Global markets and value chains: Global cassava markets and their potential impact on smallholder farmers in Myanmar

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Agribusiness Master Class
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Mandalay, Myanmar

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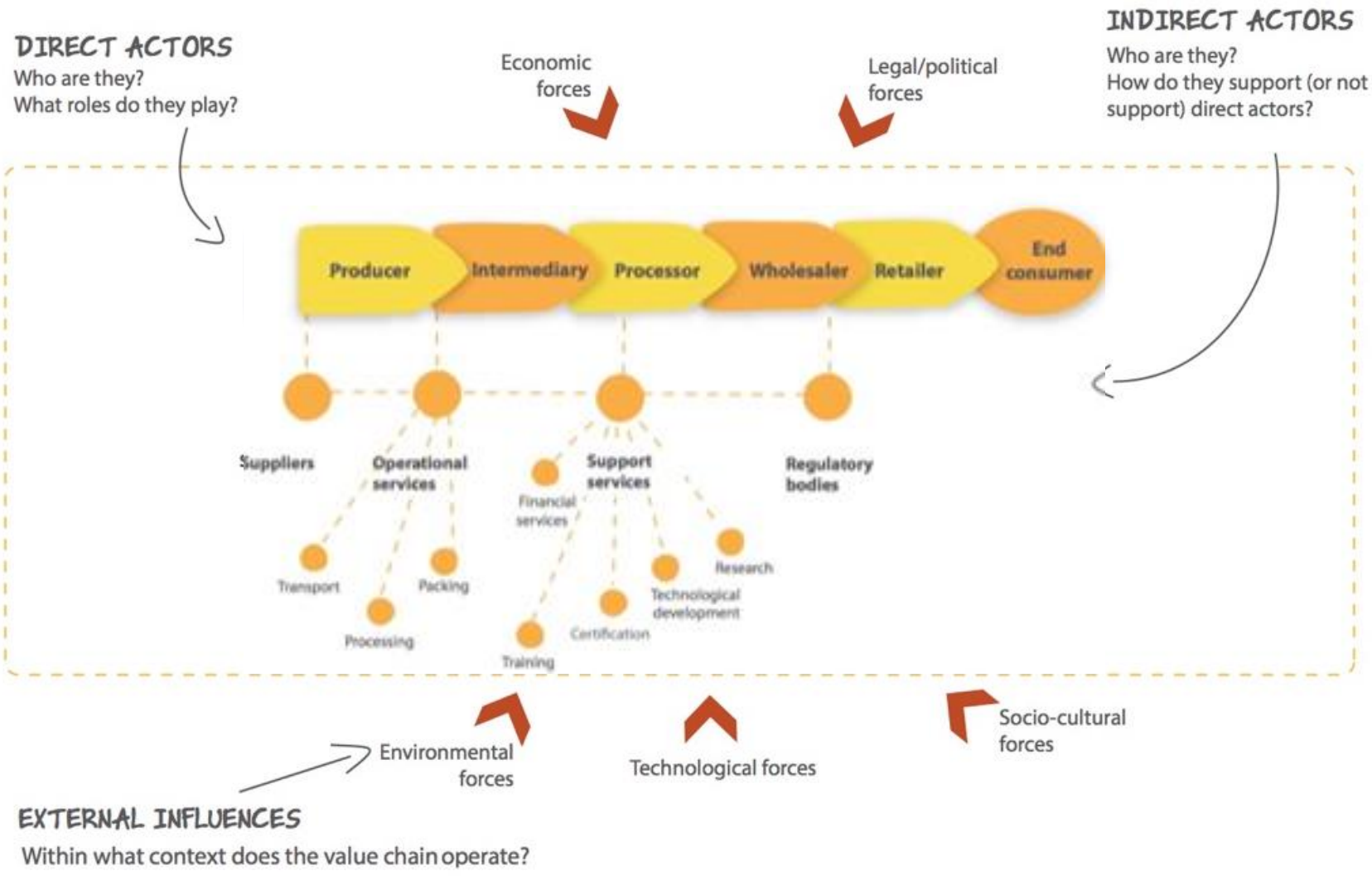
The term value chain refers to the **full range of activities** that are required to bring a product from conception, through the different phases of production to delivery to final consumers and disposal after use (Kaplinsky 1999; Kaplinsky and Morris 2001).

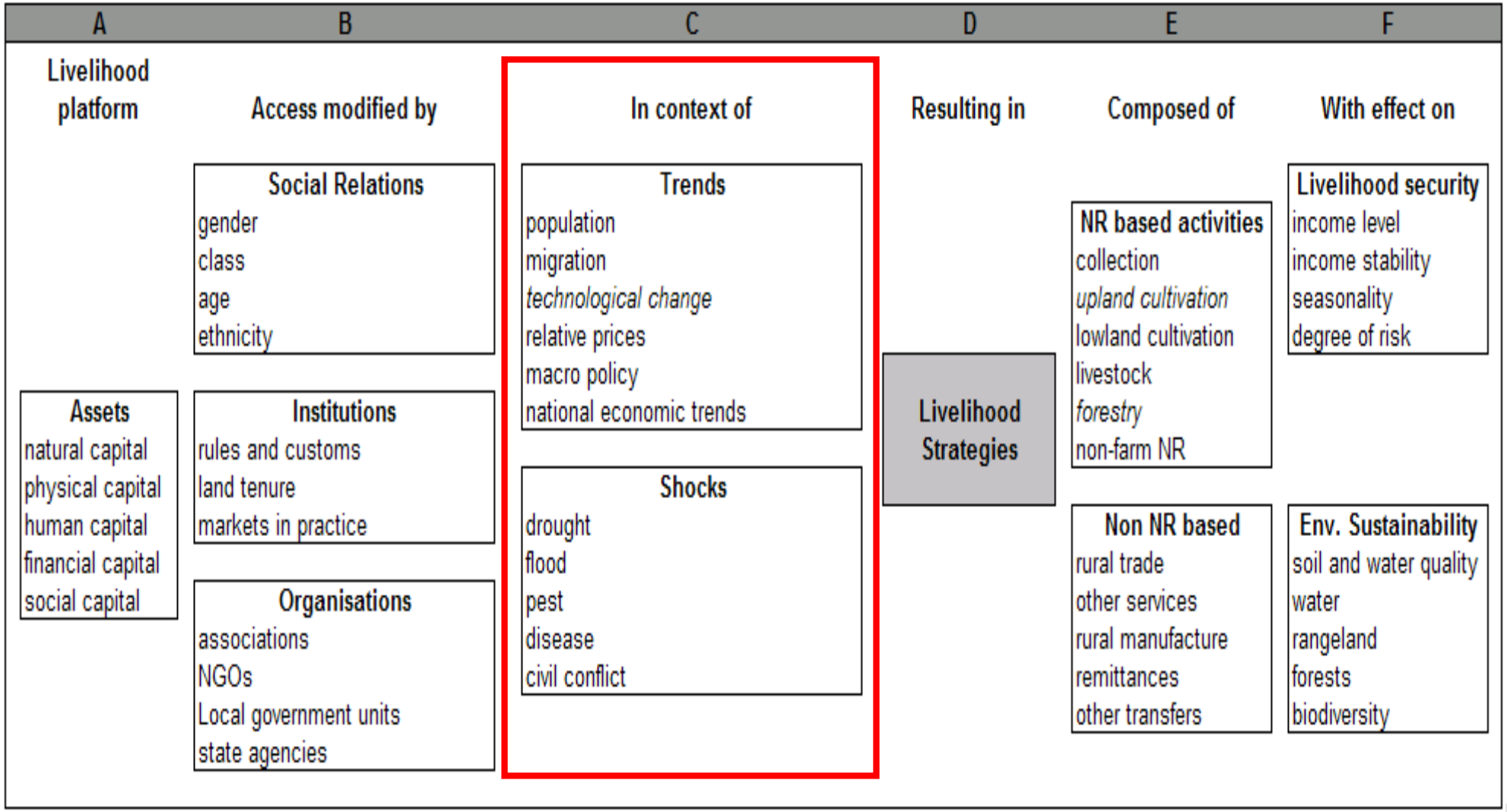


External influences

Difficult to control or influence

Understanding the potential risks and opportunities is critical

Sustainable livelihoods framework

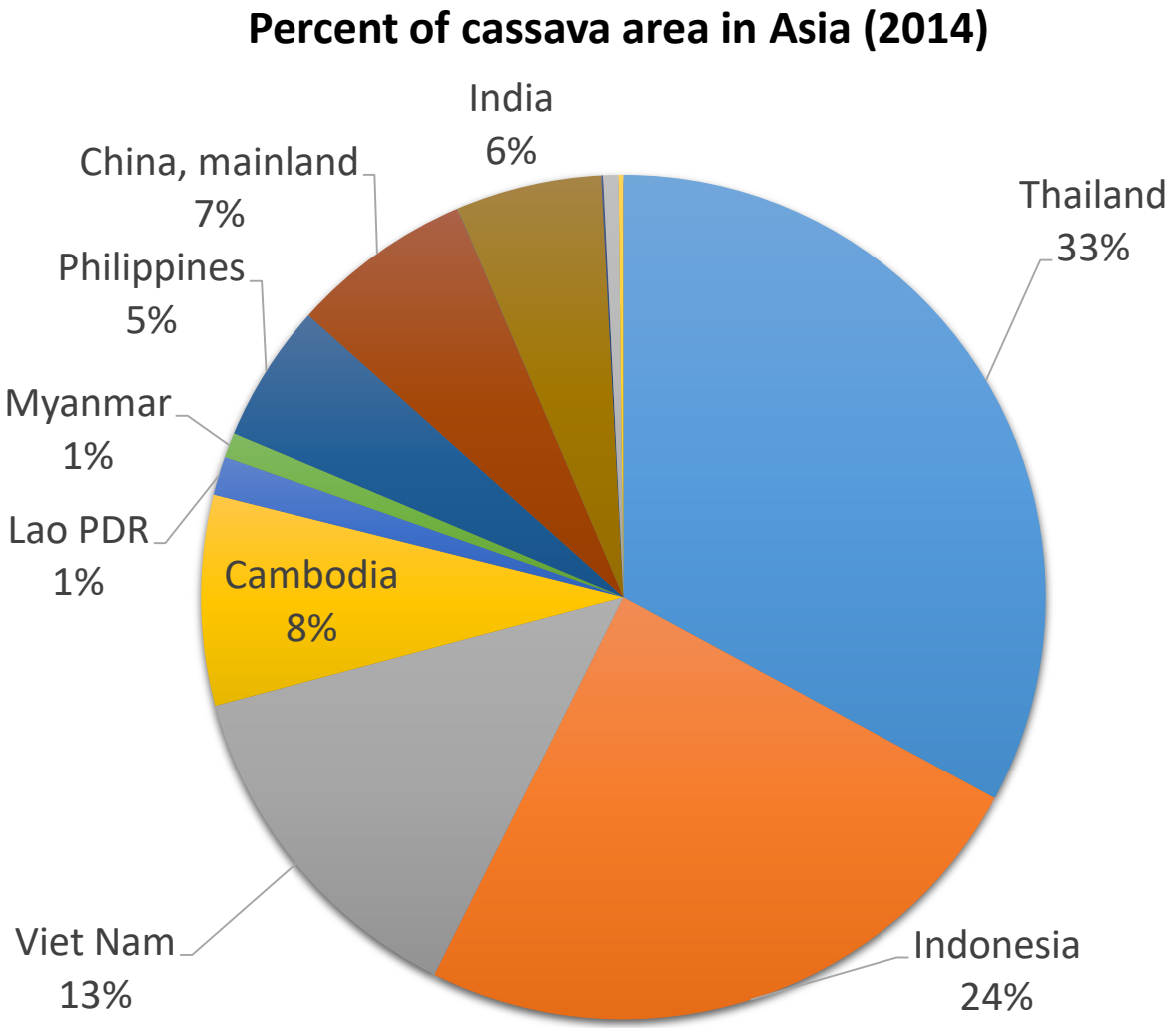




Why does CIAT work on cassava in Asia?



Diverse cassava production system in Southeast Asia

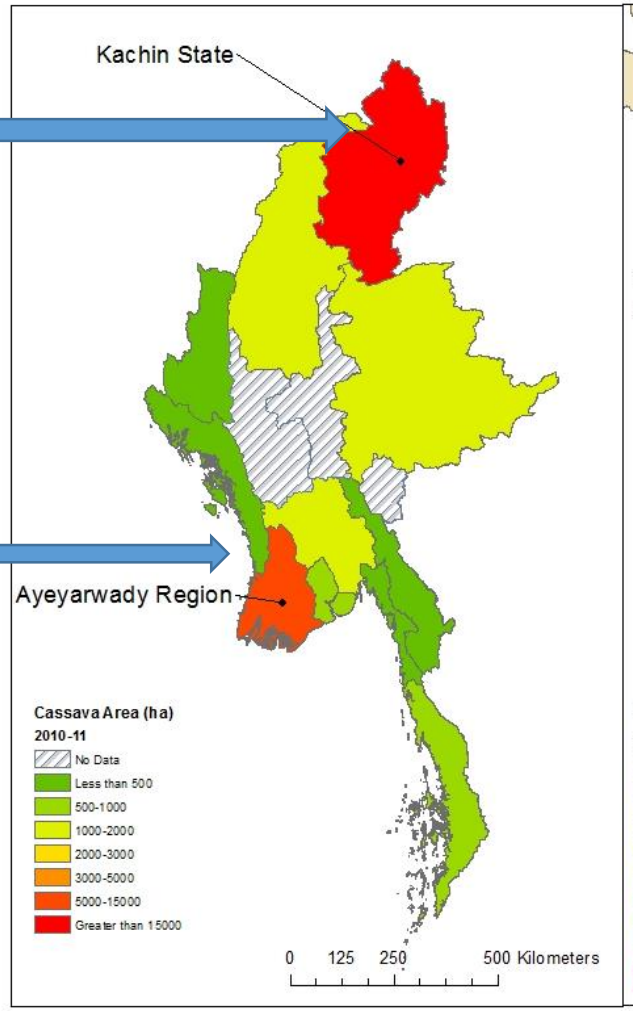


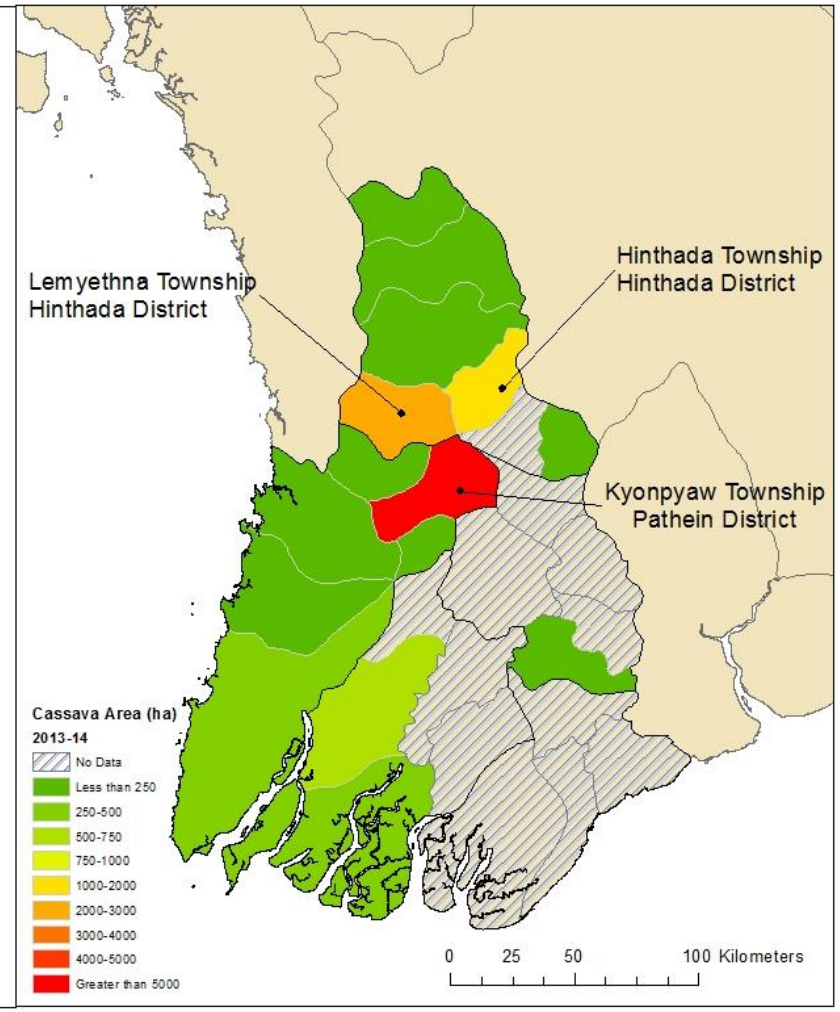
FAO Stats

Cassava production in Myanmar

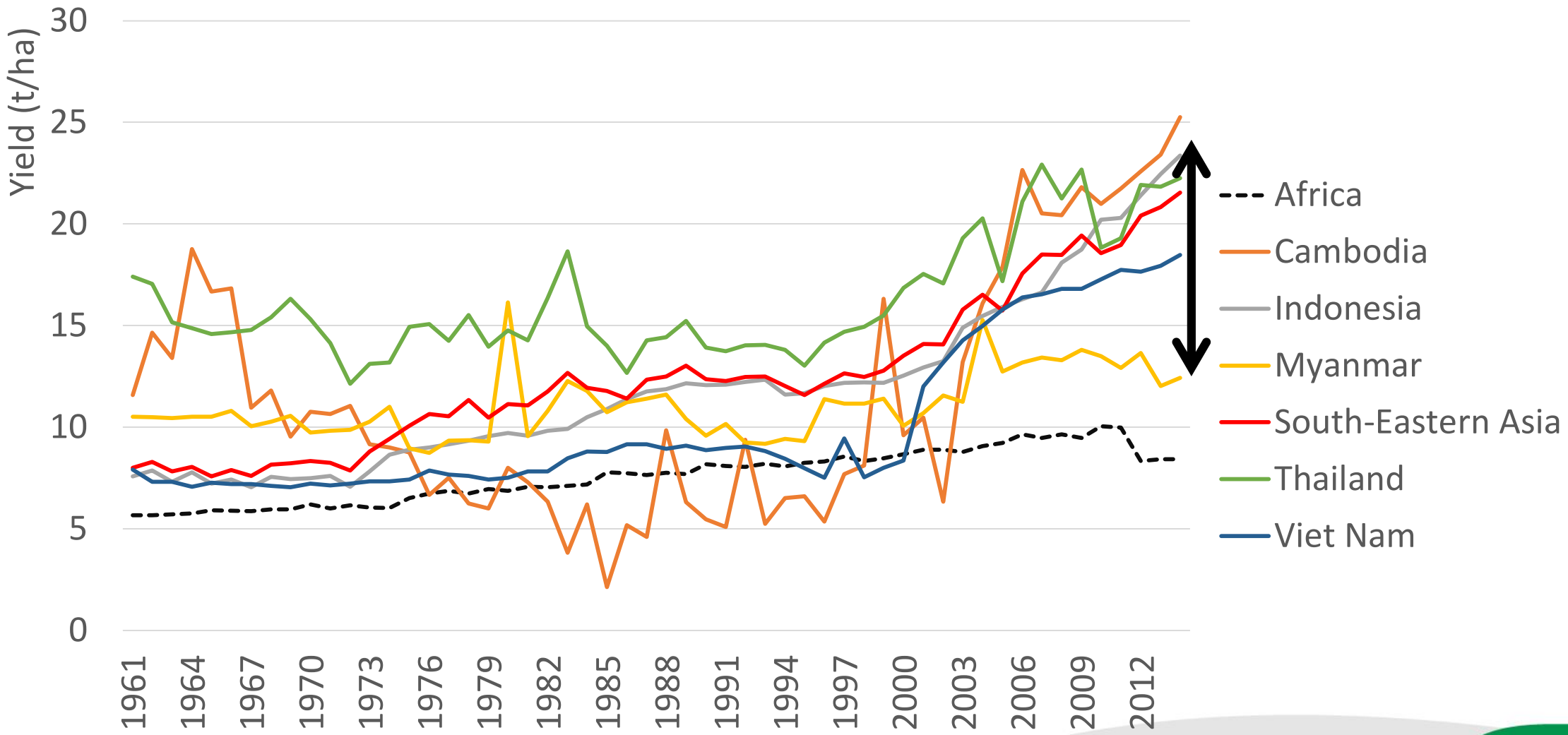
Around 250 small processors (2015)

50-60 people employed per factory



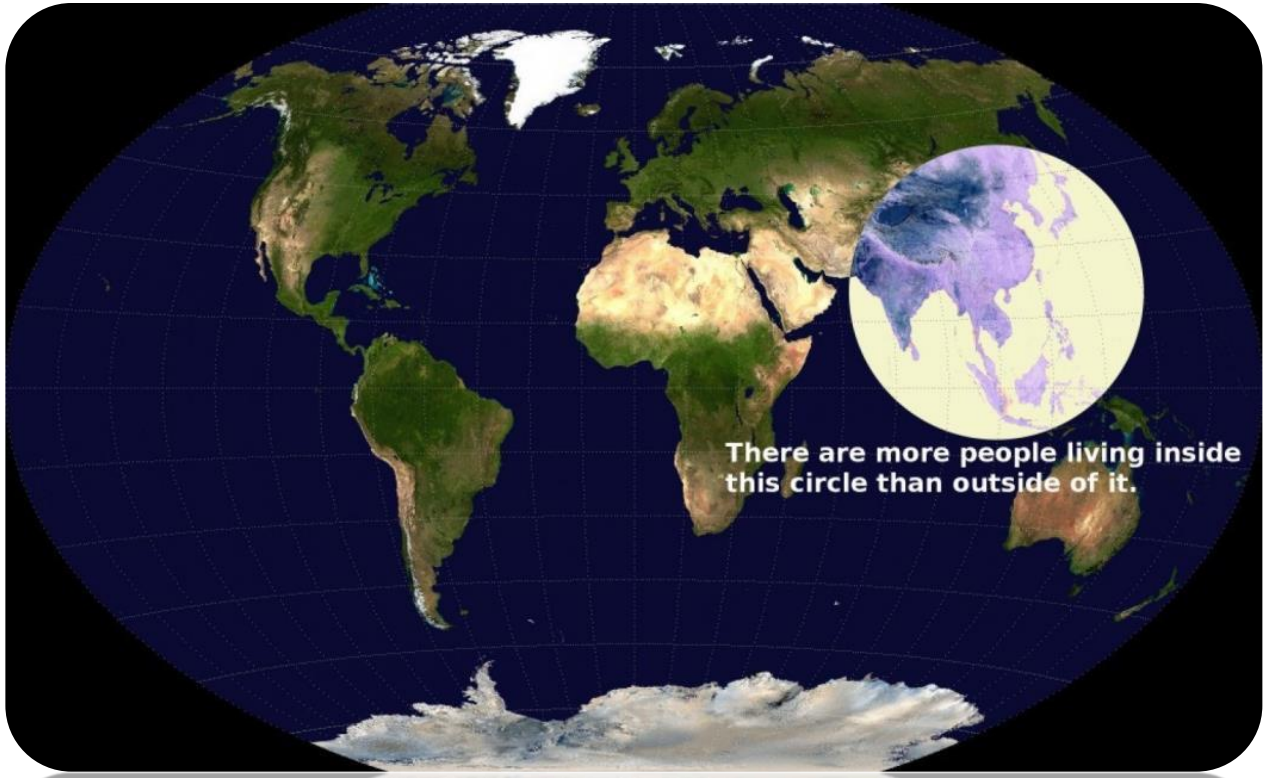


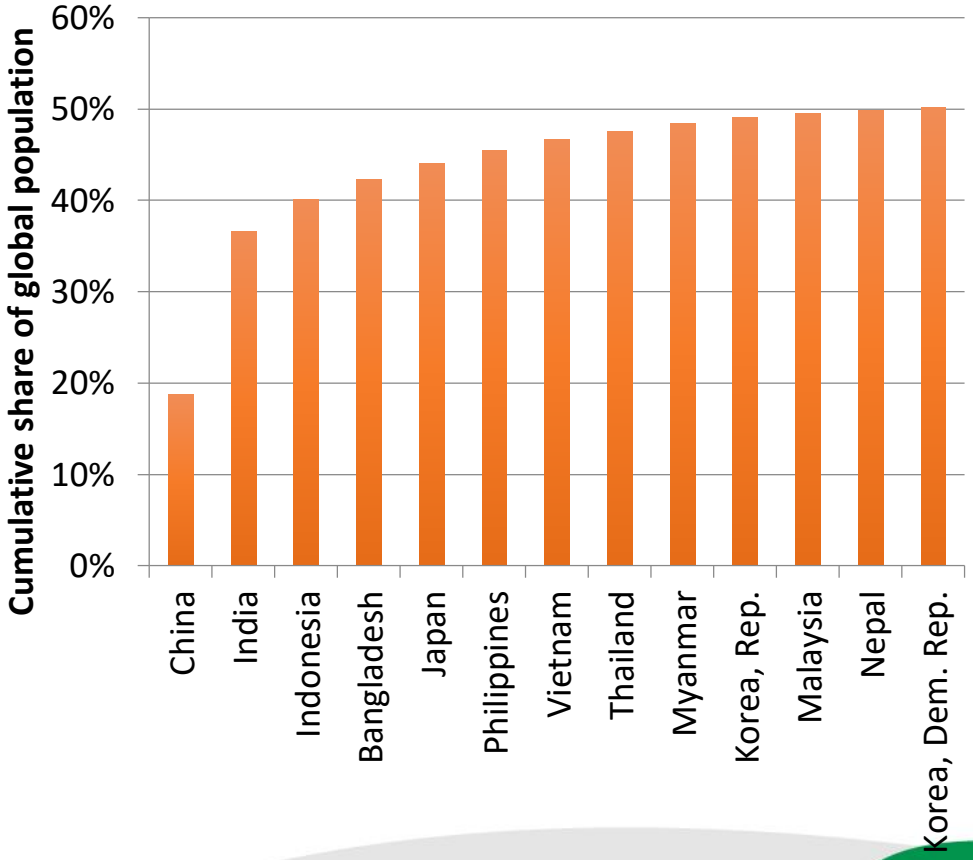
Comparative cassava yields



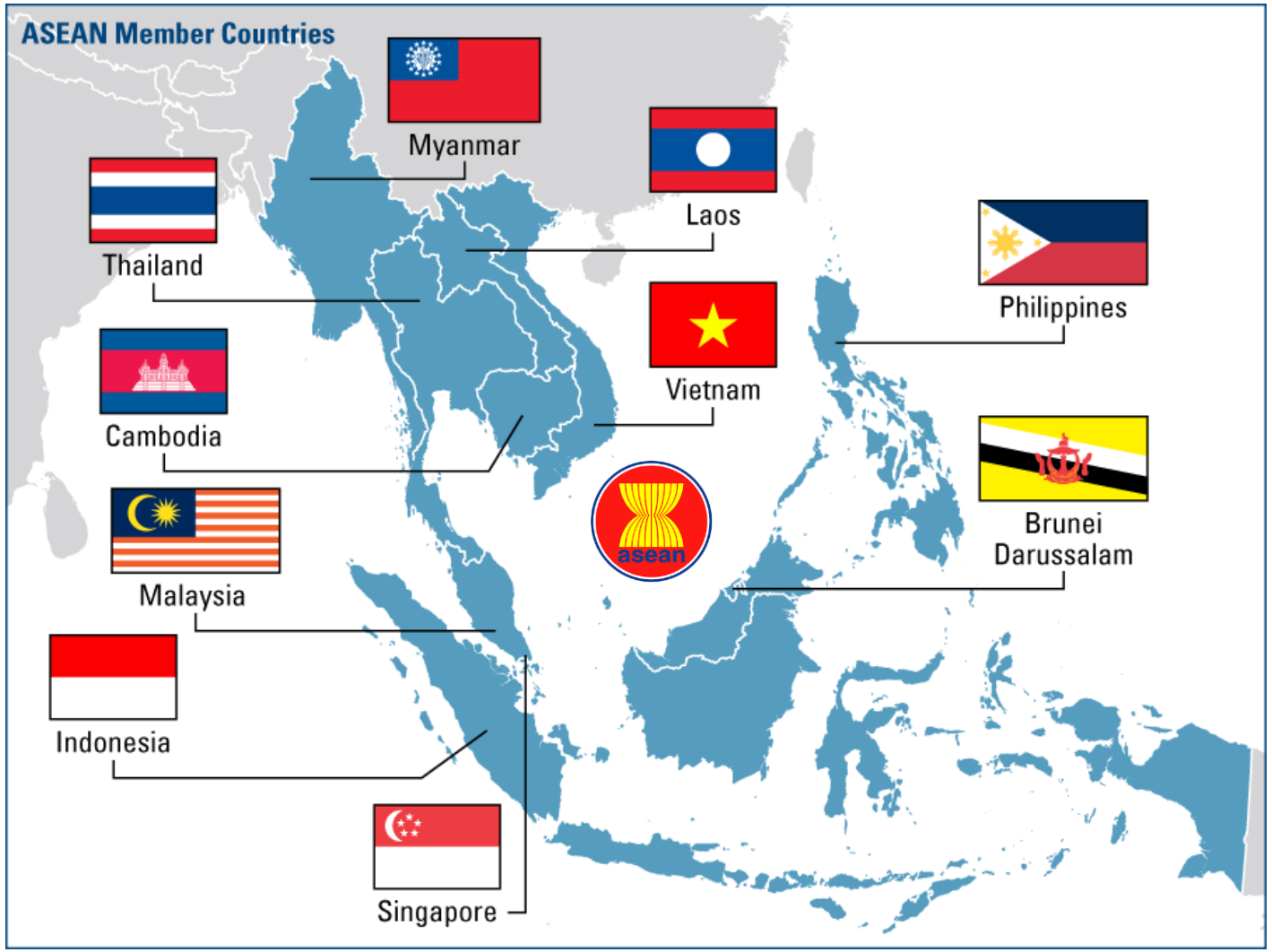
Source: FAOStats

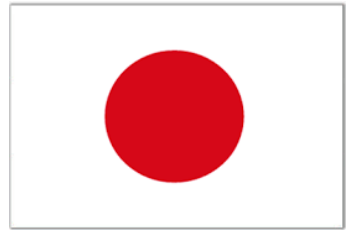
Population, economic growth and demand in Asia



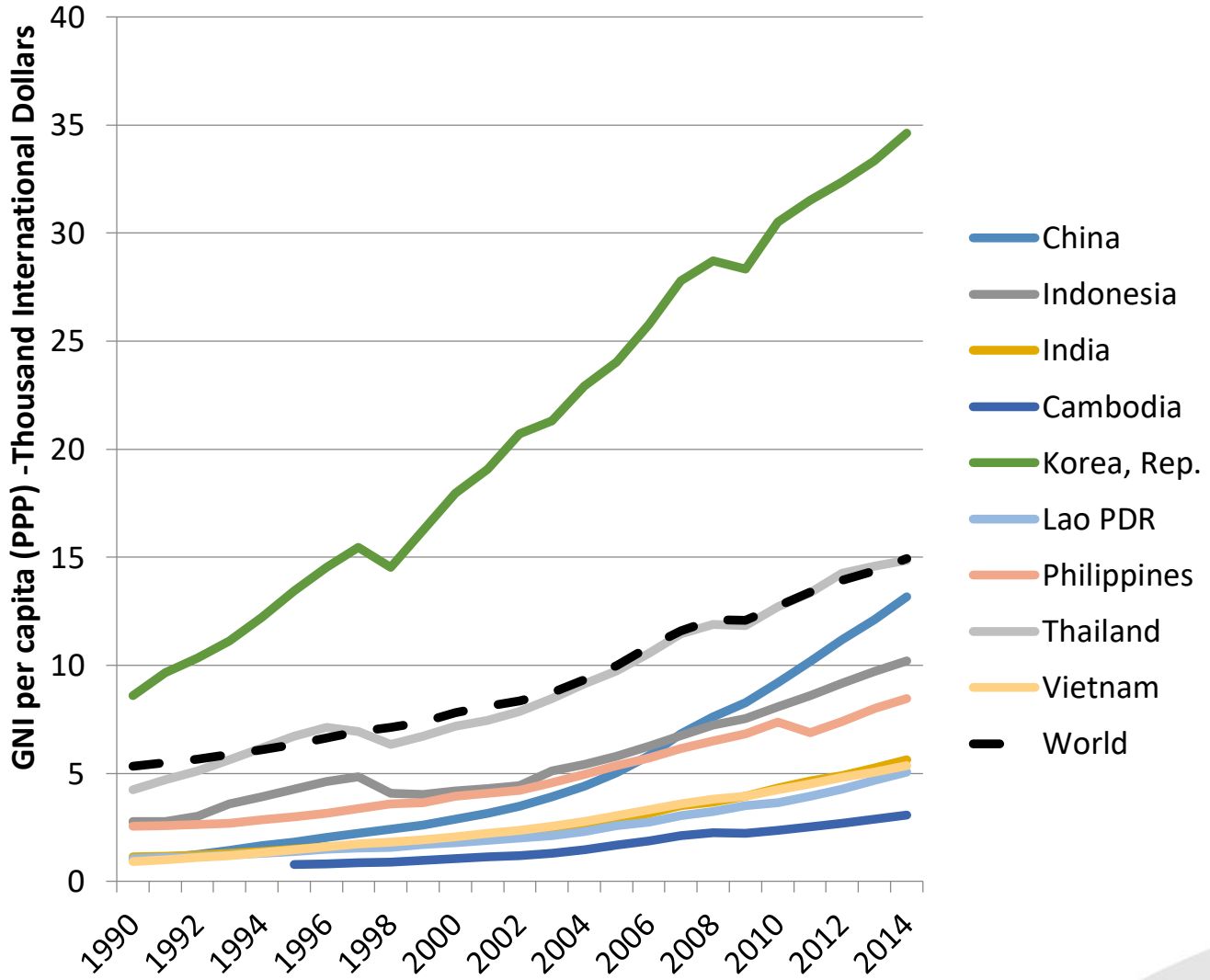


Cassava global market: ASEAN, East Asia and the World





Rising incomes in Asia and changing consumer preferences



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World Bank Stats

Cassava: Not an “economic inferior” good

- **Livestock feed**
- **Paper industry and glues**
- **Textiles**
- **Sweeteners**
- **Processed food sector**
- **Pharmaceuticals**
- **Alcohol**
- **Bioplastics**
- **Biofuel**

Desirable functional traits:

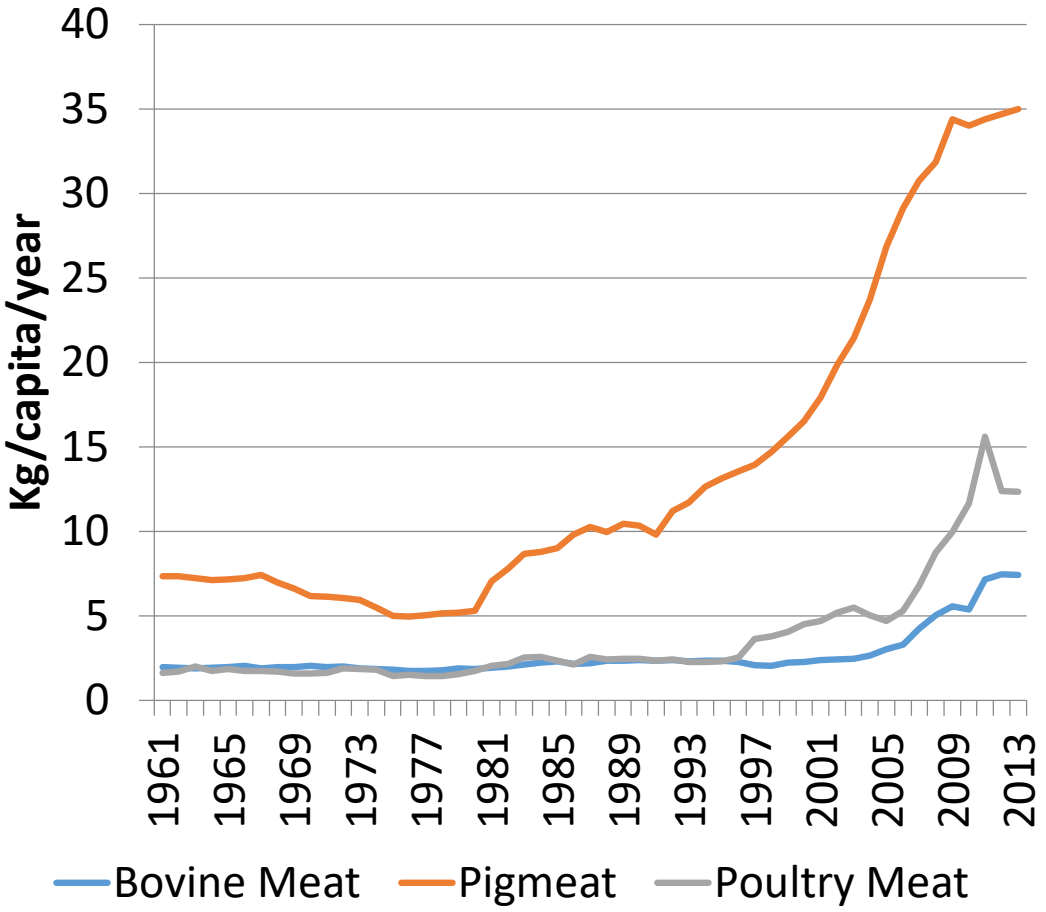
Meat products, sauces, frozen foods, dairy products, noodles

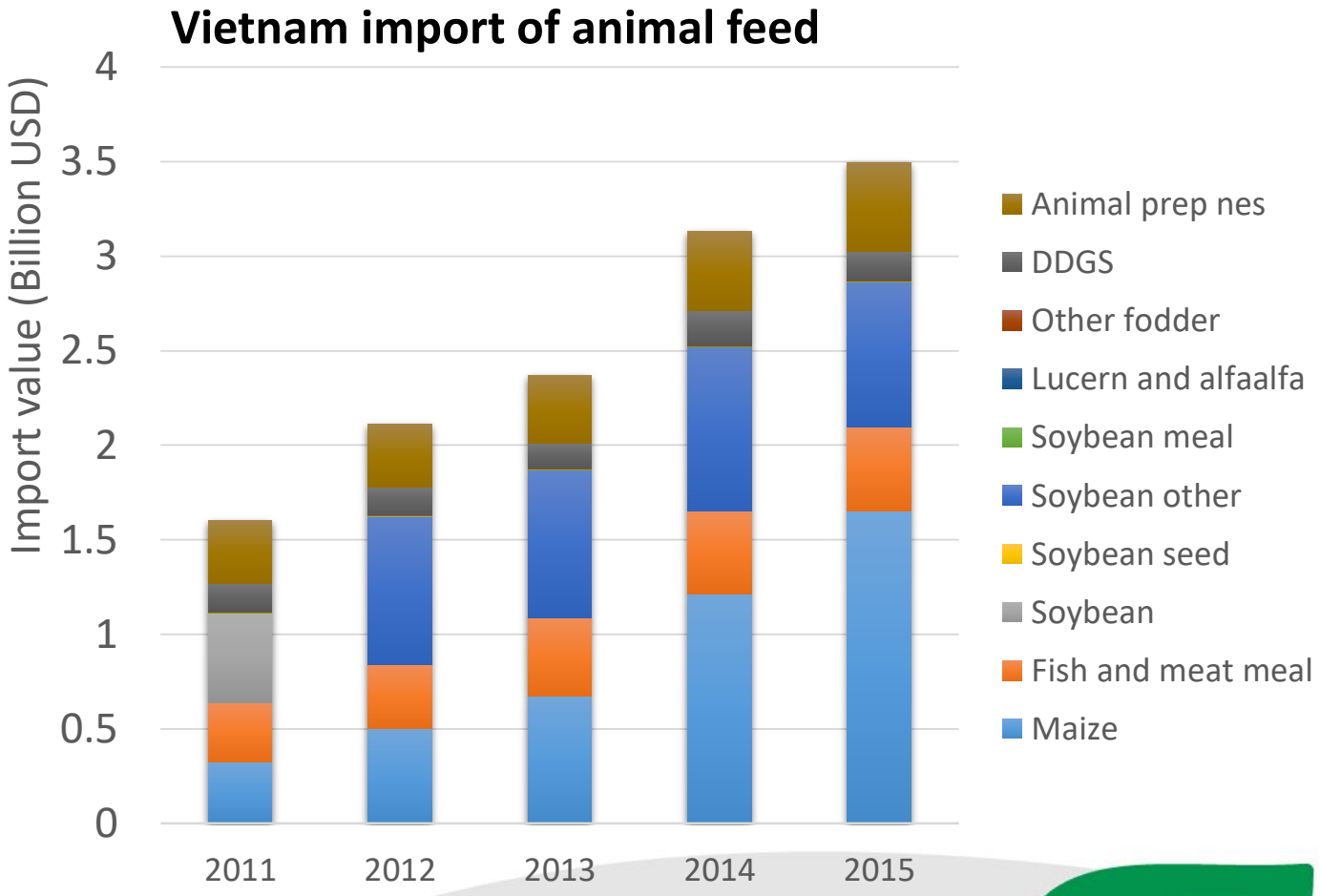
- High viscosity, firm and elastic texture
- Freeze thaw stability.
- Provide short texture and reduce water separation
- Smooth texture and paste clarity
- Prevent cracking, good freeze thaw
- Smooth and improve mouth feel

In other application needs to be competitive compared to substitutes

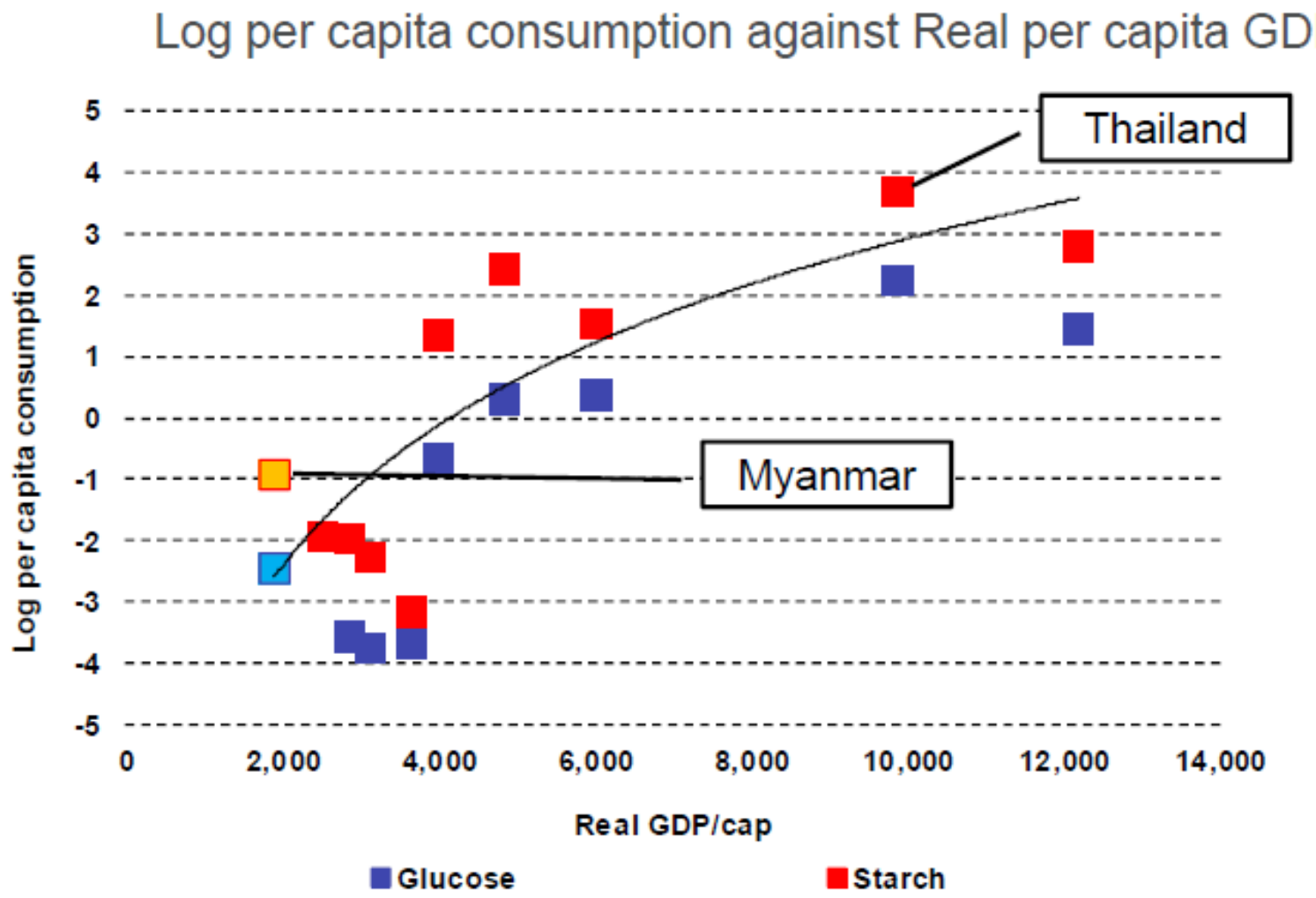
- Maize, sorghum, sugarcane, potatoes, etc
- Oil

Increasing demand for animal feed



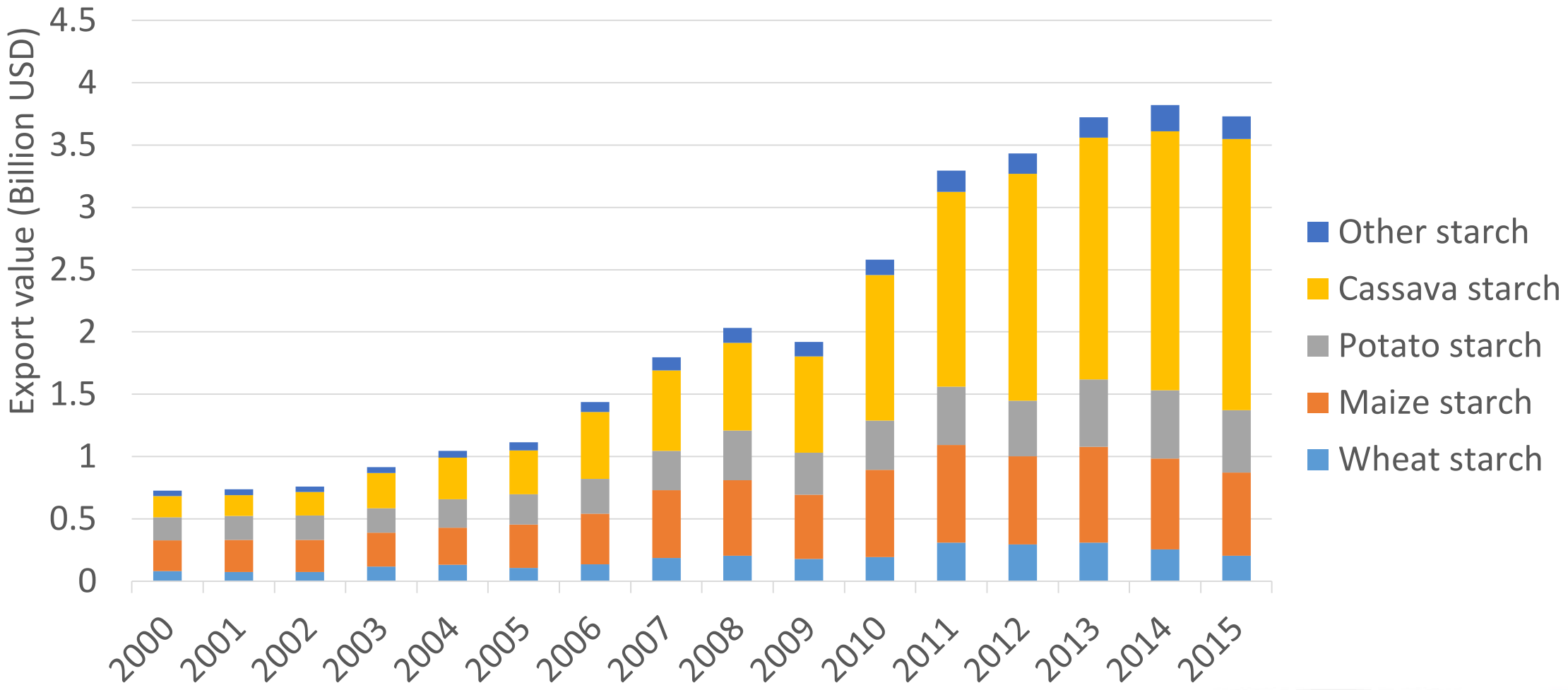


Rising incomes and starch consumption



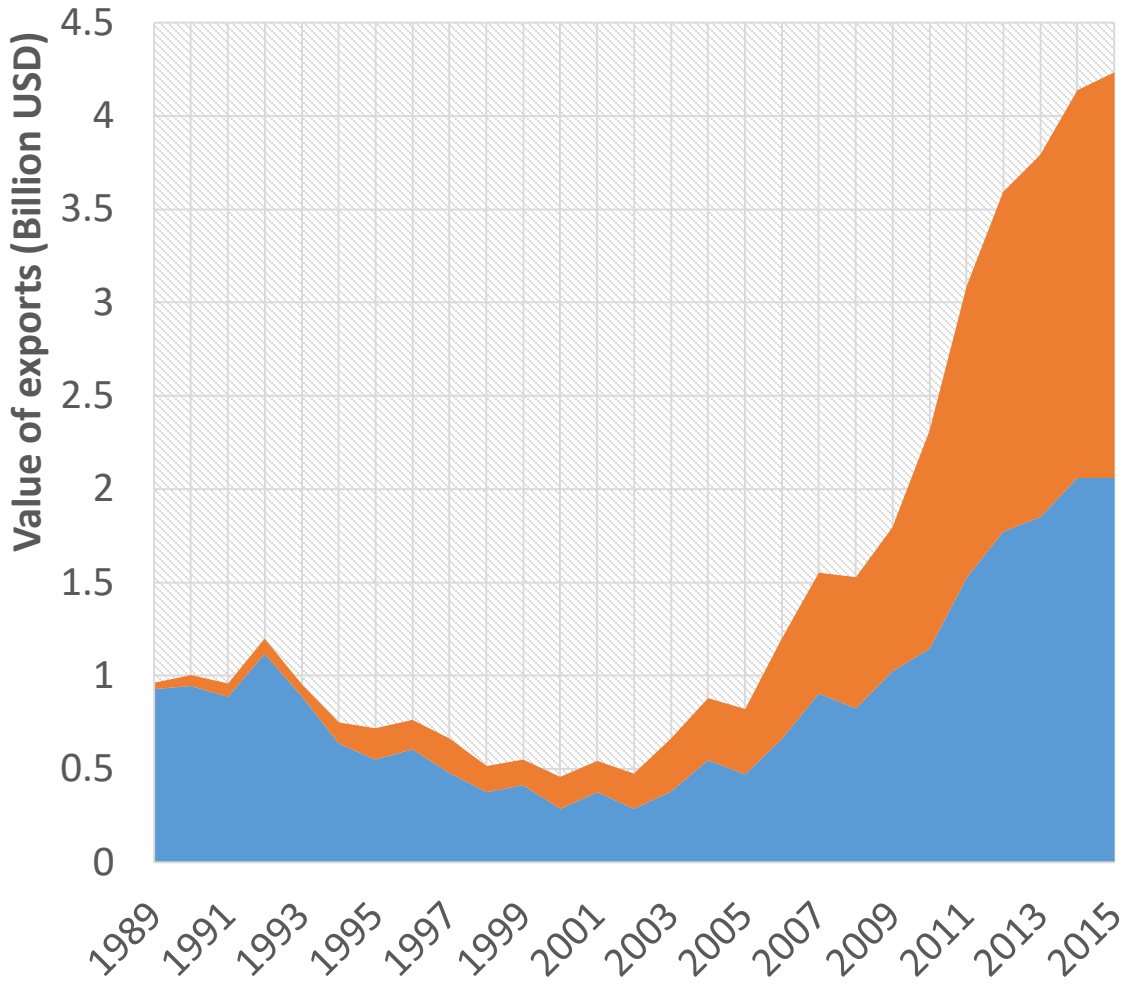
Source: LMC 2015

Globally the most widely traded native starch



Source: Comtrade (1989-2015)

A multi-billion dollar export earner



$US 4.2 billion exports

Cassava starch

Cassava (fresh and dried)

Source: Comtrade (1989-2015)

Cassava starch: Currently largely an Asian market

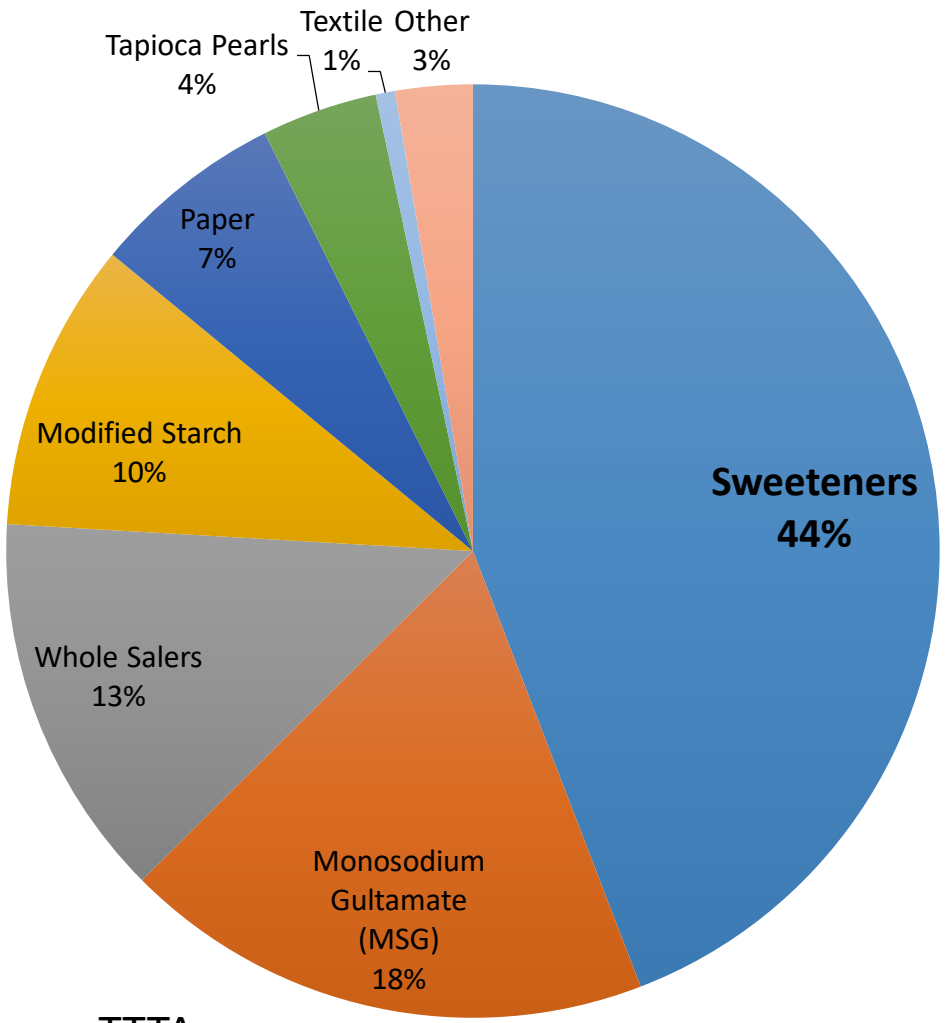
Importer Rank	Country	Import trade value (US$)	% of imports	Cumulative %
1	China	781 M	50%	50%
2	Indonesia	256 M	16%	66%
3	Other Asia, nes	138 M	9%	75%
4	Malaysia	75 M	5%	80%
5	USA	70 M	4%	84%
6	Japan	58 M	4%	88%
7	Philippines	35 M	2%	90%
8	Singapore	27 M	2%	92%
9	Rep. of Korea	11 M	1%	93%
10	Netherlands	10 M	1%	93%
11	Germany	8 M	1%	94%

Data source: Comtrade 2015

*Reported by importers

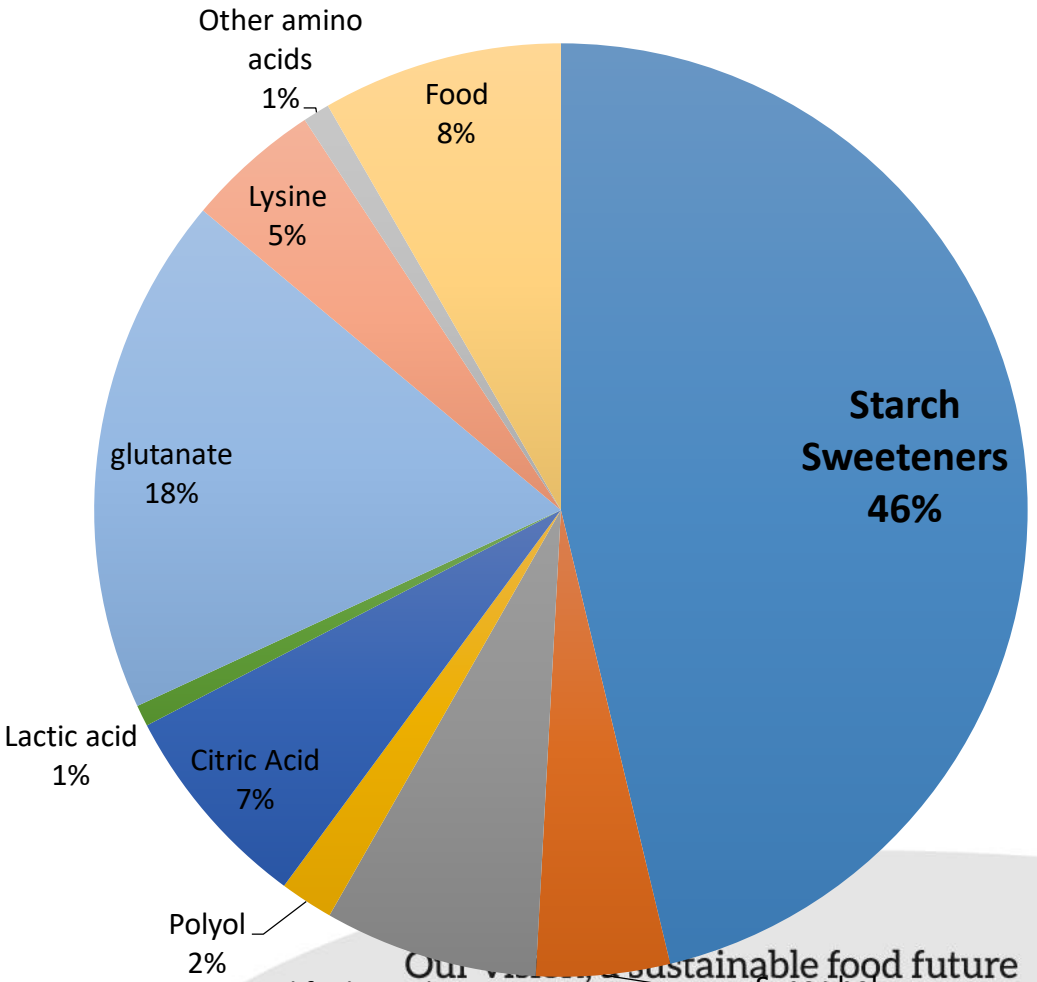
Utilisation of starch in Thailand and China

Thai Domestic use of cassava starch



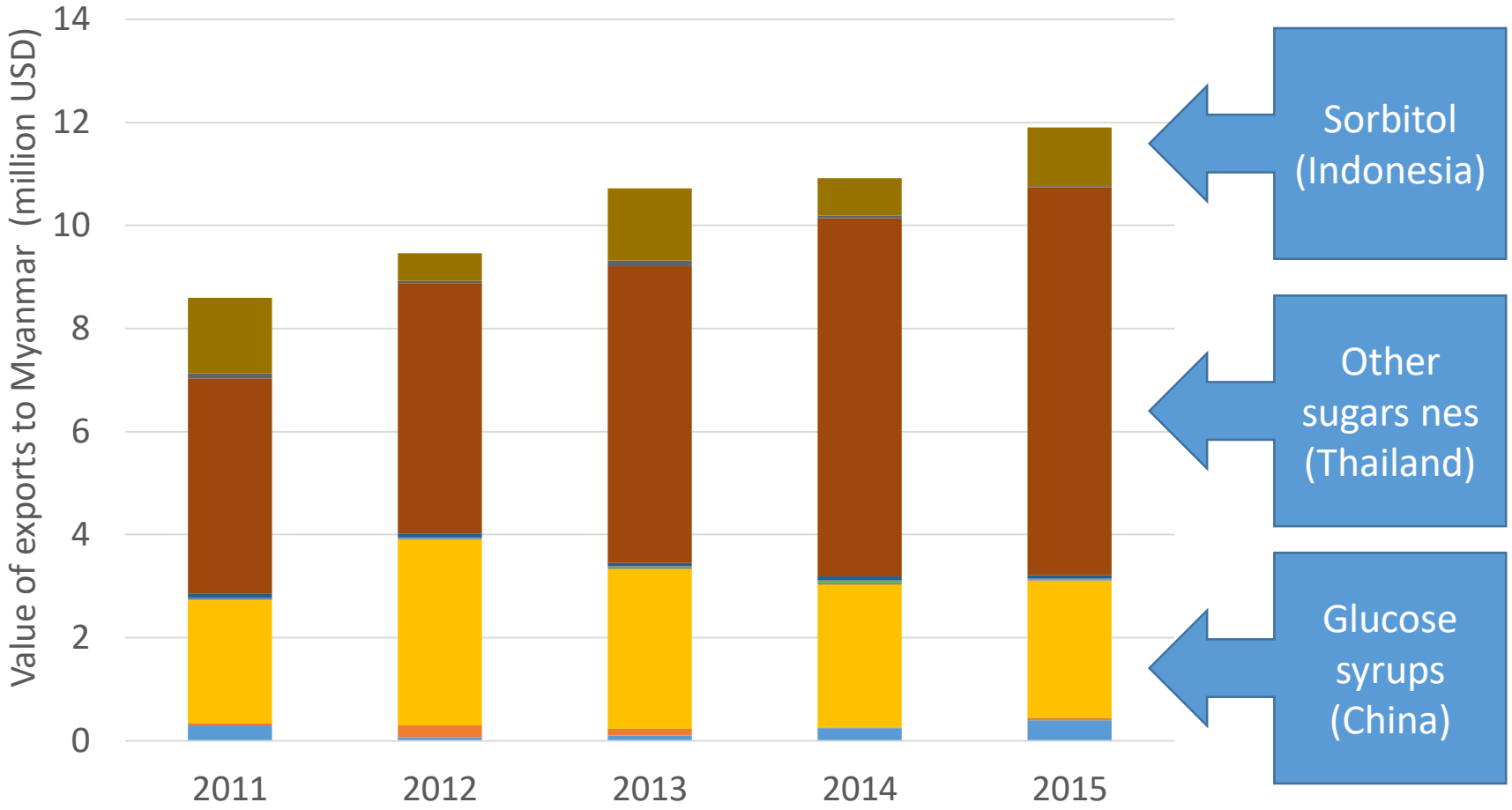
Source: TTTA

Chinese use of all starch



Source: Jin Shu-ren

Myanmar sweetener trade

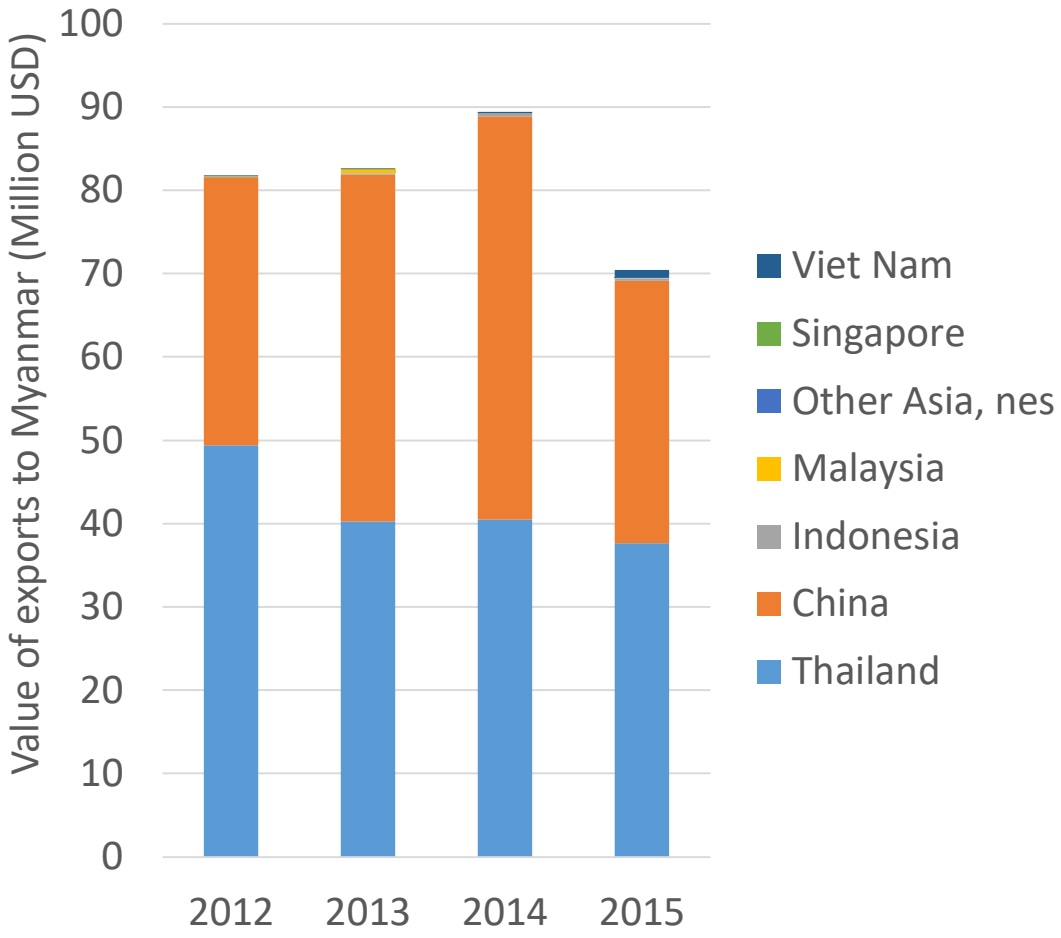


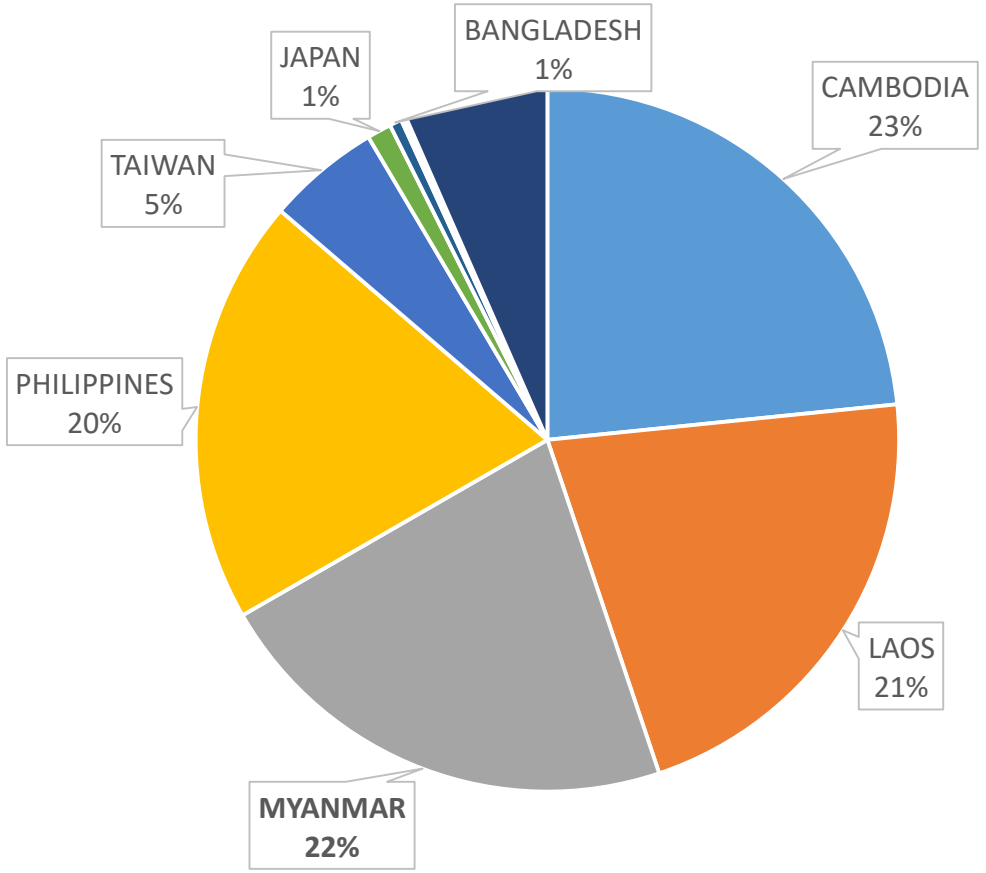
HS (as reported) commodity codes

× 170210 - Lactose and lactose syrup × 170211 - Lactose & syrup,99% lact × 170219 - Lactose and lactose syru × 170220 - Maple sugar and maple syrup
× 170230 - Glucose, glucose syrup < 20% fructose × 170240 - Glucose including syrup of 20%-50% dry weight fructos × 170250 - Fructose, chemically pure
× 170260 - Fructose, syrup > 50% fructose, not pure fructose × 170290 - Sugar nes, invert sugar, caramel and artificial honey × 290543 - Mannitol
× 290544 - D-glucitol (sorbitol)

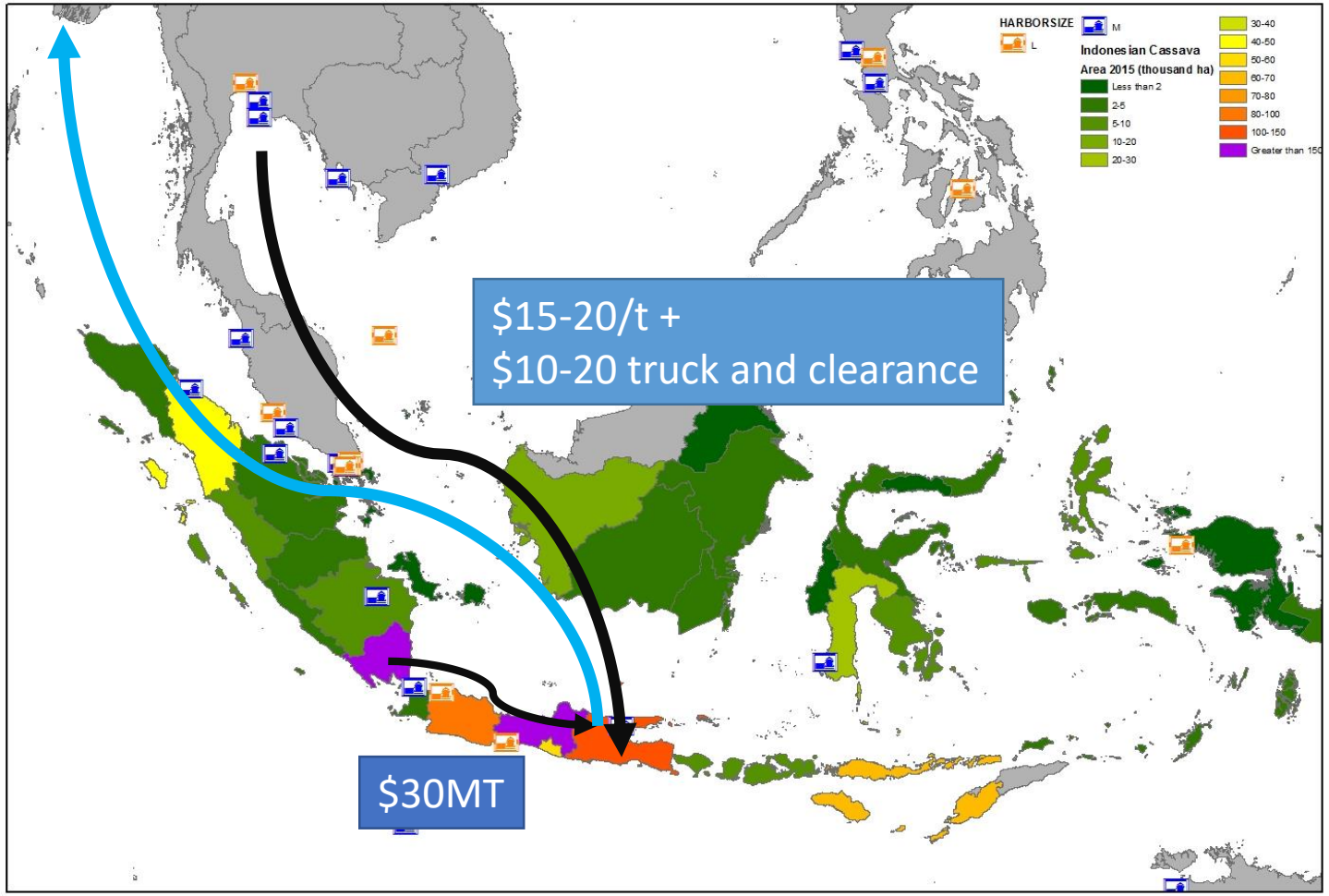
MSG exports to Myanmar

Thai exports of MSG in 2016 = $161.2 million USD
Myanmar = 22% or $35.2 million USD





Logistics are important!



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Business operations face high logistics costs, study says

High logistics costs in Laos are still a major obstruction for business operations throughout the domestic private sector and can also deter investors, a recent study suggests.


A line of trucks with shipping containers wait to transport their goods from Laos to neighbouring countries.

Logistics costs in the country are as high as double compared to other neighbouring or Asean countries according to the Japan External Trade Organisation's (JETRO) survey team.

A study conducted by the survey team has compared logistics costs between Laos and Thailand and especially those costs between Vientiane to Savannakhet province and Bangkok to Khon Kaen province.

The route from Vientiane to Savannakhet province is 490km long and the cost was worked out to be US$2.5 per kilometre while the route from Bangkok to Khon Kaen is 450km long and costs only US$1.1 per kilometre.

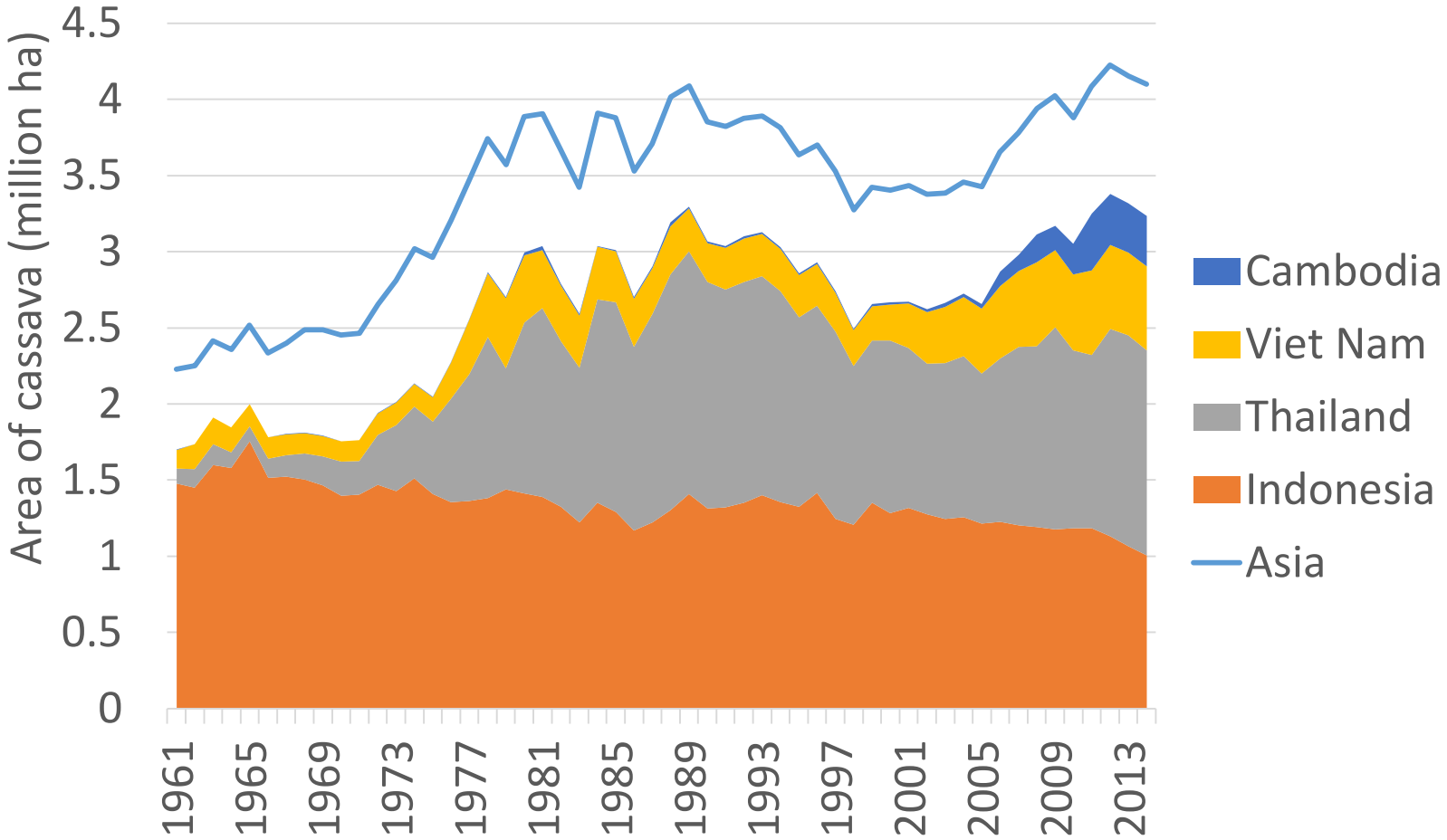
The reasons behind the high logistics costs may not be petrol prices or driver's salaries but poor basic infrastructure.

Transportation of goods between Vientiane and Bangkok is also struggling with additional payments for documents at border checkpoints.

A double edged sword:

- Limits export potential
- Provides protection from imports

Cassava development in Asia: A history of association with external policy and markets



Phase 1 – Indonesia and Malaysia and global trade

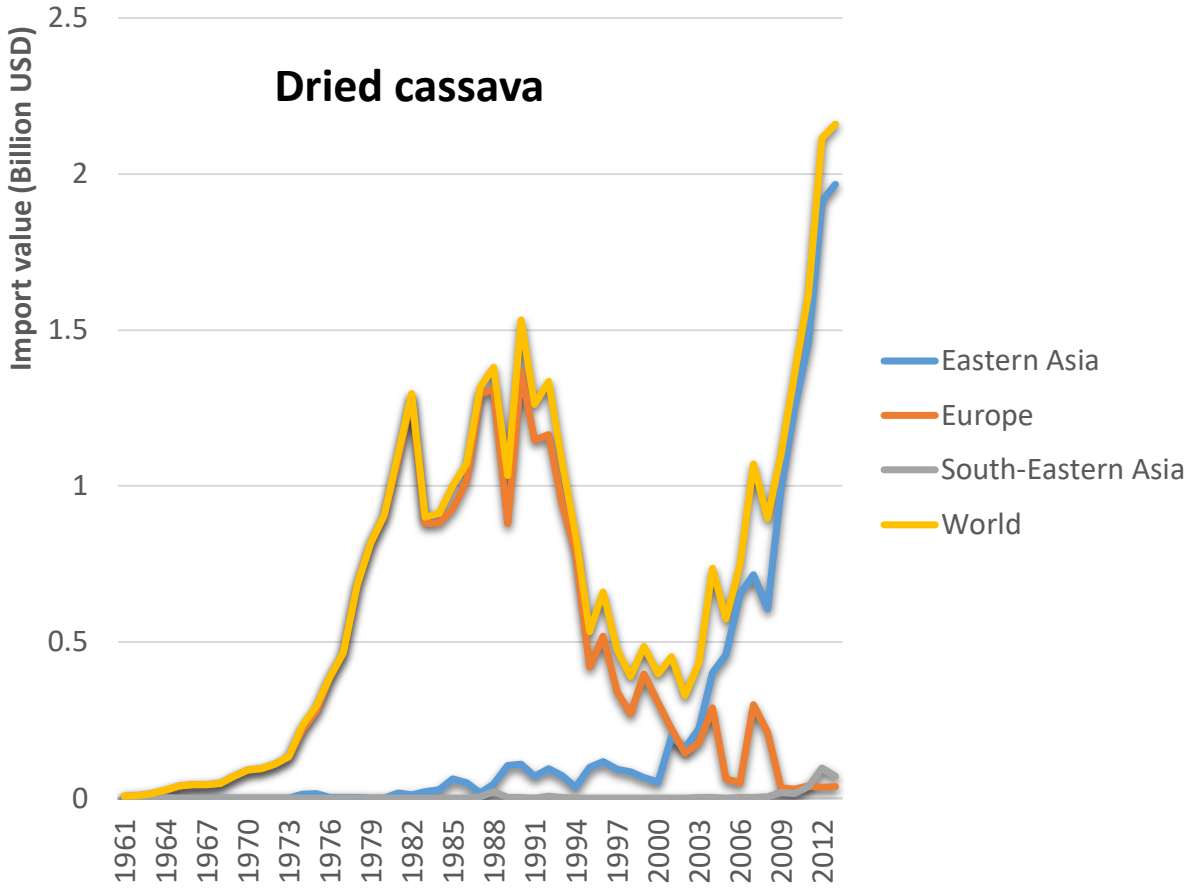
Phase 2 –Europe livestock feed markets

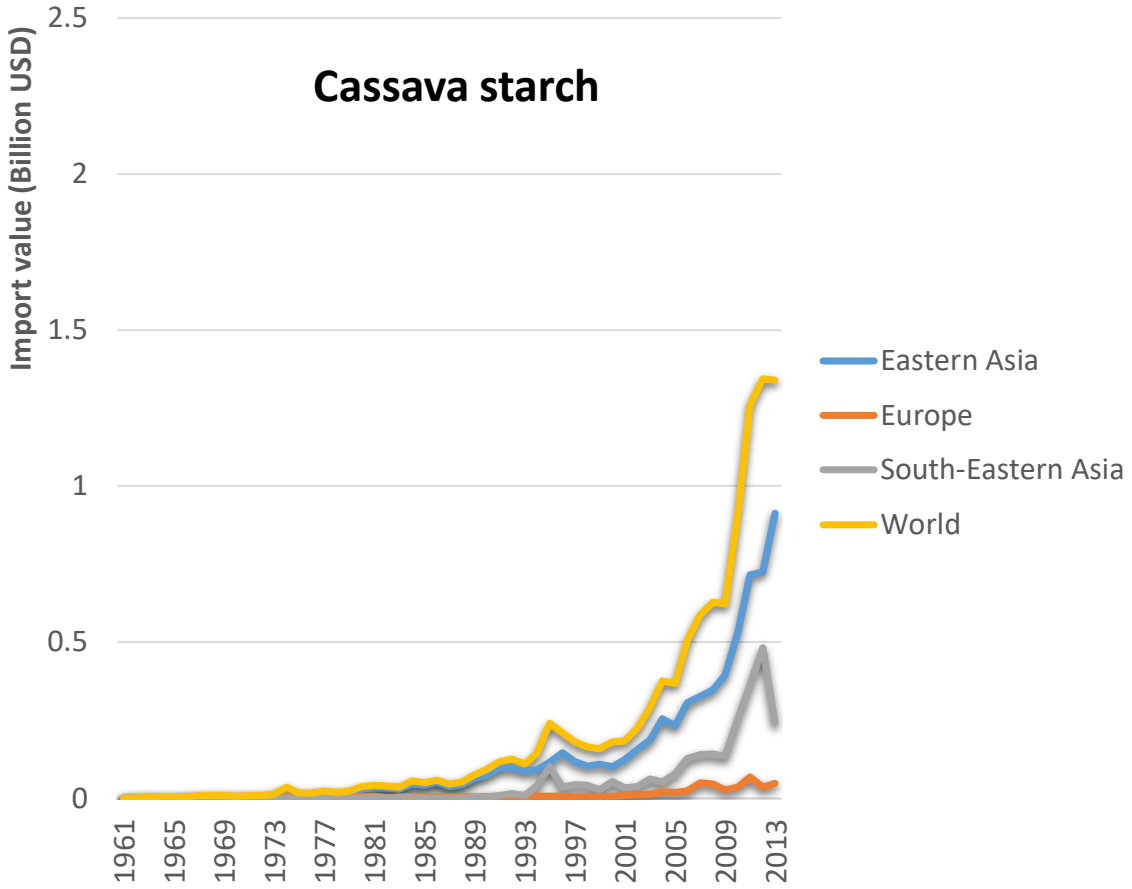
Phase 3 – Strengthening of global starch markets

Phase 4 - Chinese demand and maize policy

Source: FAOStats

Changing geographies driven by both consumption and policies





Source: FAOStats

Development and adoption of high yielding and high starch content varieties was essential to this transition

Why Chinese market outlook matters ….

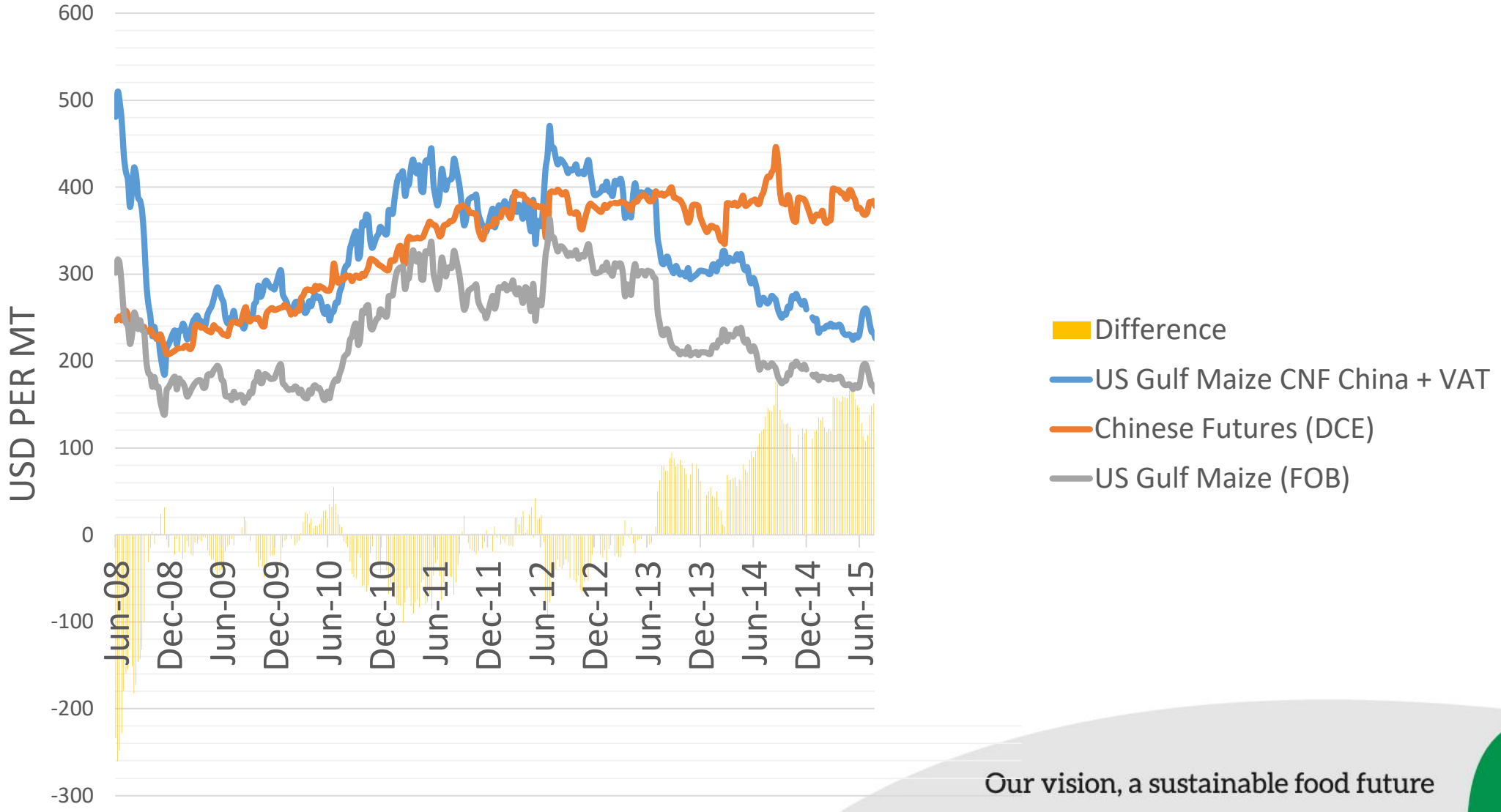
2015 Data

	Cassava (fresh, dried)		Cassava starch		Total	
	World	To China	World	To China	World	To China
All exporters	2,059 M	1,910 M	2,175 M	1,360 M	4,234 M	3,269 M
	100.0%	92.8%	100.0%	62.5%	100.0%	77.2%
Thailand	1,539 M	1,536 M	1,191 M	539 M	2,729 M	2,075 M
	74.7%	74.6%	54.8%	24.8%	64.5%	49.0%
Vietnam	399 M	360 M	914 M	808 M	1,312 M	1,168 M
	19.4%	17.5%	42.0%	37.2%	31.0%	27.6%
Thailand + Vietnam	94.1%	92.1%	96.8%	62.0%	95.5%	76.6%

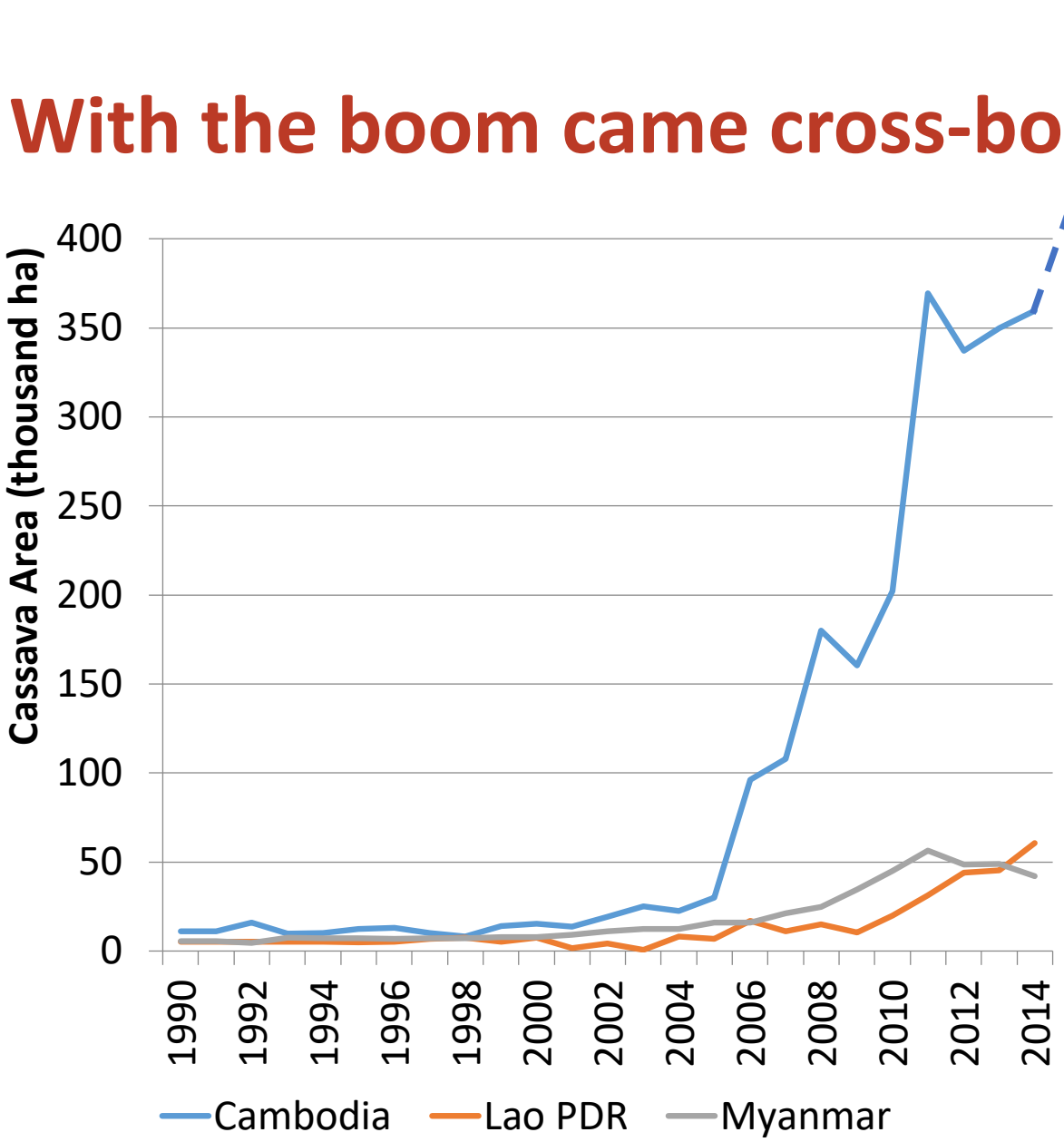
*Reported by exporters

Data source: Comtrade

Price supports in Chinese maize market



With the boom came cross-border trade and investment



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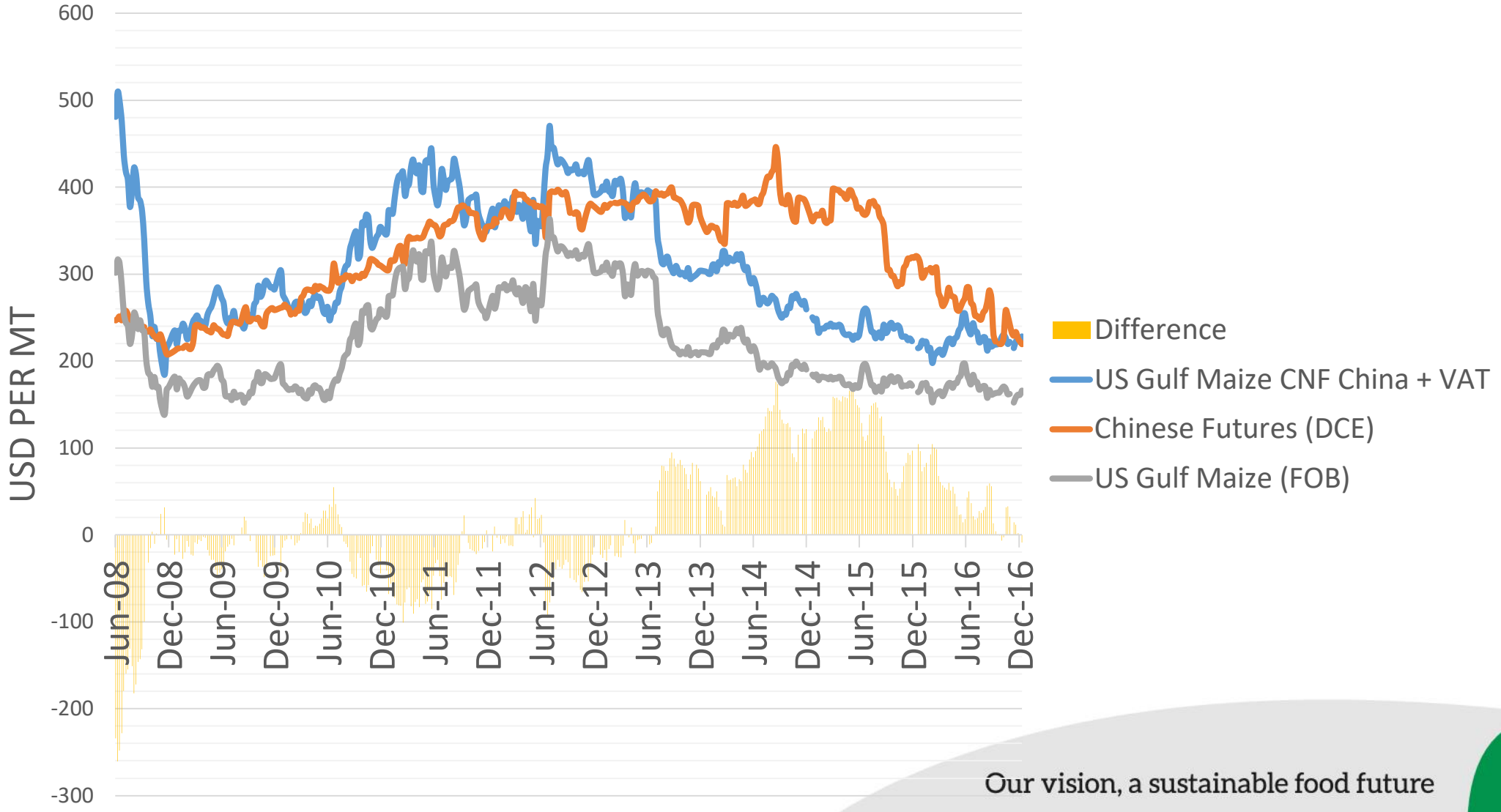
There is a lot of maize in storage in China

Rabobank estimates 232 million tons of Chinese maize stock in 2015/16, forecast to increase to 264 million tons.
(about 2x what USDA estimates)

= 76 Wembley stadiums of maize in storage

Recent impact of maize policy changes in China



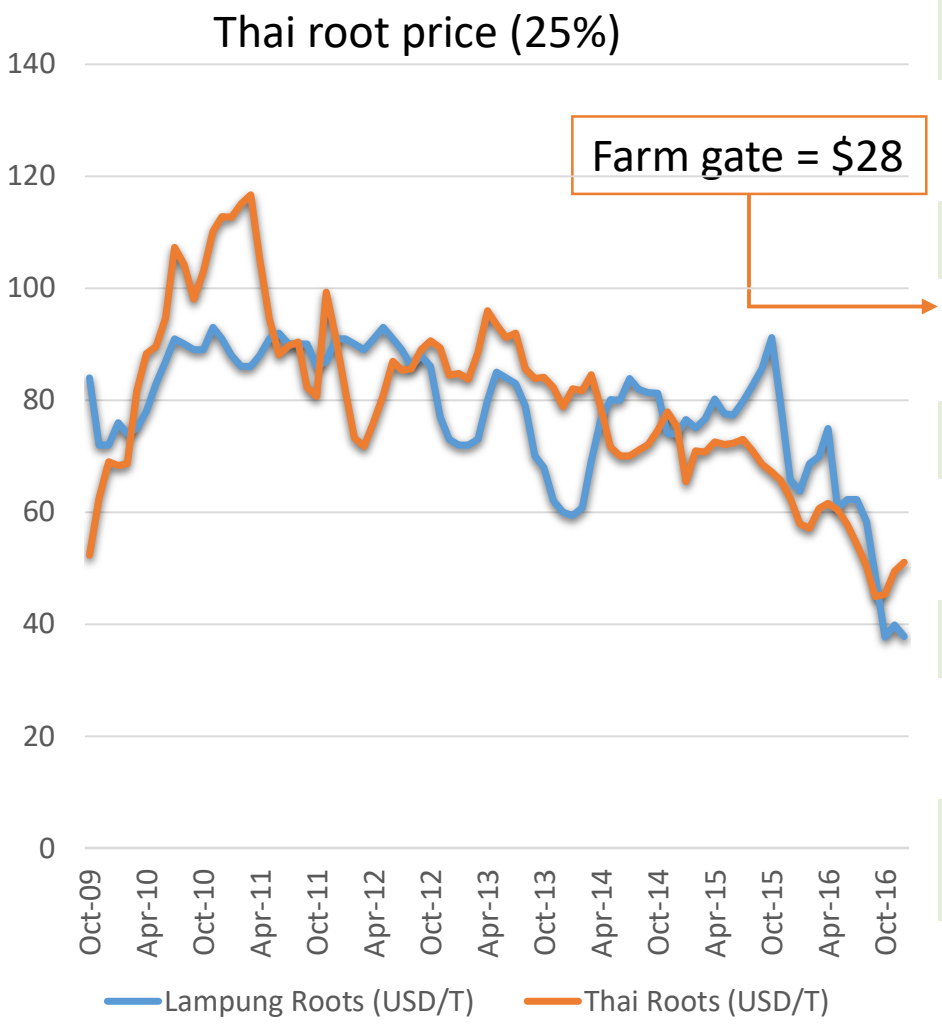
Intermediate product prices fall (starch and chips)

The Phnom Penh Post

Cassava industry left out to dry

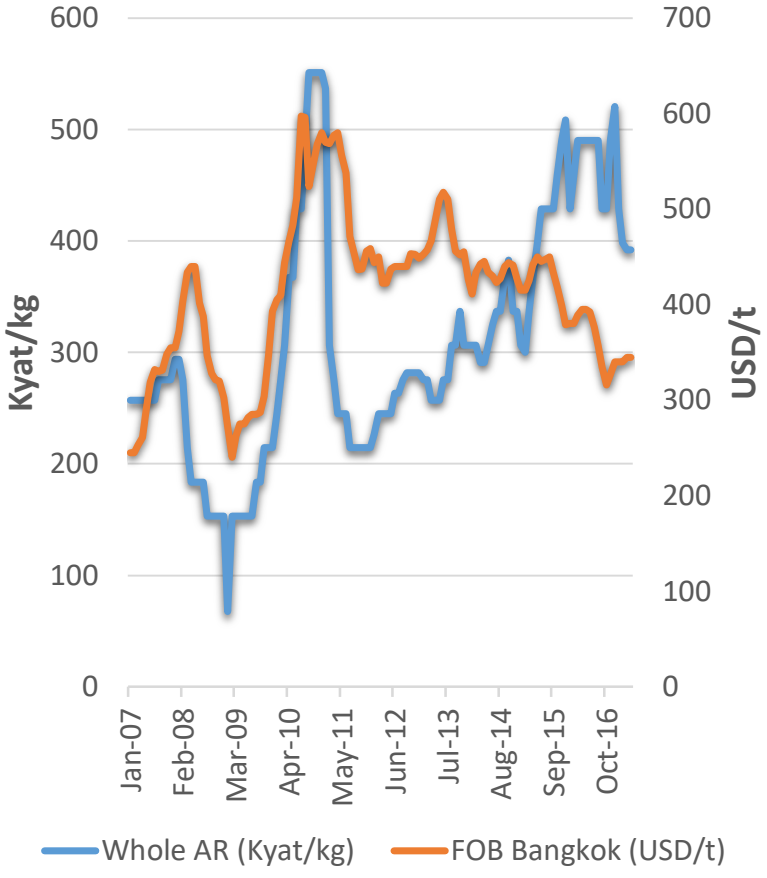
A woman sifts through a pile of dried cassava in Pursat province last year. Hong Menea

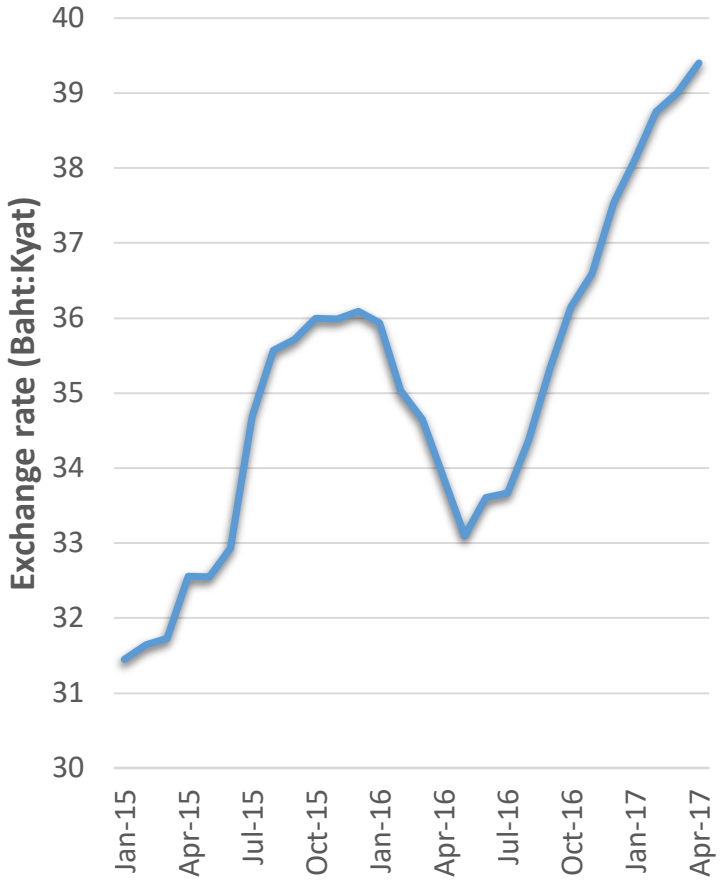
Cassava root price

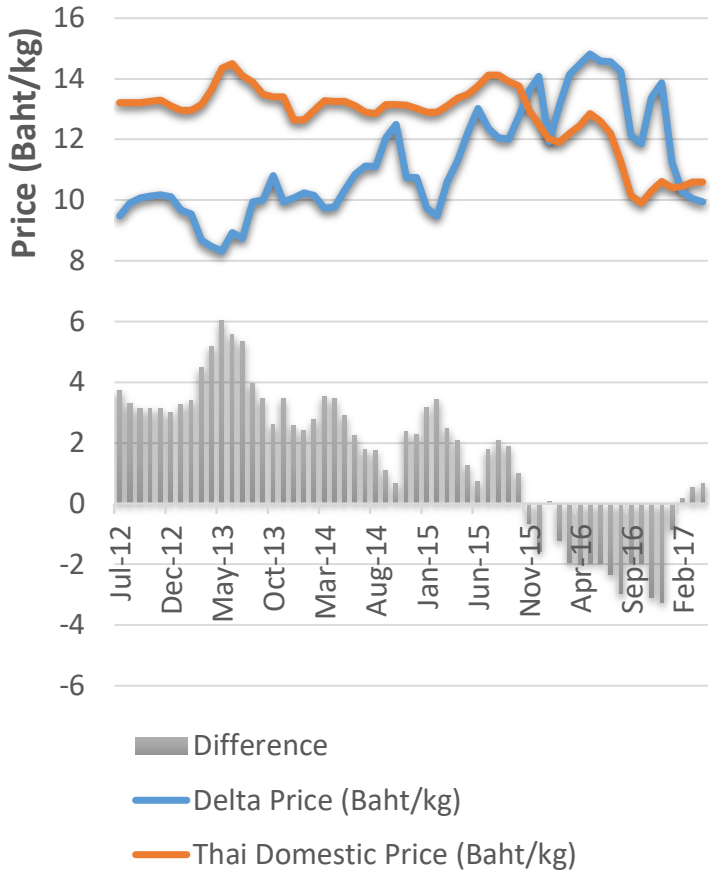


Location	Price USD/t (factory/collect point)	Starch content
Thailand	$49 USD/T	25%
Tay Ninh (Vietnam)	$74 – 77 USD/T	30%
Central Highlands (Vietnam)	$64-65 USD/T	30%
Sonla (Vietnam)	$58 – 60 USD/T	30%
Lampung (Indonesia)	$38 USD/T (Dec)	Before refraction
North Sumatra (Indonesia)	$47 USD/T	10 month min.
Bolikhamxai (Laos)	$37 USD/T	
Champasak (Laos)	$37 USD/T	
Xayabouli (Laos)	$36 – 49 USD/T	
Tboung Khmun (Cambodia)	49-52 USD/T	
Battambang (Cambodia)	$42 – 45 USD/T	Below and above 25%
Ayeyarwady Region (Myanmar)	$72 USD/T	

Starch prices and exchange rates







Root prices and exchange rates

Average monthly root price (kyat/viss)

	2012-13	2013-14	2014-15	2015-16	2016-17
Dec	90	100	100	140	170
Jan	90	100	100	130	160
Feb	95	90	90	150	150
March	100	80	95	170	140

Average monthly root price (USD/t)

	2012-13	2013-14	2014-15	2015-16	2016-17
Dec	64.53	62.22	59.41	65.96	77.50
Jan	64.33	62.15	59.48	61.26	72.51
Feb	67.58	56.02	53.47	73.58	67.67
March	69.96	50.56	56.20	85.27	63.00

What does this mean for smallholder?

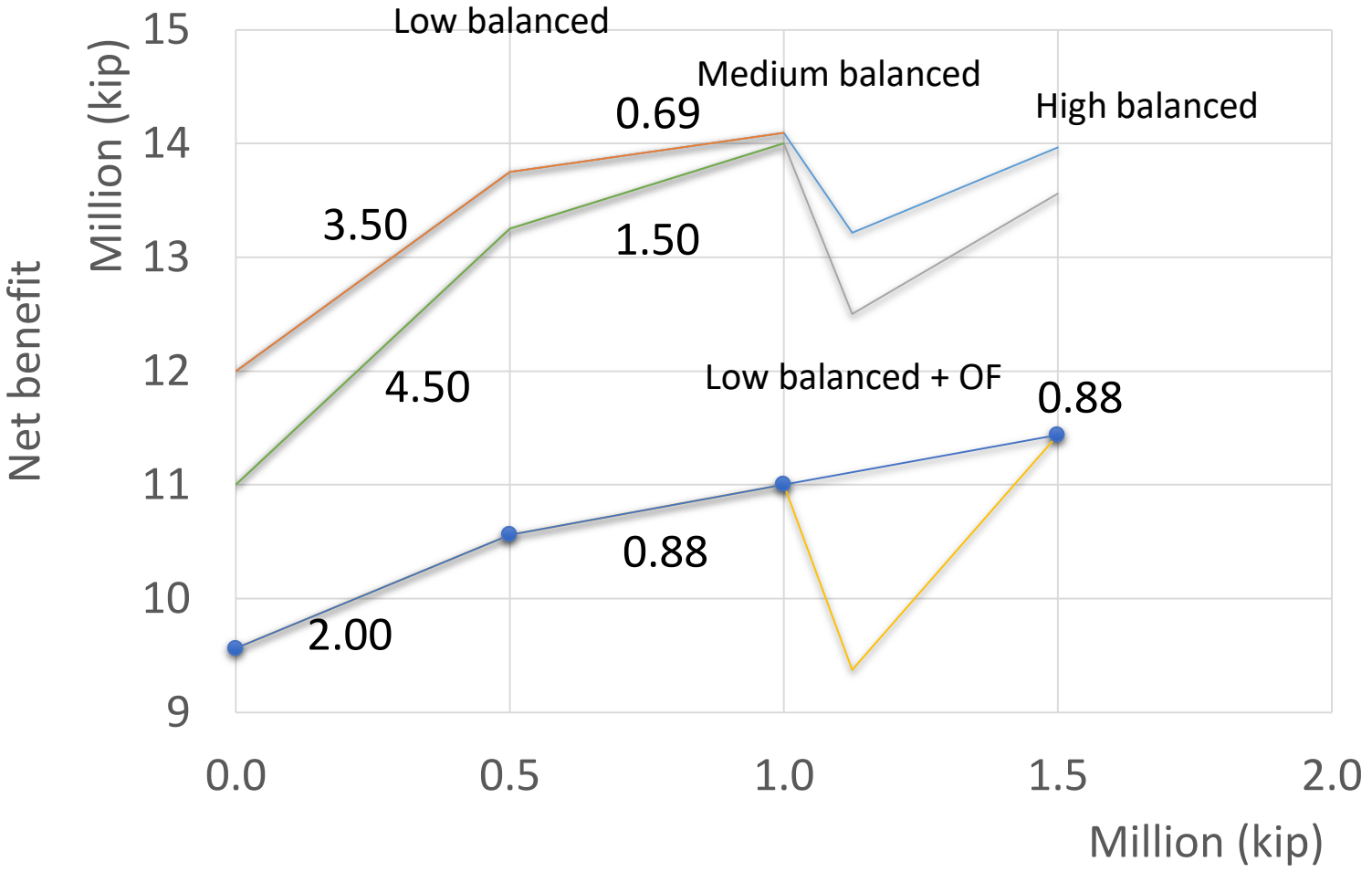
	Central Highlands Vietnam (Ea Sar)		Xayabouli Lao PDR (No fertilizer)	
Higher prices scenario				
Price	$66 USD/T		$58 USD/T	
Yield	15t/ha	30t/ha	11t/ha	30t/ha
Net returns	-$ 15 USD/ha	$976 USD/ha	-411 USD/ha	$694 USD/ha
Lower price scenario				
Price	$53 USD/T		$23 USD/T	
Net returns	- $215 USD/ha	$580 USD/ha	-795 USD/ha	-353 USD/ha

Increasing productivity (or at least maintaining it) will be key to cassava continuing to be 'pathway out of poverty' for upland farmers

tainable food future

CIAT 50 1967-2017

Budgeting and calculating of rates of return from upgrading

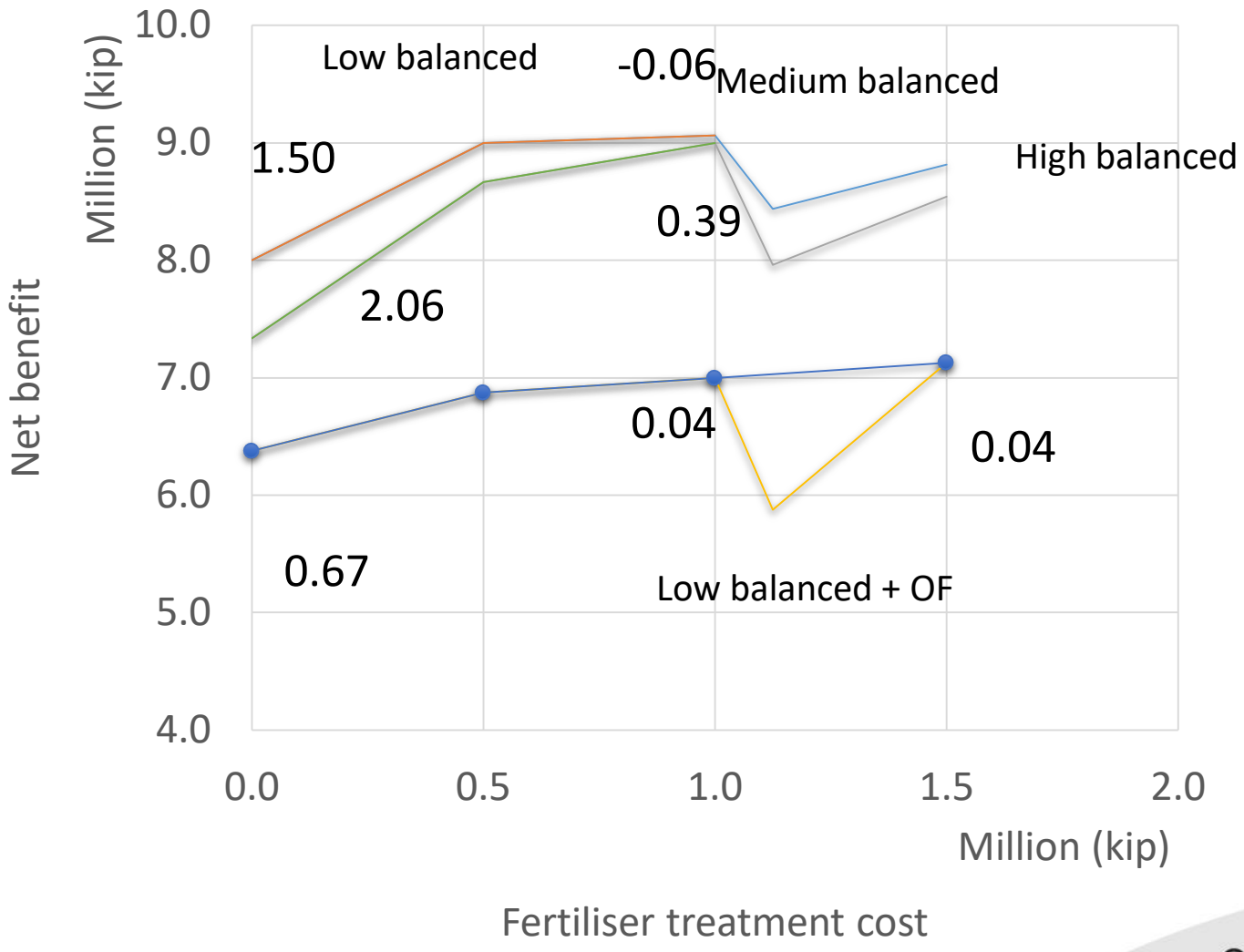


Example from Lao PDR (3 locations 2014)

The application of a low balanced fertilizer regime gave a 200 – 450% rate of return

In some locations still attractive returns on pushing this into higher application rates

Sensitivity and risk analysis



Example from Lao PDR

Even at current prices, these results would give a 67 – 206% MRR on investment

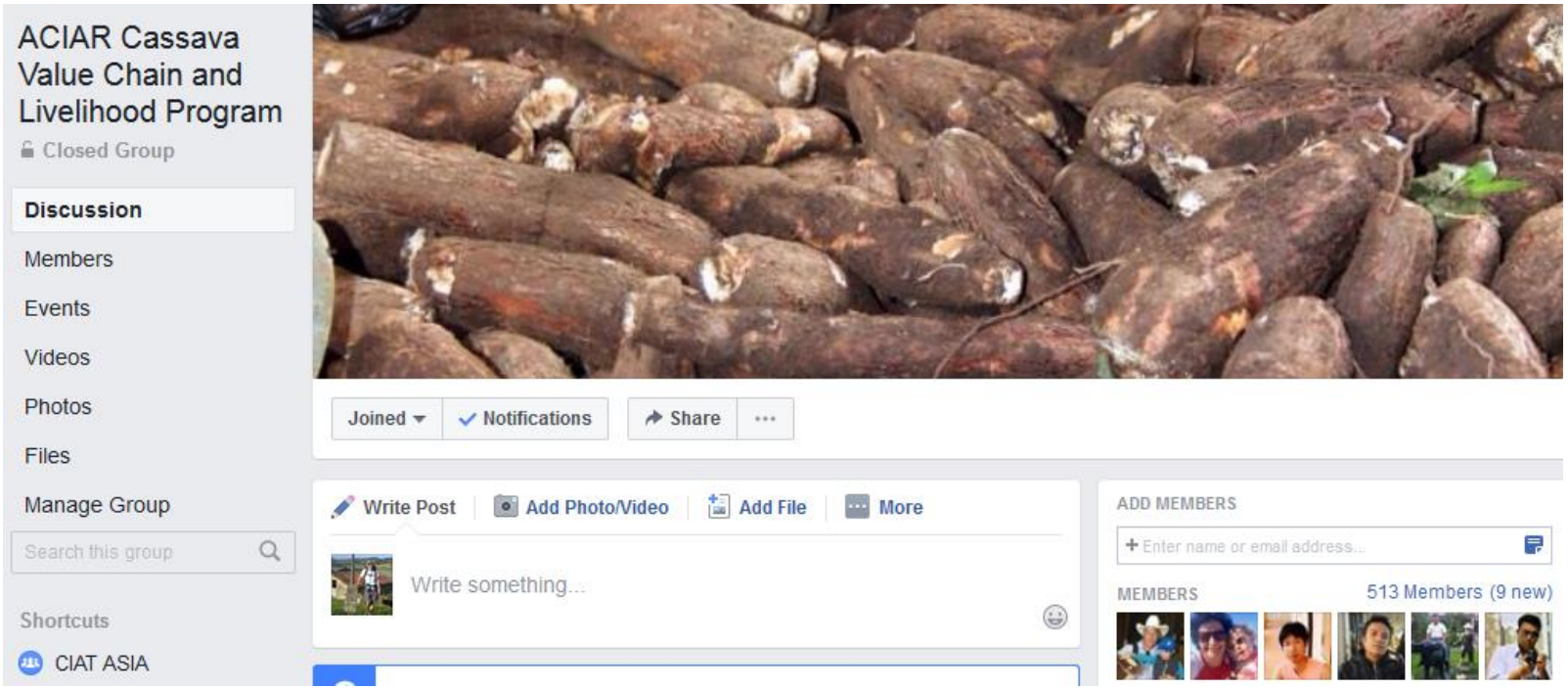
Industry and government support

- Understand local environment (site specific)
- Get information to farmers
- Make the correct fertilizer available in local stores

Summary

1. Value chains and livelihood development projects don't occur in isolation to a range of factors in the external environment.
2. Various trends and shocks will often determine the success and sustainability of local level interventions
3. Important to understand the drivers of changing demand
4. There is a global market for commodities, labour, and finance.
5. Development in substitute markets are often as important
6. Transport costs and logistics are important in determining the export competitiveness and utilization in domestic markets
7. **Understanding these risks and opportunities is essential when conducting value chain assessments and planning interventions**

Join the conversation.



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