

## **ABSTRACT**

*The process of picking the tea leaves is the initial process of production in PT. Perkebunan Nusantara VIII with 4,000 hectares of plantation area. The process of picking the tea leaves is done in three different ways, the first one is using the farmer hands, the second is using a scissors, and the third is using a cutting machine. When the farmer using the tea leaf cutting machine, the fatigue level is increasing compared with using the other tools such as scissors and hands. In the use of tea cutting machine, lot of operators complains about pain on their body parts. The pain felt by the operator might be the indication of Musculoskeletal Disorders. This risk is proven by existing condition who get value seven in RULA score.*

*Designing tools for tea-cutting machines is one of the way to minimize the risk of Musculoskeletal Disorders (MSDs). In the development process of the tool, Ergonomic Function Deployment (EFD) approach should be used so the concept of cutting tools has advantages on the side of ergonomics. Furthermore, the concept of cutting machine are analyzed by applying the principles of ENASE (Effective, Convenient, Safe, Healthy, and Efficient) which are parameters within the Ergonomic Function Deployment.*

*The results showed that ergonomic tools can assist workers in performing tea-cutting activities, this is marked by a decrease in posture score. It can be concluded that the tool can be used as a solution to prevent musculoskeletal disorders (MSD) in tea leaves cutting process.*

*Keywords— Design Tools, Tea Cutting Machine, Musculoskeletal Disorders, Ergonomic Function Deployment*