

The study was conducted to analyze energy use in rice production and processes, using a structured questionnaire. Energy productivity, energy efficiency and specific energy were computed and descriptive statistics were used for data analysis. The energy use pattern showed that rice production consumed an average total energy of 13270.99 MJ/ha with herbicide, insecticide, fertilizer, human labour, seed, diesel and machine hour equivalent to 52.01%, 0.75%, 20.19%, 0.72%, 8.83%, 14.21%, and 3.29% respectively. The energy productivity, Specific energy and energy efficiency were 0.3 kg/MJ, 3.7 MJ/kg and 3.9 respectively. A total of 11289.16 MJ (85.1%) indirect energy, 1981.83 MJ (14.9%) direct form of energy, 12004.1 MJ (90.45%) non-renewable energy and 1266.89 MJ (9.55%) renewable energy forms were used in rice production. The average total energy used for milling 500kg of rice was 776.1MJ with diesel, water, human labour, electricity and machine hour equivalent to 58.1%, 8.9%, 3.0%, 15.7%, and 14.3%, of the total energy used respectively. The energy productivity was 0.48 kg/MJ. The environmental impacts associated with field production and processing was studied using life cycle impacts assessment tool with a functional unit of one kilogram (1kg) of rice. The environmental impact categories used in this study are global warming, acidification, and eutrophication. Of these three environmental impacts, global warming has the highest impact score of 2.83129E+00 kg CO<sub>2</sub> equivalent. This finding implies that rice production in the study area is mostly dependent on non-renewable and indirect energy forms, rice milling was observed to be dependent on direct and non-renewable energy forms especially diesel energy, also the high impact score of global warming is due to the high emission of CO<sub>2</sub> gas from fuel and combustion during field operation of rice.