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Abstract	:	Waste generated from Malaysia's paddy milling factories, known as empty and partially filled paddy grain (EPFG), has been improperly managed as it can be further utilized for sustainable resources such as feedstock via biorefinery. However, the critical driver for a biorefinery is whether the proposed design is profitable. In this study, the conversion of EPFG into glucose as an alternative to sustainable management was analysed in terms of their economic performance as feedstock. The process design involved the production of non-concentrated glucose from EPFG using hydrothermal pre-treatment and enzymatic process, which led to the 76% conversion yield. The economic performance for the plant is at 1.04 million USD, 46.9%, and 34.3% for net present value (NPV), return on investment (ROI), and internal rate return (IRR), respectively. The minimum sugar selling price (MSSP), when zero NPV, is at 0.42 \$/kg when the co-product revenue is considered. Sensitivity analysis results indicate that the MSSP is highly sensitive to plant size. This economic evaluation serves as an introductory guide to assess the economic performance of paddy milling waste to glucose via enzymatic hydrolysis. The results of the present study could provide insight for the Malaysian paddy industry in managing the EPFG, hence increasing their market potential.