Central Kalimantan’s Oil Palm Value Chain

Opportunities for Productivity, Profitability, and Sustainability Gains
Oil palm is a strategic economic sector for Indonesia and Central Kalimantan. It supports rural development, local livelihoods and achievement of economic growth targets.
The Governments of Indonesia and Central Kalimantan have introduced important policies that aim to both stimulate growth in the oil palm sector, while also promoting sustainable development.

National Policy Context:
• Oil palm sector production target: 40 million tonnes crude palm oil (CPO) annually by 2020
• Palm Oil Fund (Presidential Regulation 61/2015), established to stimulate investment and innovation in the sector, including by delivering support to smallholder farmers
• Biofuel Mandate (Ministry of Energy and Mineral Resources Regulation 12/2015) that requires a significant portion of liquid fuels used to be derived from biofuels by 2025
• Indonesia Sustainable Palm Oil (ISPO) system (Ministry of Agriculture Regulation 19/2011)
• Intended Nationally Determined Contribution (INDC) to reduce greenhouse gas emissions by 29% by 2030

Central Kalimantan Policy Context:
• Oil palm sectoral target: 3.5 million hectares of planted oil palm by 2020 (Central Kalimantan Plantation Agency, 20115)
• Sustainable Management of Plantation Businesses (Provincial Regulation 5/2011) framework that outlines requirements for issuing sustainable licenses, recognizing among other things the need for protection of high conservation value areas and investment in smallholder farmers.
Central Kalimantan Oil Palm Value Chain
INDONESIA:
188 Mha total
10.6 Mha oil palm

CENTRAL KALIMANTAN:
15.3 Mha total
1.2 Mha planted oil palm and an additional 2 million under license

Oil palm covers 8% of Central Kalimantan, accounting for 11% of Indonesia's total oil palm.
PLANTATIONS

1-1.1 Mha of oil palm
142+ companies
7000-7500 ha per company

SMALLHOLDER FARMERS

0.1-0.2 Mha of oil palm
41,380 farming households
3-5 ha per household

Produced
17 million tonnes
of fresh fruit bunches (FFB)
15 tonnes/ha...

...contributing 12% of Indonesia’s total FFB.

Upstream Central Kalimantan value-add:
USD 1 billion (USD 780-860/ha)
83 crude palm oil (CPO) mills estimated production capacity >6 million tonnes/year

10 crude palm kernel oil (CPKO) plants estimated production capacity ~180,000 tonnes/year

Produced 3-4 million tonnes CPO and 97,000 tonnes CPKO (utilizing 50-65% of CPO production capacity)
contributing around 11% of Indonesia’s total CPO

Midstream Central Kalimantan value-add: USD 0.95-1.25 billion
2 cooking oil refineries
production capacity: 850,000+ tonnes/year

1 biodiesel plant
production capacity: 40,000+ tonnes/year

Produced 750,000 tonnes of refined products contributing 8% of Indonesia’s total refined palm oil

78% of CPO generated in Central Kalimantan was not locally refined

Downstream Central Kalimantan value-add: USD 30-31 million
Government, business and smallholder farmers can derive greater economic value from oil palm by:

- Increasing land productivity upstream, particularly for smallholder farmers, including by applying good agricultural practices and technology;
- Better utilizing existing capacity, such as mid and downstream processing and manufacturing facilities; and
- Strengthening organization and integration of actors within and between phases of production throughout the value chain.
Increasing land productivity upstream:

There is potential to increase land productivity upstream, particularly for smallholder farmers, including by applying good agricultural practices (GAP) and technology.
Midstream mill capacity was under utilized in 2013, with mills generating just 50-65% of potential crude palm oil (CPO) compared to total installed capacity.
Increasing downstream processing and manufacture capacity:

Only 22% of Central Kalimantan’s CPO was refined locally in 2013. This represents a significant reduction in the value-add retained by Central Kalimantan.

Further analysis is needed in relation to the costs, barriers and opportunities for such downstream development.
Supporting business and smallholder farmers to realize productivity, profitability and sustainability gains
As a consequence of the wide variety of business models, there are large variations in productivity, profitability, and risk exposure for different actors.

- In order to capitalize on the opportunities to derive more value added, it is important to understand the various actors involved in the value chain and how different policies or business tools would impact their operations and business decisions.
- The models range from being as simple as ‘trees to fresh fruit’ to those incorporating more complex integrated elements that carry from plantations right through to downstream operations.
- Business models also range in size, with smallholder farmers managing between 1-25 hectares of plantation, or 1000+ hectares in the case of farmer cooperatives or groups, and companies managing from 25 - 300,000+ hectares.
Business & smallholder farmer models and linkages:

1. SHF
   - LOCAL AGENT

2. LARGE SHF
   - LOCAL TRADER (COLLECTION POINT)

3. COOPERATIVE PLANTATION
   - BROKER
   - OTHER THIRD PARTY, COMPANY PLANTATIONS

4. SHF
   - MILL COMPANY PLANTATION
   - COMPANY-MANAGED SHF PLANTATION

Varied reliance on third party suppliers (other companies & SHF)

Required 20% plasma farmers

Required 28% plasma farmers (Labyd-leqise)

Required upstream integration for mills (minimum 20% own-source)

Transaction pathways

1. Small-scale independent
2. Larger-scale independent
3. Farmer-managed cooperative
4. Individual partnership scheme
5. Company-managed, SHF owned

Optional mid & downstream integration

MILL

REFINERY

PROCESSORS

CONSUMERS
### Overview of company business models

<table>
<thead>
<tr>
<th>Model</th>
<th>Scale</th>
<th>Phases of Production</th>
<th>Reliance on third parties</th>
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</thead>
<tbody>
<tr>
<td>Model A</td>
<td>Commonly 25-100 Ha</td>
<td>Upstream only</td>
<td>High reliance to off-take FFB</td>
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<tr>
<td>Model B</td>
<td>Ranging from 5 - 30 tonnes FFB/ Hr</td>
<td>Midstream only</td>
<td>High reliance for supply of FFB and off-take of CPO</td>
</tr>
<tr>
<td>Model C</td>
<td>Commonly 1,000 – 30,000 Ha*</td>
<td>Up and midstream</td>
<td>Low reliance upstream, reliant for off-take of CPO</td>
</tr>
<tr>
<td>Model D</td>
<td>Commonly 80,000 – 300,000 Ha</td>
<td>Up and midstream</td>
<td>Medium-high reliance upstream, reliant for off-take of CPO</td>
</tr>
<tr>
<td>Model E</td>
<td>100,000+ Ha</td>
<td>Fully integrated – up, mid and downstream</td>
<td>Low reliance</td>
</tr>
<tr>
<td>Model F</td>
<td>100,000+ Ha</td>
<td>Fully integrated – up, mid and downstream</td>
<td>Medium-high reliance upstream</td>
</tr>
<tr>
<td>Model G</td>
<td>1+ refineries</td>
<td>Downstream only</td>
<td>High reliance for supply of CPO / CPKO</td>
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</table>
Indonesian Sustainable Palm Oil (ISPO): supporting the transition to a sustainable oil palm sector
How ISPO applies to different business models:

• The introduction of the Indonesian Sustainable Palm Oil (ISPO) system in 2011 was an important step toward transforming the palm oil sector from being a driver of deforestation, to one that is highly productive and sustainable.

• This system applies to different actors in different ways.
  – Smallholder farmers are not currently required to become ISPO certified, but may do so voluntarily.
  – Business models that only enter the value chain at the refinery stage are not required to become ISPO-certified. Although their Indonesian suppliers should all be covered by the ISPO system, this means there is no onus on refiners to ensure compliance.
All plantations, mills and integrated companies must apply for certification by September 2015 and become certified within 2 years, or risk losing plantation license.

ISPO certified companies may only supply to and from ISPO certified companies (with exception of smallholders).

Non ISPO certified

- Model A (IUP-B licensed plantation)
- Smallholder Farmers

Upstream only

Midstream only

- Model B (IUP-P licensed mill)

Integrated

- Models C, D, E & F (IUP licensed - integrated)

Downstream only

- Models G (outside ISPO scheme)

Integrated

- Models C, D, E & F (IUP licensed - integrated)
Managing risks effectively
Innovative business tools and policy frameworks that comprehensively manage the full package of investment risks are needed to support the transition to a sustainable, yet still profitable, oil palm sector.

• Managing risk plays a key role in relation to the transition towards a sustainable oil palm value chain actor, as various investment risks can act both as an inhibitor and motivation for changing business practices.

• On the one hand, shifting practices can incur unknown or new risks that businesses, particularly small-medium scale, are not willing to face or unsure how to manage.

• On the other hand, reputational, environmental, and social risks are acting a key driver for changing practices, particularly for larger business actors who sell to international markets.
Effective risk management will help actors throughout value chain realize productivity, profitability and sustainability gains.

### Risk Overview – Oil Palm Value Chain

<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Features</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment</td>
<td>Shortage of required capital, unable to access capital at affordable terms</td>
<td>Abandonment of projects by potential investors</td>
</tr>
<tr>
<td>Currency</td>
<td>Unbalanced currency exposure between cost &amp; revenues</td>
<td>Uncertain financial performance, lower profit margins or liquidity issues</td>
</tr>
<tr>
<td><strong>Production</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations</td>
<td>Output impacted by management practices, technology, access to labor etc.</td>
<td>Lower yields, sub-optimal productivity</td>
</tr>
<tr>
<td>Climate</td>
<td>Output impacted by weather patterns / natural disaster etc.</td>
<td>Lower yields, sub-optimal productivity</td>
</tr>
<tr>
<td><strong>Market</strong></td>
<td></td>
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</tr>
<tr>
<td>Supply</td>
<td>Inability to source production inputs at various points in value chain (e.g. fertilizer &amp; high quality seedlings upstream, FFB midstream, or CPO/CPKO downstream etc.)</td>
<td>Sub-optimal productivity, reduced output</td>
</tr>
<tr>
<td>Off-take</td>
<td>Lack of demand, not able to find a suitable buyer</td>
<td>Lower / unstable revenues</td>
</tr>
<tr>
<td>Price Volatility</td>
<td>Uncertainty of realized output price due to fluctuating market prices</td>
<td>Lower / unstable revenues</td>
</tr>
<tr>
<td>Market-access</td>
<td>Inability to sell into specific markets (e.g. EU) due to non-compliance with market requirements</td>
<td>Restricted market access</td>
</tr>
<tr>
<td><strong>Negative Impact</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal &amp; social</td>
<td>Disputed land ownership / land-use rights, other company-community conflict</td>
<td>Halting of operations, unable to access loan finance due to lack of collateral</td>
</tr>
<tr>
<td>Environmental</td>
<td>Environmental damage (e.g. water or air pollution), high emissions</td>
<td>Loss of environmental quality, failure to meet emissions reduction targets, increased production (climate) risk</td>
</tr>
</tbody>
</table>
Different company models and parts of the value chain are affected differently by risk. Tools should be targeted to address these different needs.

**Negative impact risks** (social & environment) are highest upstream.

**Off-take risk** is high for companies only operating upstream, given FFB needs to be processed 24-48 hours after harvesting.

**Currency risk** is highest at the transition between up to midstream.

Companies operating at **single points in value chain** have **highest investment risk** (limited collateral, smaller scale operators), as well as **highest supply & off-take risk**.

While **Market access risks** (including international requirements to meet sustainability standards) are **highest downstream**.
Opportunities for productivity, profitability and sustainability gains through efficient land use
A landscape management approach offers the best way forward to achieve productivity, profitability and sustainability gains

• Given the diverse interests and actors who participate in the oil palm supply chain, it is clear that no single actor can deliver a ‘sustainable oil palm sector’ on their own.

• As opposed to each plantation and business being required to manage and deliver agricultural production and ecosystem protection on a plantation by plantation basis, a landscape management approach involves a partnership between government, business, and community actors who’s combined capabilities, interests and actions can deliver sustainable oil palm across an entire landscape and supply area.
Through the PALM Program, PILAR and CPI will support government, business and community partners to pilot an integrated landscape-wide strategy in selected districts in Central Kalimantan.

**Government:**
- Fiscal policies & instruments \(\text{(e.g. tax / subsidy fiscal transfers)}\)
- Market Regulation
- Regional Planning & Infrastructure
- Benefit sharing \(\text{(regions, business & communities)}\)

**Business and Civil Society:**
- Information
- Credit
- Risk management
- Human capital

**Actions**
- Good agricultural practices & technology
- Full utilization of production capacity
- Strengthening industrial organization models
- Spatial planning & land allocation
- Forest Protection / HCV area management

**Outcomes**
- Improving productivity of existing plantations
- Sustainably expanding production

**Goal**
- Sustainable, socially inclusive regional development
Recommendations

• Potential to improve data quality and availability relating to oil palm value chain

• Translating Central Kalimantan’s oil palm planted area target into a production-based target could encourage higher productivity and more efficient use of existing lands, as a first priority over expansionary measures.
Next steps

• Multi-stakeholder dialogue on study findings to support development of implementation-ready options for capitalizing on the identified opportunities to make productivity, profitability and sustainability gains

• District level value chain analysis to gain further insights into upstream, midstream and downstream opportunities and challenges

• Landscape level pilot in selected districts in Central Kalimantan with government, business and community partners
To read the full report, visit:
climatepolicyinitiative.org