ABSTRACT
ANALISIS KEBUTUHAN ENERGI PADA PROSES PEMANENAN TEBU DI PTPN VII PERSERO
UNIT USAHA BUNGAMAYANG, LAMPUNG UTARA
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Harvesting sugarcane is one of the important stages in the sugarcane industry. Implementation of harvesting cannot be separated from the use of energy. Energy analysis is an important tool to evaluate energetic performance of harvesting activity. The purpose of this study was to find out the energy inputs used in the harvesting process for sugarcane. The study was conducted at PTPN VII Unit Usaha Bungamayang. Data collection was performed by recording secondary data, interviews and direct observation on the sugarcane harvesting in Unit Usaha Bungamayang. Data acquisition included the stages of cutting, loading, transporting and unloading. Other activities supporting the harvesting of sugarcane (road improvements) was also calculated. Energy input included fuel, farm equipment and machinery, and human energy. The results showed that harvesting of sugarcane consumed energy 8,874.14 MJ/ha with distribution cutting activities to 622.76 MJ/ha or 7.02% of the total input, loading accounted to 207.65 MJ/ha or 2.34%, transportation was 6,773.49 MJ/ha or 76.33%, unloading was 719.52 MJ/ha or 8.11% and road improvements was 550.72 MJ/ha or 6.21%. Based on the type of energy input, fuel energy was the highest (accounted to 4,065.60 MJ/ha or 45.80%) followed by farm equipment and machinery (3,736.39 MJ/ha or 42.12%) and human energy (1,072.15 MJ/ha or 12.08%). Specific energy of harvesting was 126.10 MJ/ton and productivity energy of harvesting was 0.008 ton/MJ.

Key words: sugarcane, harvesting, fuel, human and machinery.