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## Implications of Improved Oil Palm (*Elaeis guineensis*) Fruit Processing Technologies for Labour and Income among Rural Households in Imo State, Nigeria

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### Abstract

Oil palm (*Elaeis guineensis*) is the most important tree crop in the rural economy of the humid rainforest of eastern Nigeria. The oil is consumed as food, used domestically for industrial purposes, and was an important foreign exchange earning export. However, the processing of palm fruits to extract the oil is labour intensive. Although, in colonial times, some machines were introduced and were widely adopted, these excluded machines for crushing the fruits. This was the case until recently when locally fabricated palm fruit crushers became widely available. The aim of the study was to examine the implications of these machines for labour use and income among rural households in Imo state, Nigeria.

Data from selected palm fruit processing mills indicate enthusiastic patronage of oil mills that have introduced these machines. The machines have eliminated labour for fruit crushing, an activity which required about 10 adults working for 15 minutes. Presently, the machine crushes 60 kg of parboiled palmfruits in 6 minutes. On average 60 kg of raw fruits yielded about 20 liter of palm oil against 14 liters previously, an increase of about 50%. This arose from the shorter processing time, and higher average temperature of crushed fruits, which aided extraction of oil.

Operators of oil pressing mills charged 4 litres of oil per 20 litres extracted as this was preferred over cash payment. Most mill operators stored the oil to sell in seasons of deficit supply and higher prices, thereby creating time utility. Average market price of palm oil fluctuated between N70/liter in surplus seasons (February - May), while highest prices are recorded between December to January (at about N110/liter)

Consequently, labour for palm processing has reduced from 150 minutes to 6 minutes for 60 kg raw fruit with machines, while output has increased by 50%. Some problems encountered include fire wood and water scarcity.

**Keywords:** Improved processing technologies, Income, labour, rural households