Over-view of the Oil Palm Industry in Ghana

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Introduction: oil palm, areas in W. Africa and cultivation in Ghana

• The oil palm *Elaeis guineensis* Jacq. ranks among the most important oil producing crops in Sub-saharan Africa, and is one of the most important sources of edible oil.

• The oil palm belt in Africa runs through the southern latitudes of Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroun, and into the equatorial regions of Equatorial Guinea and the Congo.

• The cultivation of oil palm in Ghana is dominated by private small-scale farmers who cultivate about 80% of the estimated total land area of 305,758 hectares under oil palm cultivation (Fold *et al.*, 2012),

• The areas defined by van der Vossen (1969) as suitable for oil palm cultivation in Ghana are some areas of six regions, including Volta, Eastern, Central, Western, Ashanti and Brong Ahafo.

• In Ghana, oil palm bunch production has a peak season in February-May and a lean season in September-December. This corresponds to the rainy and dry seasons. About 70 percent of annual yield occurs in peak season.
Production of fresh fruit bunch (ffb) and palm/kernel oil

- There is a wide variation in the productivity of oil palm in Ghana.

- The highest productivity of 20 tonnes/ha (ffb) have been recorded by plantations in valley bottoms.

- The large estates achieve productivity levels of between 10–15 tonnes/ha ffb.

- Smallholders and out-growers produce between 7–10 tonnes/ha ffb while private small-scale farms produce about 3 tonnes/ha ffb.
Production of fresh fruit bunch (ffb) and palm/kernel oil cont’

• The oil palm produces one of the major oils and fats traded on the continent and the world today.

• Palm and palm kernel oils contributed 36.1% of the world’s total oils and fats in 2007/2008 (Mielke, 2008).

• Malaysia is now the world second largest palm oil producer and exporter after Indonesia, while Ghana ranks 8th in terms of production quantity.

• Ironically, Malaysia which is currently a major player in the world palm oil market, started the establishment of oil palm plantations with planting materials from Ghana.
Palm oil processing

• Palm oil is processed from the fresh fruits using various methods, and these techniques differ in the level of mechanisation and interconnecting material transfer mechanisms.

• The scale of operations also differs at the level of processing and this affects the quality of the final product.
Palm oil processing: operations

• The operations can be grouped into four, namely traditional methods, small-scale mechanical units, medium-scale and large industrial mills.

• The small-scale mills generally process up to two tonnes fresh fruit bunch (FFB) per hour while the large-scale mills process from 10 to 60 tonnes FFB per hour (Poku, 2002).

• Most of the palm oil produced in Ghana for human consumption is processed at the cottage industry (small-scale) level.
Palm oil production, demand and supply

- Ghana has an estimated 336,000ha of land under oil palm cultivation (MASDAR, 2012) and produces about 243,852 tons of palm oil.

- Government target under PSI (from 2003) oil palm programme was to cultivate additional 300,000 ha within 15 years. This was to make Ghana a major exporter of palm and kernel oil to earn foreign exchange which will far exceed that earned through cocoa export.

- However, only 30,000ha was achieved as at 2008.

- Ghana has an internal unmet demand of 35,000 tons (MOFA, 2012). Estimated presently as 50,000mt

- The whole ECOWAS region has an unmet demand of 850,000 tons (MOFA, 2012).

- The total volume of palm oil imported in 2010 was 134,600 tons.
Palm oil production and constraints

• Total production increased from 108,000 tons in 2000 to 120,000 tons in 2010 with 80% from smallholders.

• Production has increased in most years due to high demand.

• Togo and Nigeria is the main destination market for crude palm oil from Ghana.

• The small scale processing industry faces several constraints among which are:

  ➢ Inaccessibility to remunerative markets during the peak fruit production period, February to May.
  ➢ Lack of credit and processing skills.
  ➢ Efficient oil extraction equipment.
  ➢ Lack of knowledge on quality assurance.
Uses of oil palm products

- **Palm oil and kernel oil** can be processed into:
  - vegetable cooking oil
  - glycerin
  - Bio-deisel
  - Processed oil form raw materials for manufacture of soap including washing and medicinal one.

- **Sap from tree**
  - Sap extracted from the trees is a resource for processing into various alcohols for industrial and domestic use and for export.

- **Tree**
  - The tree logs are used as bridges across small rivers and streams in Ghana.
  - Sculptures e.g. beds and coffee tables in some countries.
  - The fronds are used as roof on thatched houses and as barriers around the compounds in villages in the country.
## Table 1: Major oil palm commercial companies and areas cultivated in Ghana

<table>
<thead>
<tr>
<th>Company name</th>
<th>Nuleus size (ha)</th>
<th>Out-grower/small holder (ha)</th>
<th>Total</th>
<th>Milling capacity in tonnes/hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana Oil Palm Development Company</td>
<td>8,000</td>
<td>14,352</td>
<td>22,352</td>
<td>60</td>
</tr>
<tr>
<td>Twifo Oil Palm Plantations Ltd.</td>
<td>4,234</td>
<td>1690</td>
<td>5,924</td>
<td>30</td>
</tr>
<tr>
<td>Benso Oil Palm Plantations Ltd</td>
<td>4,666</td>
<td>1650</td>
<td>6,316</td>
<td>27</td>
</tr>
<tr>
<td>Norpalm Ghana Ltd.</td>
<td>4,000</td>
<td>-</td>
<td>4,000</td>
<td>30</td>
</tr>
<tr>
<td>Juaben Oil Mills</td>
<td>424</td>
<td>1,100</td>
<td>1,524</td>
<td>15</td>
</tr>
<tr>
<td>Ayiem Oil Mills</td>
<td>250</td>
<td>-</td>
<td>250</td>
<td>10</td>
</tr>
<tr>
<td>Golden Star</td>
<td>-</td>
<td>720</td>
<td>750</td>
<td>-</td>
</tr>
<tr>
<td>Volta Red*</td>
<td>2,000*</td>
<td>-</td>
<td>-</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: MoFa, 2010

*CSIR-OPRI, 2014
Crude palm oil export and import trends in Ghana

Source: USAID, 2011
Owners and actors in palm oil processing

• 80% of palm oil plantations are owned by small scale farmers who supply both the large estates and small scale processors (MOFA, 2012).

• Small scale processors producing crude palm oil account for 80% of total Ghana palm oil production.

• The vast majority of processors (80%) are women who are employed in this activity as wage workers.
Palm oil market dynamics

• The palm oil sector in Ghana includes two different markets: household consumption and industrial use in domestic manufacturing.

• The industrial use in domestic manufacturing consists of mainly large and medium palm oil plantations and milling facilities which enjoy economies of scale, high productivity on farms and mills as well as better quality of oil extracted.

• It was estimated that processors especially small-scale experience a loss of 38% for every cedi of palm oil sold during the peak period of fruit production.

• It was also estimated that the processing and sale of palm oil becomes a profitable business for small scale processing only during the period between September and December (Adjei-Nsiah et al, 2012).

• The increase in global demand of palm oil for both food and non-food uses has resulted in a dramatic increase of international prices except this year.
Processing techniques

• Small scale process use manual processing techniques which are characterized by low extraction rates as opposed to large industries.

• The household consumption value chain is based on small scale producers who sell to small scale mills or households doing manual processing.

• There are around 400 small-scale processing units in Ghana characterized by a weak milling capacity as well as the low quality of the oil produced.

• According to recent estimates, small scale village mills process about 68% of palm fruits, with a share of 55% on the total palm oil production.

• The medium sized mills and the large-scale ones absorb 12% and 19-20% of total fruits, respectively; household production uses the remaining 10%.
Diverstification

The palm oil industry has not expanded due to the lack of diversification into value added products which constitute one the main success factors in exporting countries like Indonesia and Malaysia (Fold and Whitfield, 2012).

The oil palm industry should take advantage of diversification to create more jobs and earn more foreign currency for national development.
Role of Research

• The CSIR-Oil Palm Research Institute (CSIR-OPRI) is the sole producer of oil palm seeds in Ghana, and plays a very important role by researching and improving the quality of planting materials in terms of high oil content extraction, resistant against pests and diseases.

• She releases improved oil palm progenies to individual farmers, plantations and for export through CSIR-owned Ghana Sumatra Ltd for oil palm establishment.

• The improved high yielding oil palm planting material is capable of producing 18-20 tons ffb/ha/yr and oil yield of 4.5-5 tons/ha/yr as against previous yield of 14 tons ffb/ha/yr and 3.5-4.0 tons oil.

• The CSIR-Oil Palm Research Institute also sells improved oil palm seedlings to farmers, plantations and other agencies interested in oil palm establishment and provides technical assistance including:
Role of research cont’

- Areas suitable for oil palm establishment and palm oil production.
- Oil palm intercropping system: e.g. oil palm rice intercrop, oil palm cocoa intercrop etc.
- Fertilizer recommendation for oil palm intercrops with food crops.
- Sustainable and economic weed management strategy.
- Technology to manage oil palm leaf miner outbreak and other pests and diseases.
- Technology to produce natural enemies (parasitoids) to control oil palm leaf miner *Coelaenomenodera lameensis*.
- Training of trainers in oil palm establishment and management.
- Socio-economics including quality assurance
- Consultancies
Production of certified quality seeds and more oil content

Package oil palm seeds ready for sale to agencies and for export

Nursery establishment

- Technique for oil palm nursery establishment and management.
- Technique for coconut palm nursery establishment.

Oil palm fruits

Bearing oil palm tree, fruit and oil

Source: CSIR-OPRI, 2015
Conclusion

Employment creation

• The industry employs over 2 million people especially in rural areas in Ghana. It thus contributes to rural wealth and employment creation. It still can contribute more if given the necessary support.

Growing demand for CPO

• There is growing demand for palm oil in Ghana, West Africa and around the world for the manufacture of household and personal care products, vegetable cooking oil and for biodiesel production.

• There is therefore the need to support the industry to expand to meet the growing demand and to export

• Downstream processing capacity

• The industry also provide downstream processing capacity in Ghana which also employs more people.

• The estimated earning from export of palm oil was $53.2mn in 2011. The projected earning in 2016 is $72.8mn if effort is put in place to increase production.
THANK YOU