

Jutiporn Rordruang 2013: Production Efficiency Improvement: A Case Study in Rubber Latex Production Process of Plant 2 of the Rubber Estate Organization. Master of Science (Agro-Industrial Technology Management), Major Field: Agro-Industrial Technology Management, Department of Agro-Industrial Technology. Thesis Advisor: Assistant Professor Parthana Parthanadee, Ph.D. 151 pages.

Rubber Estate Organization (Thailand) is a government enterprise, which manufactures rubber products in Thailand. An observation of the latex production process at Plant No. 2 of the organization, which is the case study of this research, reveals that the main problem is the cleaning process of the centrifuges. This cleaning process has to be performed by human operators every two hours, in order to maintain the quality of the product at specified level. However, an insufficient number of workers, due to uninformed absenteeism, have led to some machine stoppages. This research therefore aims to propose approaches to improve the production efficiency at this bottleneck operation. Suggestions for improvement include (1) setting standard work procedures for the workers, and (2) adding a resource, which is either another cleaning station or another bowl removal equipment set. Adjustments of work procedures under new scenarios are also suggested. Results from computer simulation model runs and statistical data analyses shown that the operation can be finished within 2 hours with a minimum of 9 workers or by adding more resources. Yet, adding another cleaning station to two stations increase capacity by 10% and can reduce the number of workers used by 2, whereas adding another bowl removal equipment set with the same number of workers (11 operators) and same work procedure increase capacity by only 5%.

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Thesis Advisor's signature