

# Central Kalimantan's Oil Palm Value Chain: Opportunities for Productivity, Profitability & Sustainability Gains

(version November 2015)



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POLICY  
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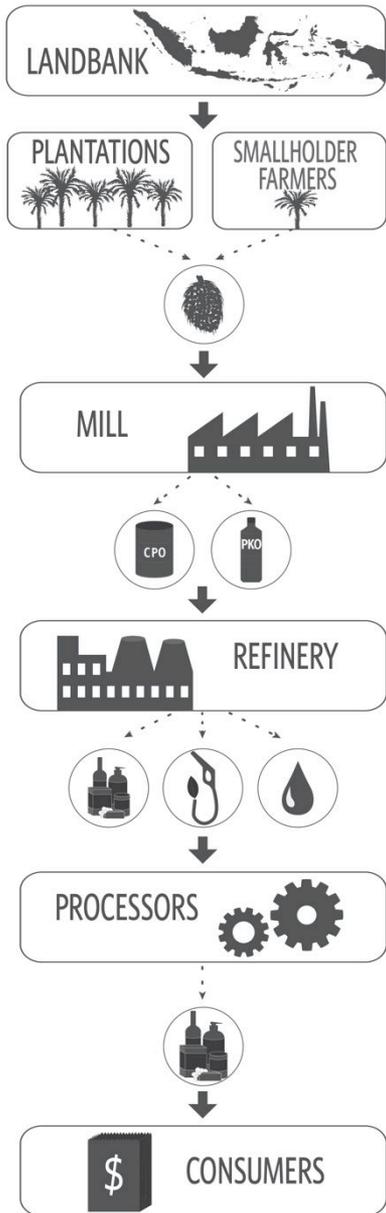
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Oil palm is a strategic economic sector for Indonesia and Central Kalimantan.

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

## LANDBANK



### 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

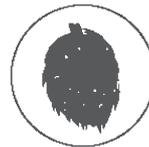
**3-5 ha** per household

Produced

**17 million tonnes**

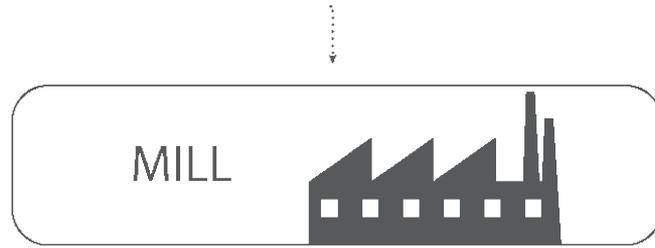
of fresh fruit bunches (FFB)

**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**

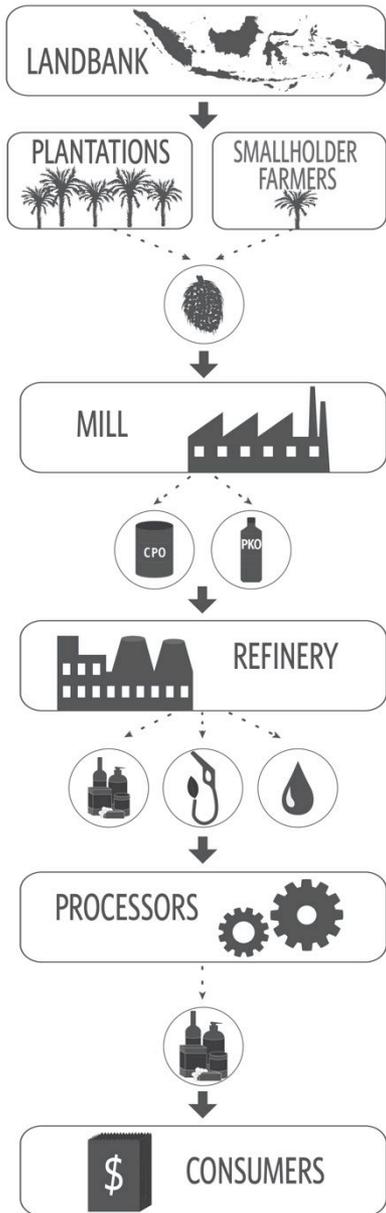


Produced **750,000 tonnes** of  
refined products contributing **8%** of  
Indonesia's total refined palm oil

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

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

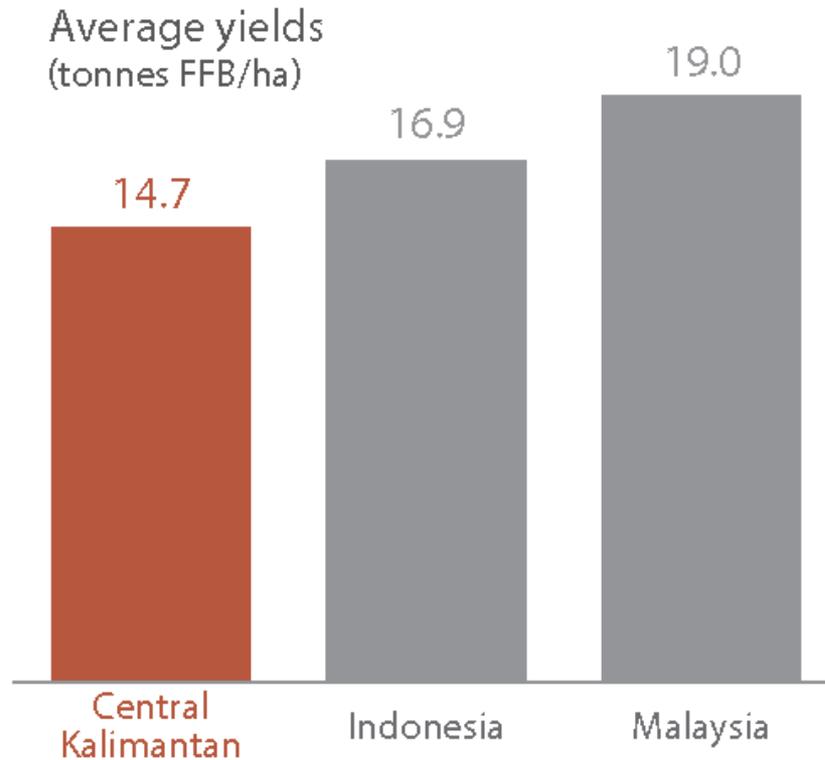
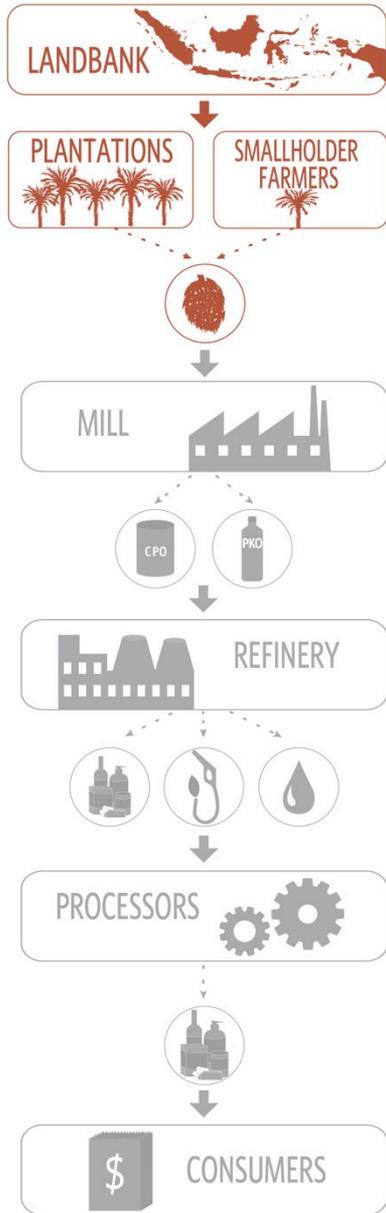
**Downstream Central Kalimantan value-add:  
USD 30-31 million**



## Government, business and smallholder farmers can derive greater economic value from oil palm by:

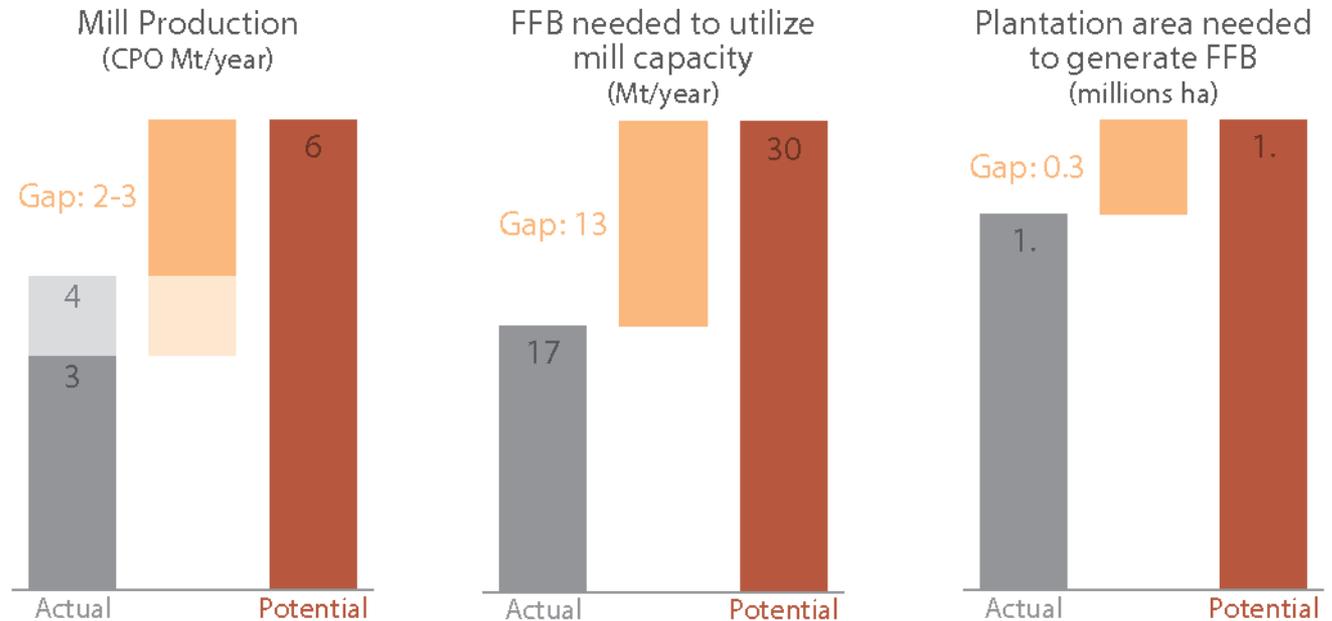
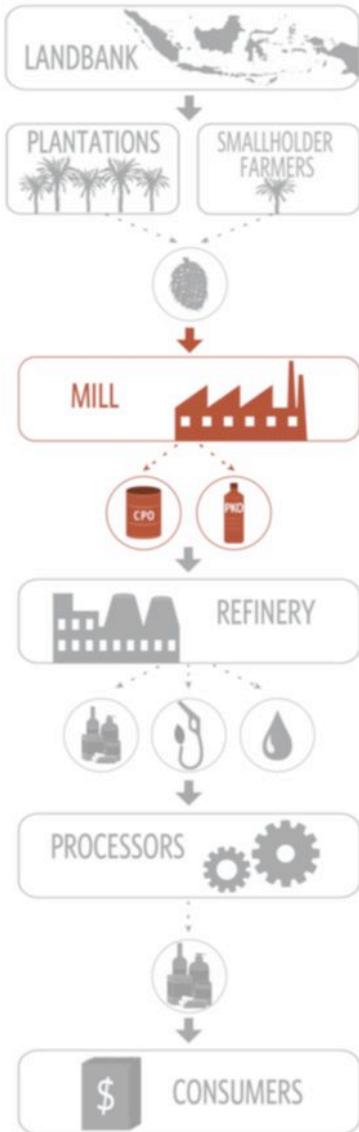
- Increasing land productivity upstream, particularly for smallholder farmers, including by applying good agricultural practices and technology;
- Better utilizing existing capacity, such as mid and downstream processing and manufacturing facilities; and
- Strengthening organization and integration of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

## Increasing land productivity upstream:

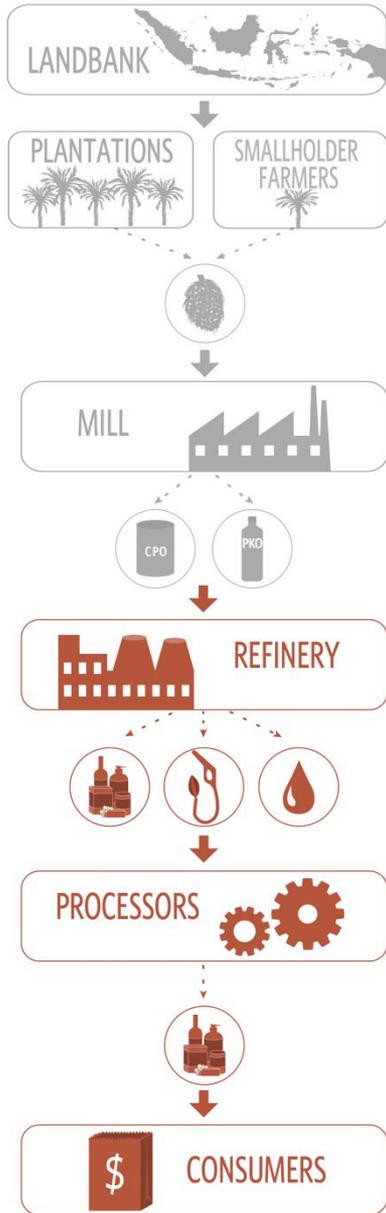


There is potential to increase land productivity upstream, particularly for smallholder farmers, including by applying *good agricultural practices* (GAP) and technology.

## Better utilizing existing capacity midstream:



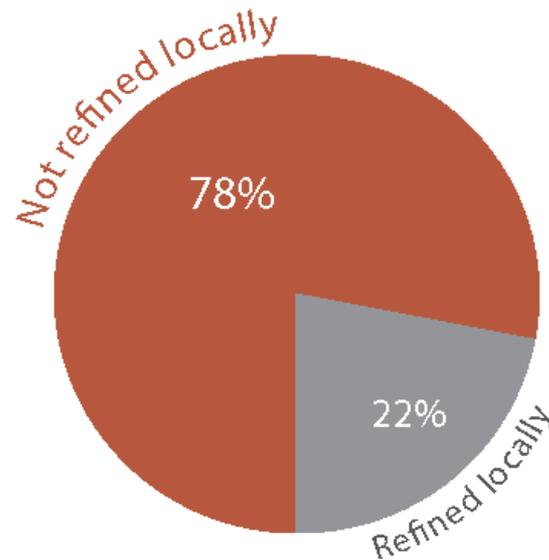
Midstream mill capacity was under utilized in 2013, with mills generating just 50-65% of potential crude palm oil (CPO) compared to total installed capacity.



## Increasing downstream processing and manufactory 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

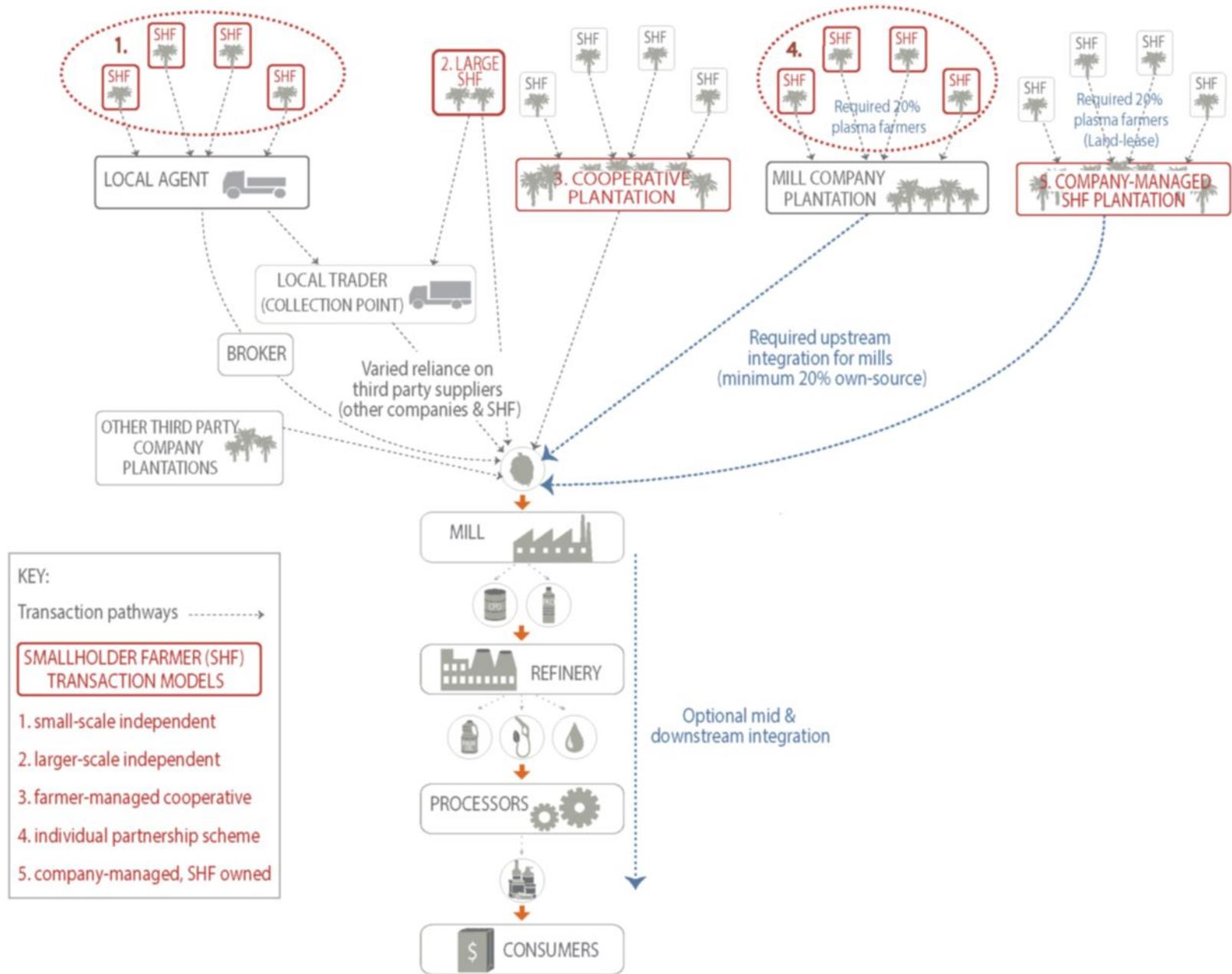


Supporting business and smallholder farmers to realize productivity, profitability and sustainability gains

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:



# Overview of company business models

	Scale	Phases of Production	Reliance on third parties
Model A	Commonly 25-100 Ha	Upstream only	High reliance to off-take FFB
Model B	Ranging from 5 - 30 tonnes FFB/ Hr	Midstream only	High reliance for supply of FFB and off-take of CPO
Model C	Commonly 1,000 – 30,000 Ha*	Up and midstream	Low reliance upstream, reliant for off-take of CPO
Model D	Commonly 80,000 – 300,000 Ha	Up and midstream	Medium-high reliance upstream, reliant for off-take of CPO
Model E	100,000+ Ha	Fully integrated – up, mid and downstream	Low reliance
Model F	100,000+ Ha	Fully integrated – up, mid and downstream	Medium-high reliance upstream
Model G	1+ refineries	Downstream only	High reliance for supply of CPO / CPKO

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

ISPO certified

Upstream only



Model A (IUP-B licensed plantation)



Model A (IUP-B licensed plantation)



Smallholder Farmers



Smallholder Farmers

Midstream only



Model B (IUP-P licensed mill)



Model B (IUP-P licensed mill)

Integrated



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

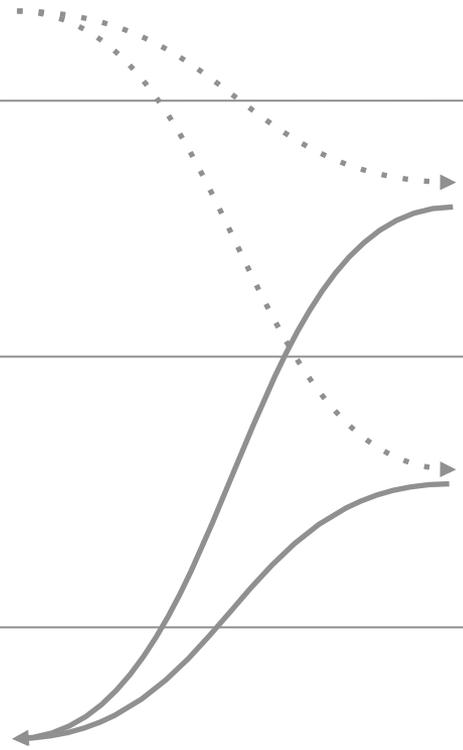


Models C, D, E & F (IUP licensed - integrated)

Downstream only



Models G (outside ISPO scheme)



# 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.

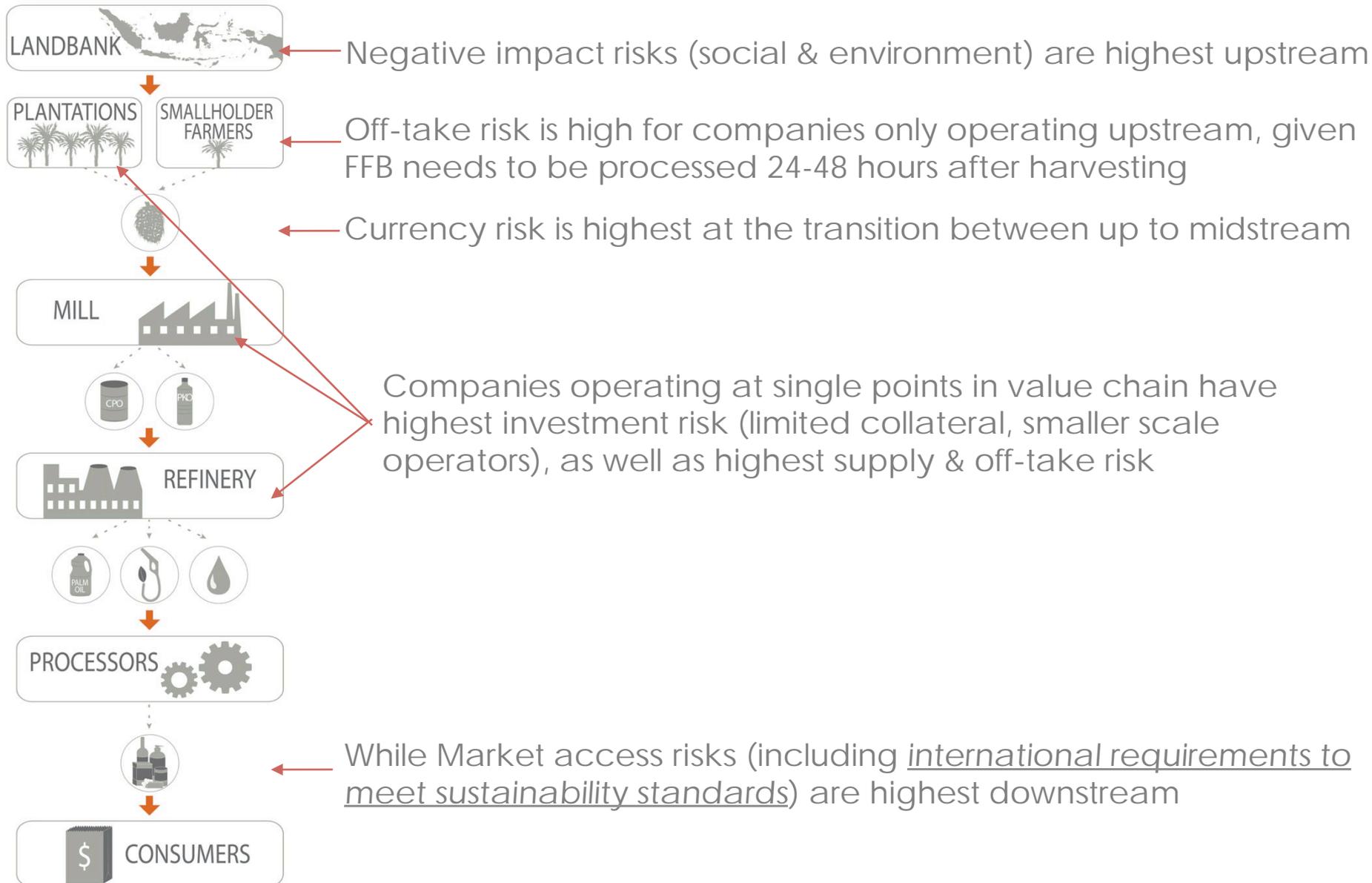
- Managing risk plays a key role in relation to the transition towards a sustainable oil palm value chain actor, as various investment risks can act both as an inhibitor and motivation for changing business practices.
- On the one hand, shifting practices can incur unknown or new risks that businesses, 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

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

Different company models and parts of the value chain are effected differently by risk. Tools should be targeted to address these different needs.

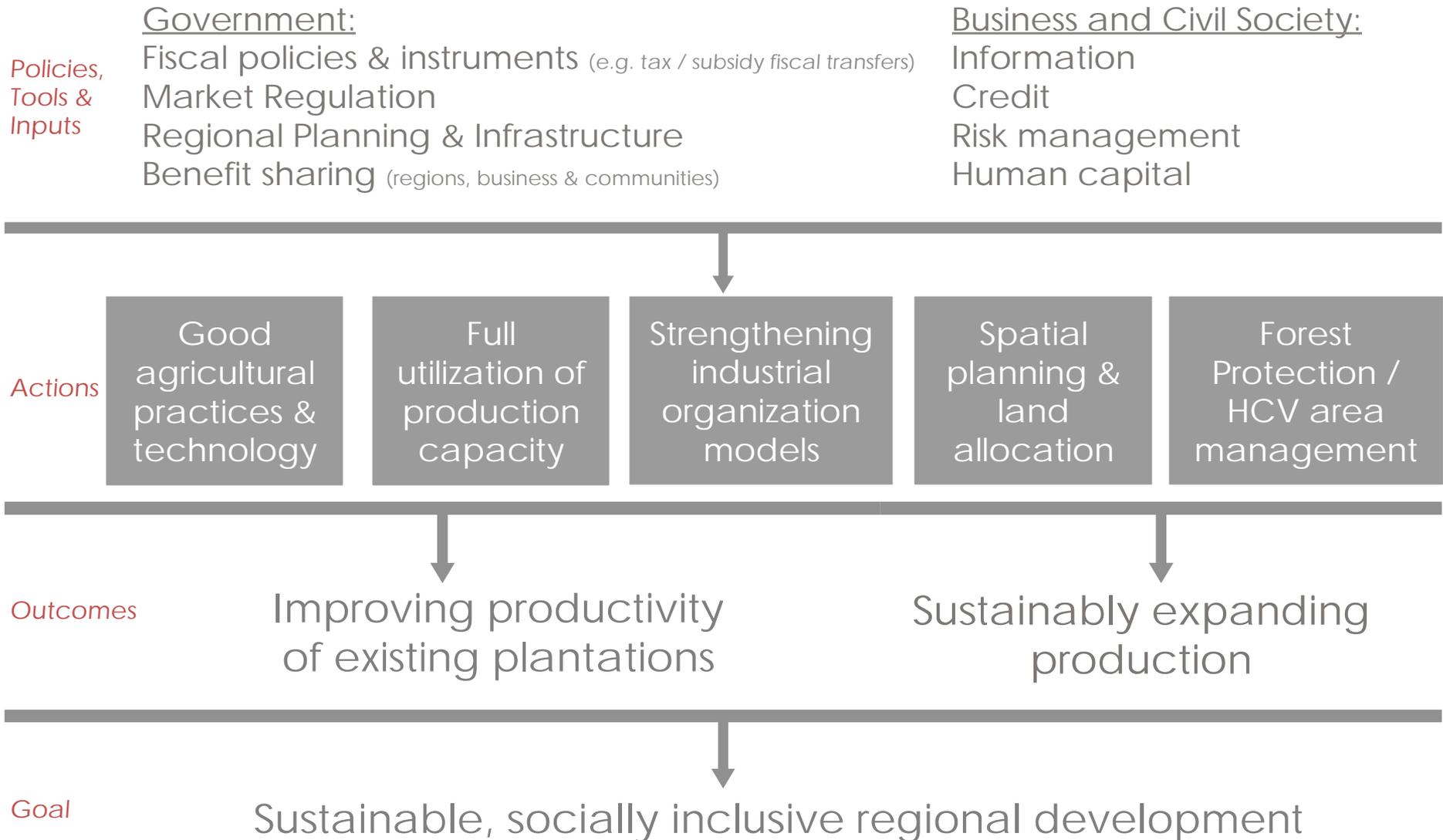


Opportunities for productivity, profitability and sustainability gains through efficient land use

## 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



## 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