**Efficiency in Use of Packing Materials and Employees’ Perceptions of Failures in Grain Flour Production Line: A Case Study**

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The Companies with grain mills have critical problems related to the efficiency of production process due to the failures and defects. This research aims to study the employees’ perceptions on factors affecting failures by identifying them in the section. PDCA (plan-do-check-act) cycle used in the industry to overcome these failures successfully. This study has been utilized data which was collected by questionnaire. The data were collected through 50 workers who were work in grinding mill production line in Harischandra Mills PLC, Matara. Data were analyzed using descriptive analysis, multiple regression, failure mode and effect analysis (FMEA) and Pareto analysis. Resources and education background of the employees have negative relationship with complaints on production. Working stress and lack of experience showed positive relationships (Y= 4.775 – 1.131 X1 + 0.857X2+ 0.658X3 – 1.453X4 where Y= complaints on production failures, X1= resources, X2= working stress, X3= lack of experience and X4= education background). Packing material (polythene packing materials) wastage was a serious burden in the production line. High packing material wastage percentages have reported in Kurakkan flour (28.52%) and Ulundu flour (28.42%) production. According to the results of FMEA, incorrect labelling, poor sealing and incorrect gas filling inside the package were shown high Risk Priority Number (RPN). Critical value of RPN was 107 and failures which greater than critical RPN value showed high risk. Incorrect labelling had the highest RPN value as 160. Other failures had RPN values as follows. Poor sealing 150, incorrect gas filling inside the packets 120. Kurakkan flour packing material wastage percentage was decreased by 13.38% and Ulundu flour packing material wastage percentage was decreased by 10.91% after implementing PDCA cycle procedures. These methods are suitable to apply in any production mills to keep minimize the wastage and the failures.

**Keywords**: *failures, grain flour, packing material, plan-do-check-act cycle, risk priority number*