

# Analysis of chain intervention options: The Case of Mango in East Java, Indonesia

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# Structure of the Presentation

- I. Export development
- II. Off-season production
- III. Processing
- IV. Modern retailing



# I. Export Development



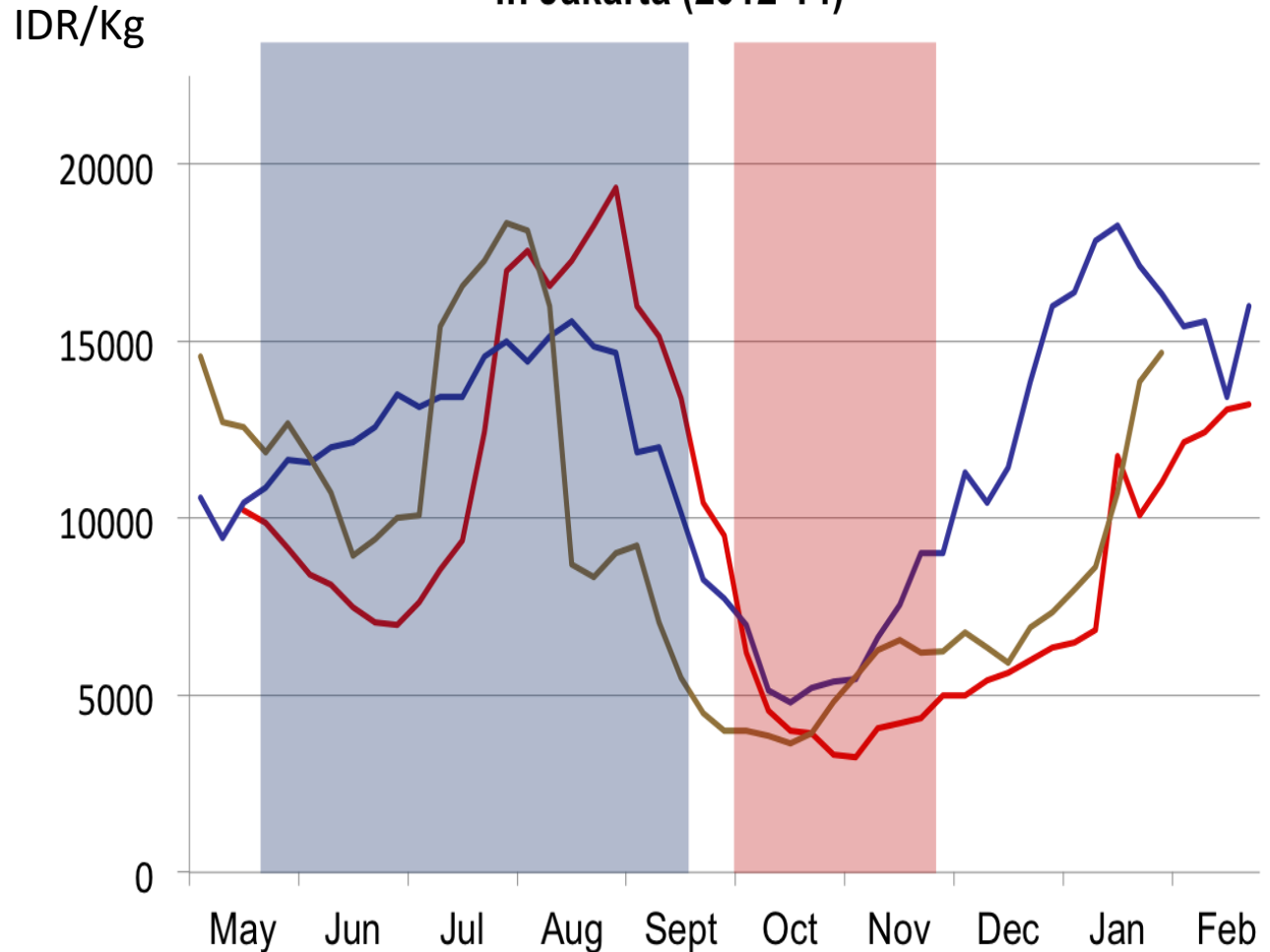
# Indonesia is uniquely positioned to supply other Asian markets

	Peak harvesting months											
	J	F	M	A	M	J	J	A	S	O	N	D
China												
India												
Thailand												
Pakistan												
Philippines												
Vietnam												
Mexico												
<b>Indonesia</b>												
Australia												
Brazil												
Peru												



# Indonesia is uniquely positioned to supply other Asian markets

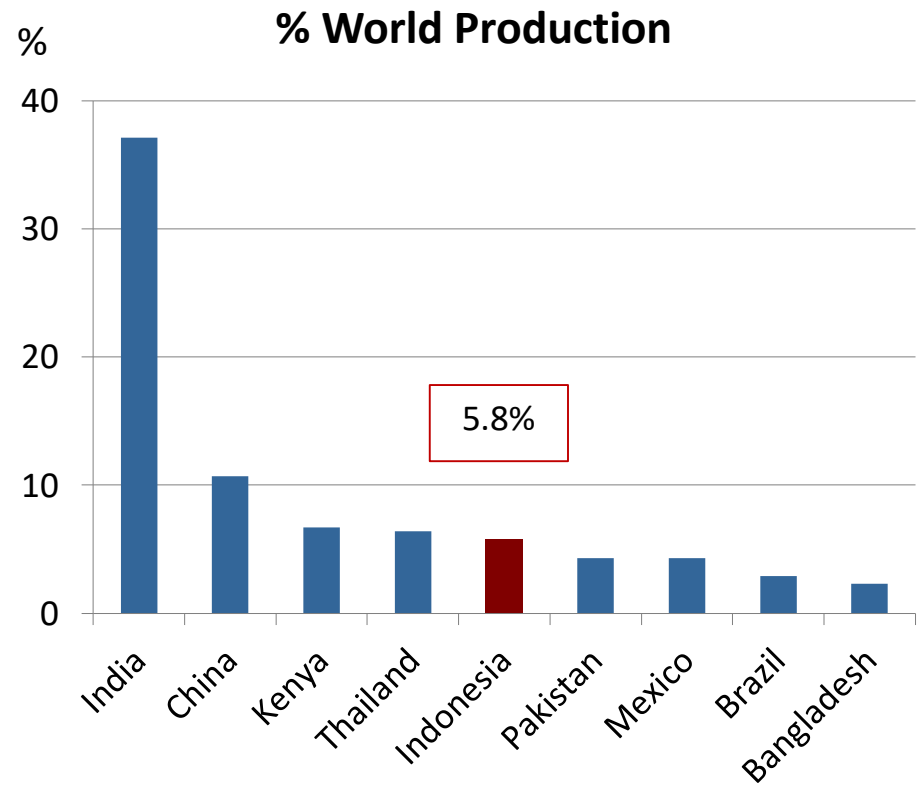
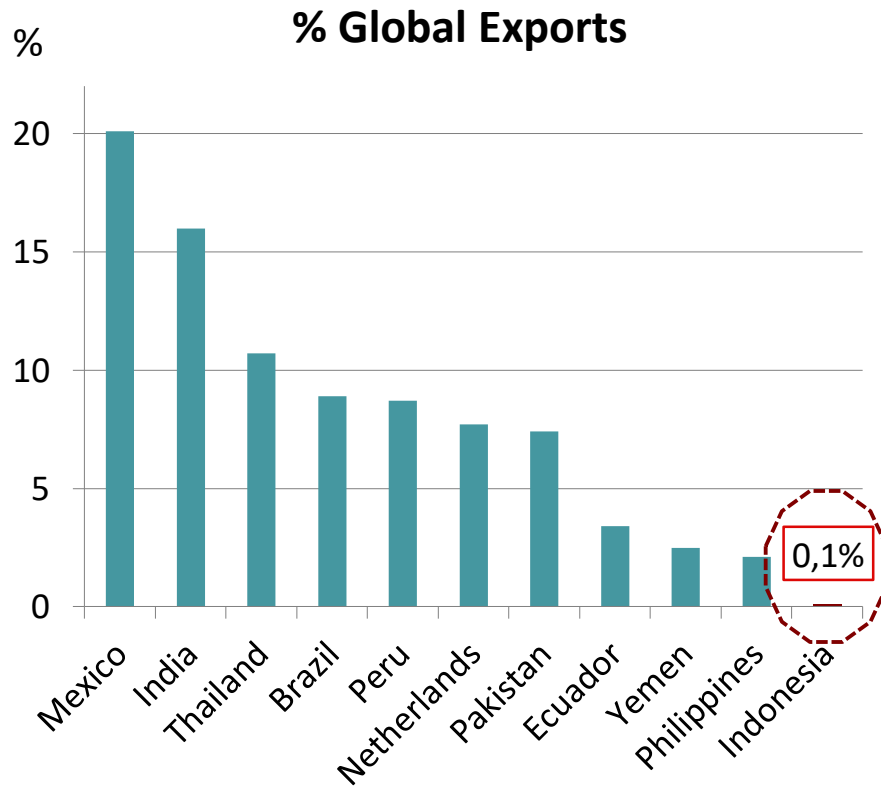
## Daily Wholesale Prices of Grade A Harumanis Mango in Jakarta (2012-14)



Source: Management Board of Kramat Jati wholesale market



# but exports very few mangoes



Source: FAOSAT (2014)



# Why are Indonesia exports so low?

## Fruit quality

- Crop management
- Post-harvest technology and management
- Variety?

## Non-Tariff Trade Barriers

- Phytosanitary regulations in China, Japan, South Korea, ...(access protocols)

## Market knowledge and linkages

- Market know-how
- Business connections



# Rationale for supporting export development

## For

- Indonesia enjoys major competitive advantages in Asian markets (seasonality)
- Impacts on farm yields, fruit quality, and farm-gate prices
- Employment impacts

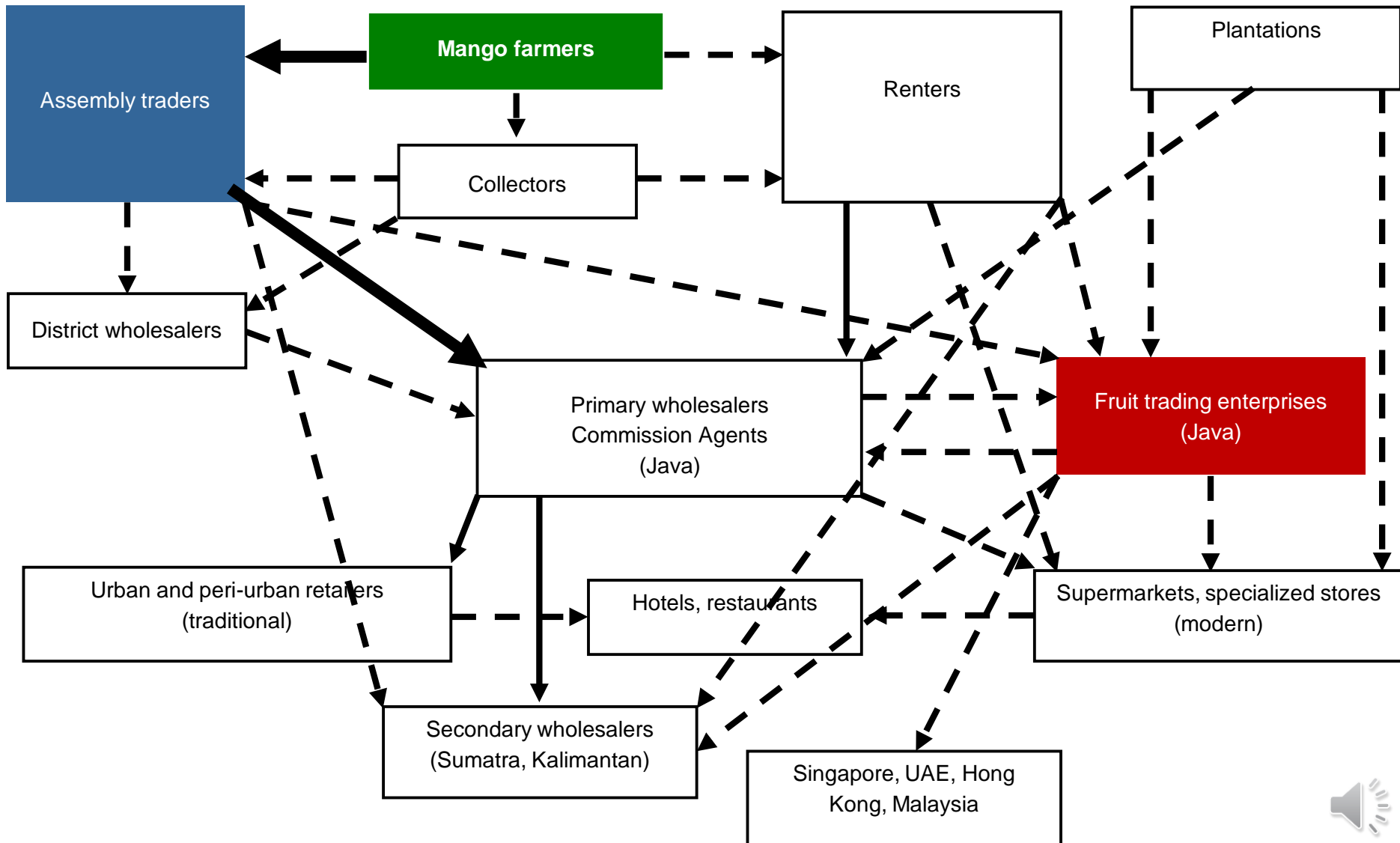
## Against

- Complex and high-risk set of interventions
- Impacts of farm intensification on human health and the environment

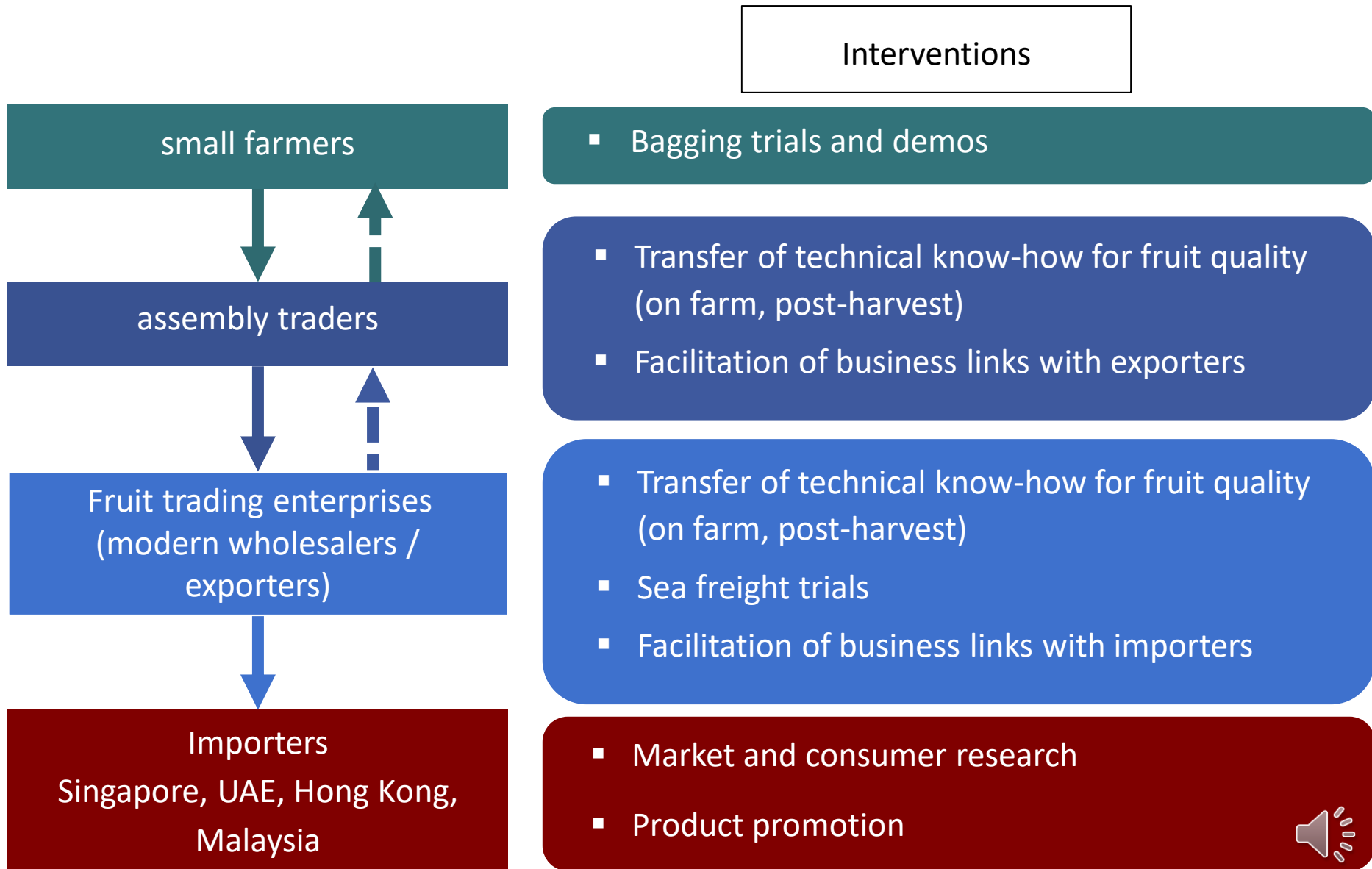




# Intervention Strategy



# Intervention Strategy



# Target Markets

Singapore

Hong Kong

Malaysia

UAE

- Large regional importers
- Geographical proximity
- Low market entry barriers

	Air freight ex-Jakarta (US\$/tonne)	Sea freight ex-Surabaya (US\$/tonne)
<b>Singapore</b>	700	45
<b>Hong Kong</b>	1,000	55
<b>Dubai</b>	1,700 - 2,000	100

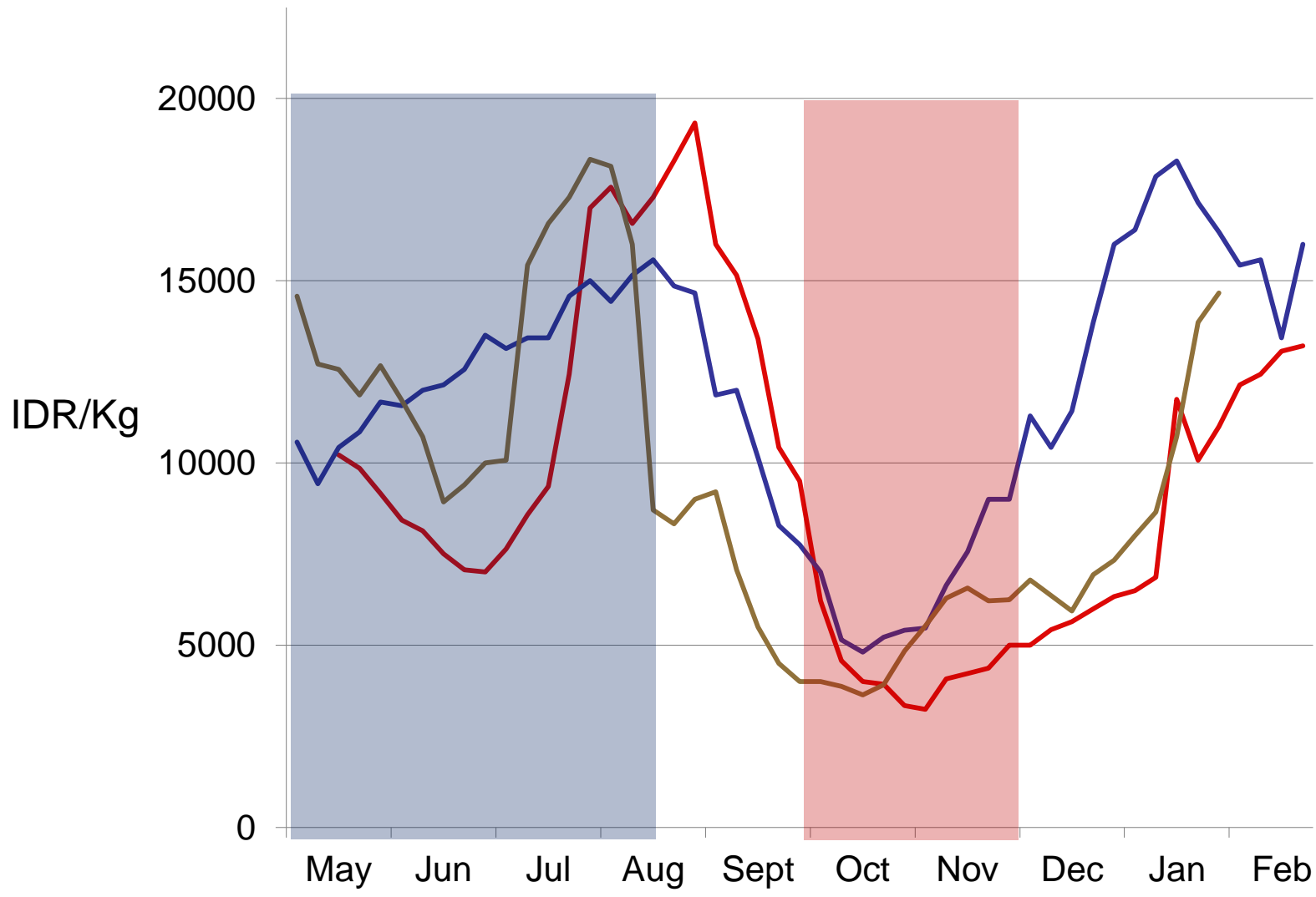


## II. Development of Off-season Cultivation



	Pemalang, Central Java ( 2 seasons) (N = 2)		Situbondo, East Java (1 season) (N = 5)
Yield (tons/ha)	10.5	25	2 – 7.5
Price (weighted average, IDR/kg)	7,900	5,600	2,000 – 4,900
Revenue (million IDR/ha)	83	140	6 – 34
Cultivation, harvesting, and marketing costs (million IDR/ha)	21	18	4 – 13
Net income (million IDR/ha)	62	122	4.2 – 21
Returns on household labor ('000 IDR)	660	1,100	198 – 675





	Pemalang, Central Java		Situbondo, East Java					Probolinggo, East Java	
	F1	F2	F3	F4	F5	F6	F7	F8	F9
Labor use per ha (No. person days)	220	247	235	185	49	23	47	132	88
Family labor per ha (No. person days)	95	107	60	65	21	10	8	24	12
Hired labor per ha (No. person days)	125	140	175	120	28	13	39	108	66
Wage income per ha ( '000 IDR)	6,875	7,000	8,750	6,000	1,310	570	1,940	4,320	2,190



# Rationale for promoting off-season cultivation

## For

- Potential for widespread impacts on farm yields and farm-gate prices
- Potential for systemic positive impact on prices
- Employment impacts of farm intensification

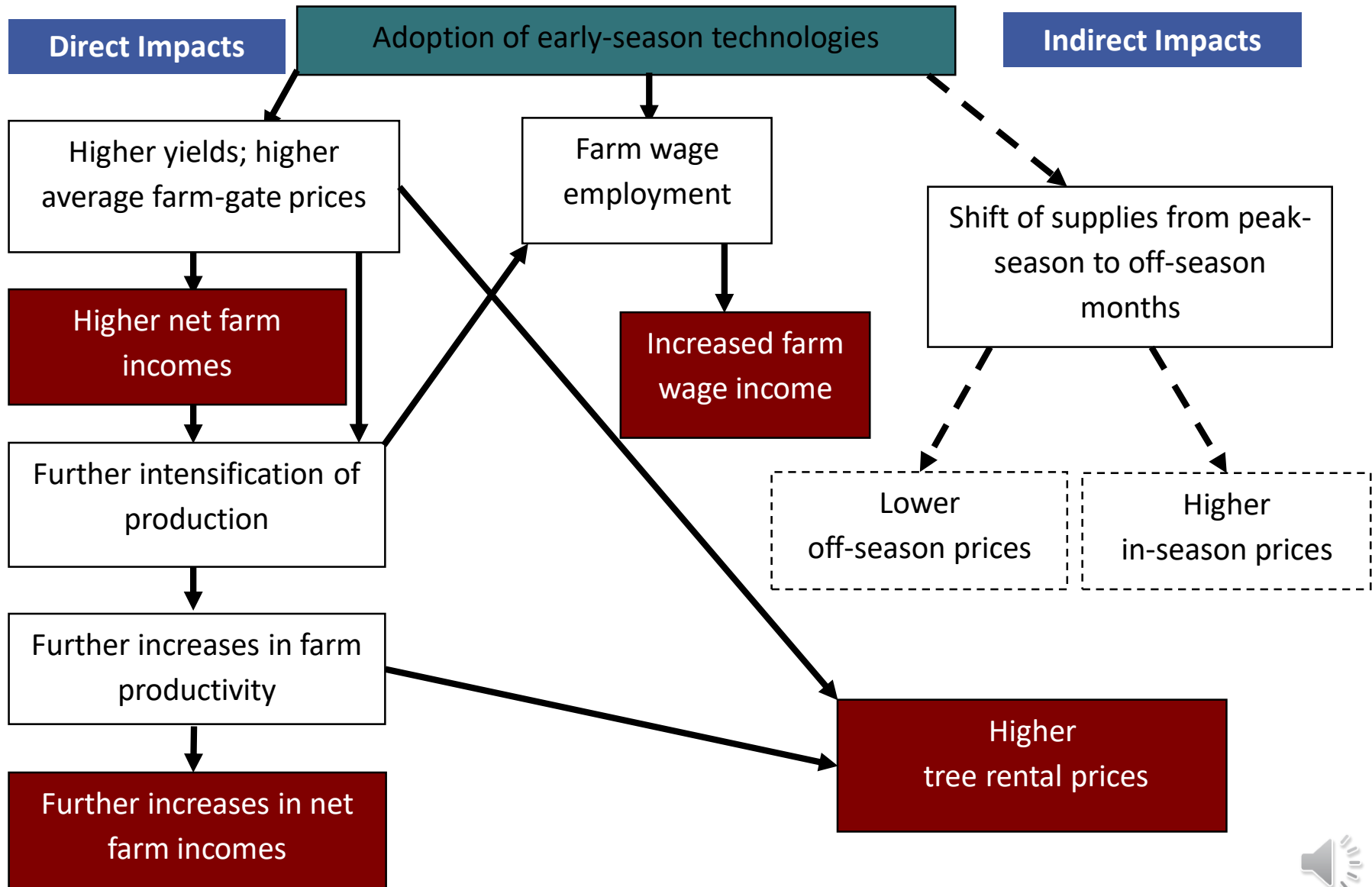
## Against

- Impacts of farm intensification on human health and the environment



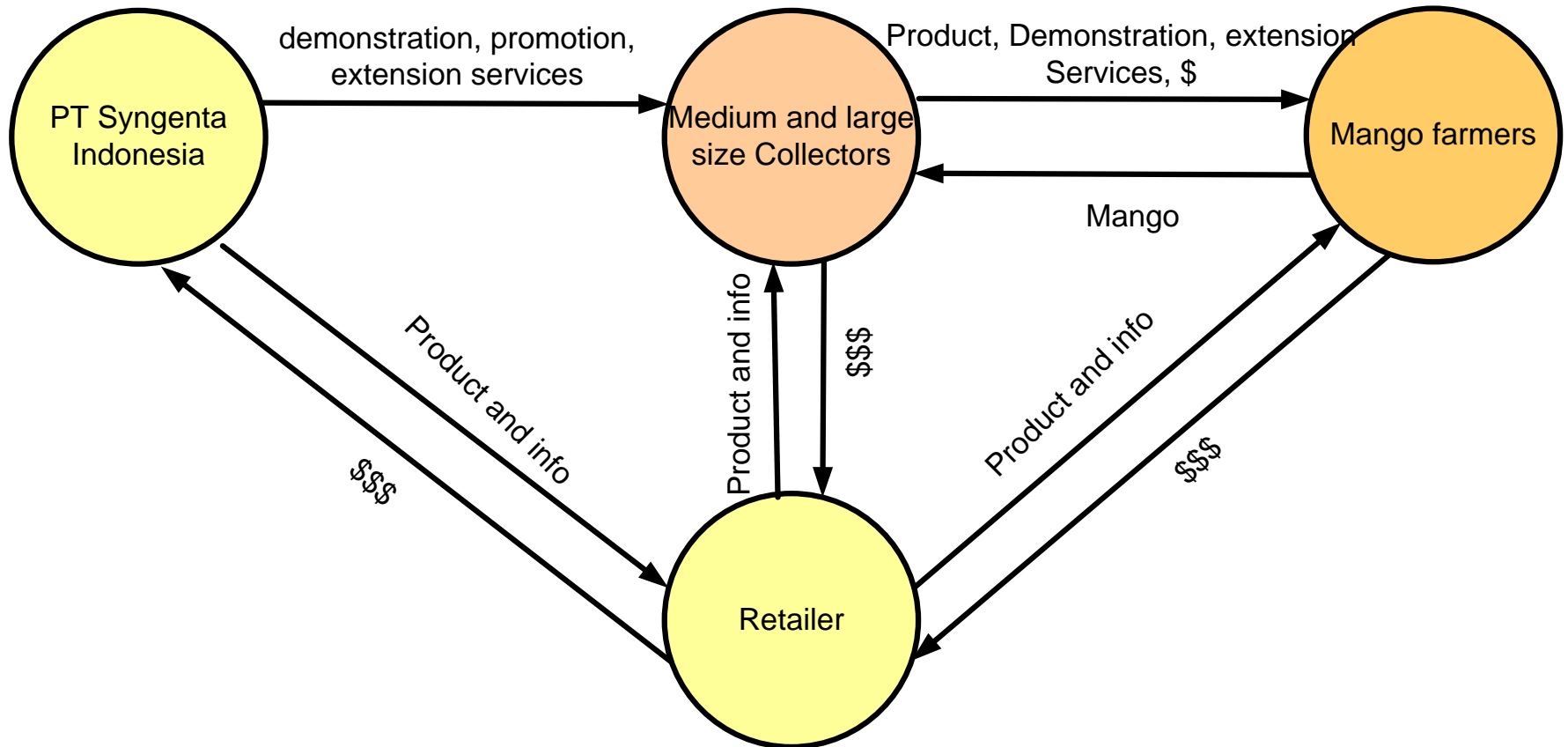


# Impact logic



# Intervention Strategy

## Business Model: Mango supply during off season



### Actors:

1. Syngenta;
2. Collector;
3. Retailer;
4. Mango farmers



### III. Processing



# Rationale for supporting the development of mango processing

## For

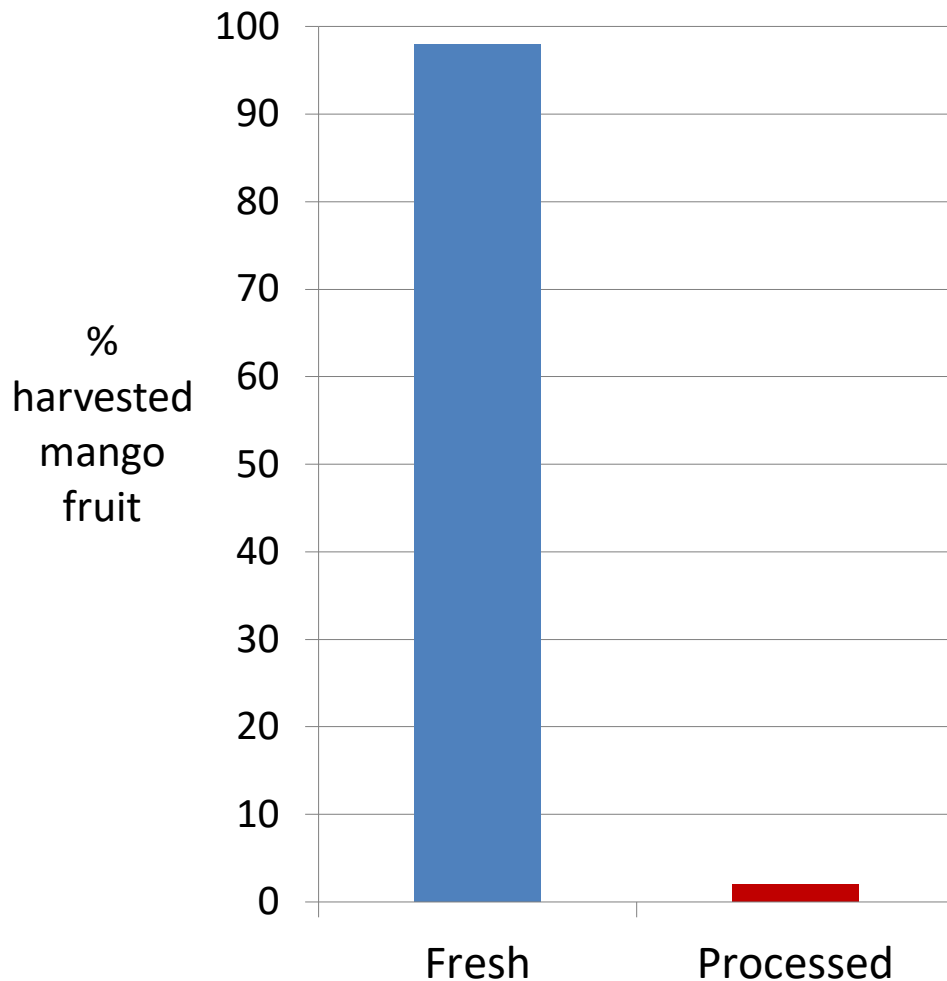
- Women account for a significant share of employment in the fruit processing industry
- Processors are an outlet for lowest-grade fruit
- Substitution of imports

## Against

- Limited outreach potential
- Limited or no impact on farm yields and farm-gate prices



the mango processing industry is very small and unlikely to develop at scale over the foreseeable future



### Why?

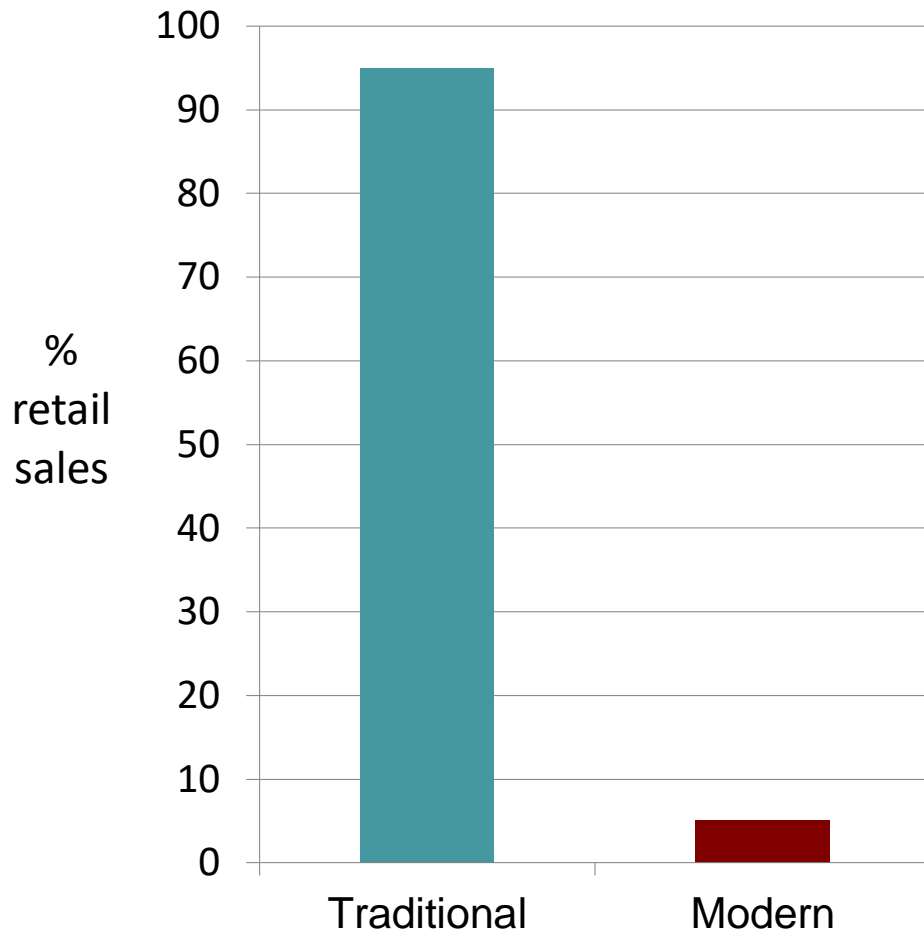
- Small domestic demand
- Short harvesting season
- Very strong competition from imports
- Very strong competition in export markets



## IV. Modern retail



# supermarkets have a very low market share



## Why?

- Price
- Quality
- Accessibility
- Consumer purchasing habits



# Rationale for linking farmers to modern retail chains

## For

- Impact on yields, fruit quality, and farm-gate prices
- Potential for increases in on-farm employment (intensification)
- Potential for wider orchard management improvements

## Against

- Limited outreach potential
- Barriers to entry for poor farmers
- Supermarkets are not investing in their supply base
- They hold significant power over suppliers

