA *also used the worker's left side where the* RULA *value improved by 66,67%, which means the possibility of workers getting musculoskeletal disorders is getting smaller. The research showed that the proposed body posture is better than the original condition in the* UMKM Villa Klapa.

The proposed tool might have an impact on workers in the coconut milk packaging process. Several improvements were made, namely by making a packaging machine that has six holes with a machining process. The advantage felt by workers is to avoid the possibility of getting musculoskeletal disorders.

Keywords — [***Packaging Machine Design, Quality Function Deployment, RULA, Musculoskeletal Disorders***]