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Potential and prospects of paddy husk utilization: A case study in Hambantota district

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Paddy husk is one of the main agricultural by-products and a valuable resource that generated in rice milling. Hence, it is very important to study how this resource is being utilized in small and medium enterprise sector to uplift living standard of rural people and rural economy. The objectives of this study were; to explore the present status of paddy husk utilization, to recognize reasons for not utilizing it, to identify environmental and social problems associated with the disposal of paddy husk, to identify alternative ways of utilization and to provide suggestions and recommendations for improve utilization. The study was conducted in leading paddy producing areas of Hambantota district (Ambalantota, Tissamaharama and Lunugamwehera DS divisions). 45 mill owners and 90 households were selected among who lived around mills by using stratified random sampling and purposive sampling techniques, respectively. Also, 30 brick industry owners were selected as well. Primary data was collected through field surveys by using pre-tested structured questionnaire and formal interviews.

The study reveals that 7% of rice millers used paddy husk for parboiling process of paddy. In household level, paddy husk was utilized for agriculture (17%), poultry (3%), and other uses (80%). According to Kruscal Wallis analysis, brick industry was the main industry that utilize paddy husk in Hambantota area. No demand, high transport cost, no alternative uses and high labor cost of handling were identified as main reasons that caused paddy husk to remain as waste. When considering paddy husk as a substitute for energy, low price (87%), easy to use (60%) and easy access (53%) were identified as reasons for that. Mainly paddy husk was a substitute for firewood, saw dust /coconut husk, soil amendment and planting medium in brick industry, pottery industry, paddy cultivation and hydroponics. Study revealed that there was significant difference between paddy husk accumulation in the mills during the rainy and drought seasons (t value - 10.41, P value - 0.0000) because the brick industry is temporarily stopped for the rainy season. Among the millers who were responded, 7% have used government reserved area for the disposal of paddy husk while 42% and 33% have been used marginal and forest lands, respectively. Land, air and water pollution were identified as main problems from this disposal. Willingness to utilize paddy husk as a raw material remained a positive preference by the households. However, preference to utilize in large scale was comparatively low. According to industry expertise, charcoal production, block production and planting pot production identified as alternative uses of paddy husk. Therefore, there is a good potential to utilize a paddy husk as a low cost raw material for SME sector development in the rural areas of Hambantota district.

Keywords: alternative uses, paddy husk, paddy husk utilization