

## **Engineering economic analysis of meliponiculture in Malaysia considering current market price**

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Stingless bees (kelulut) keeping is now a trend in Malaysia. However, since demand for the source of colony in log is increasing, the log price is rapidly increasing. But, there is no data reported on the economic viability of meliponiculture in the current market price. Thus, the objective of this study is to clarify the economic viability of investment in meliponiculture in the current market price by engineering economic perspective. Investment in meliponiculture was analysed using Equivalent Annual Uniform Cost (EAUC), Internal Rate of Return (IRR) and Breakeven Analysis. A small start-up with 30 units of logs or hives was considered in the analysis. All raw data was acquainted from current Malaysian market price, but only revenue from honey was considered. It was found that EAUC indicated that the annual worth of the log system is 23% better than the hive system. However, IRR calculation indicated that both the log and the hive systems offer margin exceeding 55% which is a very good return in general investment. In addition, it was also found that the log system had breakeven after 8th month, whereas the hive was 13th month. Better economic value could be obtained if revenue from by-products are considered. Thus, it can be concluded that meliponiculture is still very economically viable in Malaysia market trend, and the hive systems could be a better choice if splitting colony, maintenance, safety and aesthetics points of view are considered.