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**Innovations and Strategies for Improving
Supply Chains for Cross-Border Trade
of Perishables Goods**

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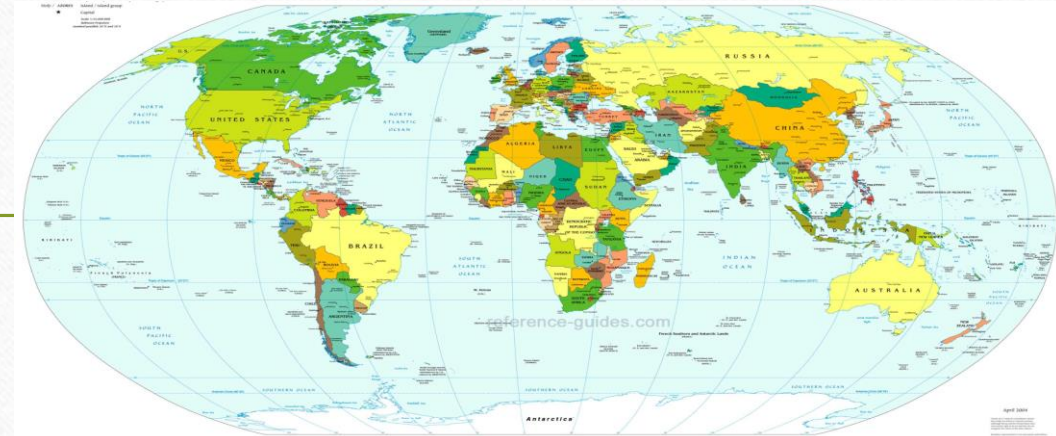
OUTLINE

- Supply Chain Management?
- Domestic and Global Supply Chain Management
- Cross-Border Trade
- Perishables Goods (focused on fresh agricultural products)
- Perishables Fresh Agricultural Products Supply Chain for Cross-Border Trade :
 - ❖ Key Performance Indicators
 - ❖ Innovations to Improve Performance
 - ❖ Strategy to Implement Innovation

Supply Chain Management

- Management flow of raw material and products, flow of information and flow of financial from the point of production to point of consumption along the business chain to optimize the fulfillment of the demand. It covers procurement, material/commodity processing into semi/finished product, and distribution or warehousing if necessary.
- The objective is to minimize all the cost while maximize user/consumer satisfaction

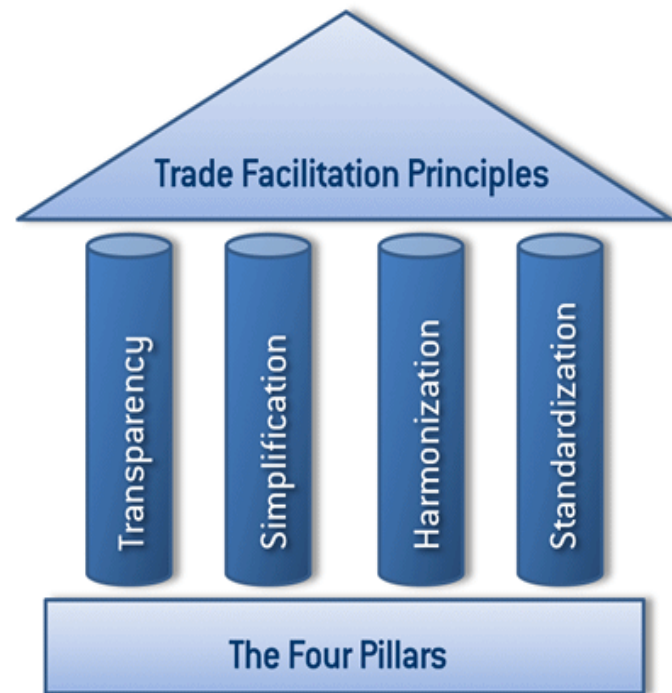
Domestics and Global Supply Chain



- ✓ Global supply chains are more difficult to manage than domestic supply chains.
- ✓ Large geographical distances in global context not only increase transportation costs, but also complicate other logistics decisions because of inventory cost tradeoffs due to increased lead time in the supply chain.
- ✓ shortages of infrastructural resources especially in developing countries may hinder supply chain's operations.
- ✓ Lack of qualified personals, bureaucratic management, poor banking system, inadequate road network, system inflexibility, inability of suppliers to provide requested products in adequate quality and quantity, and deficiencies in logistics and telecommunications infrastructure are just some problems frequently encountered when operating on the global scale. (David Simchi Levi, Philip Kaminsky, Edith Simchi Levi : Dseigning and Managing Supply Chain, McGraw-Hill Higher Education, 2000)



Cross-Border Trade



The buying and selling of goods and services between businesses in neighboring countries, with the seller being in one country and the buyer in the other country.

Trade facilitation—the simplification, modernization and harmonization of export and import processes—has therefore emerged as an important issue for the world trading system (WTO).

Perishables Goods

- A perishable is also a type of food with a limited shelf life if it's not refrigerated. Since perishing is dying, anything perishable could die or is likely to die.
- Organic substances or living organism that are vulnerable to easy deterioration beyond marketability or to death under the combined effect of duration and conditions of transport such as temperature (heat or cold), humidity or draught, or movement (Greater Mekong Subregion Cross-Border Transport Facilitation Agreement, Instrument and Drafting History, Asian Development Bank, 2011).

Agricultural Supply Chain

Fresh and Perishables



Non Perishables



Fundamental Characteristics of Fresh Agricultural Supply Chain

- 1) Consider “*plant flowering*” dan “*plant growing*” of each commodity and they have specific flowering and growing pattern
- 2) The number of harvestable fresh products influenced by its “plant growing” which is difficult to control ---→ seasonal.
- 3) Loss process of fresh products started just after harvested and depending on handling process (stems from many causes, these already mentioned) to keep its values. Therefore we should consider the history of the products in the past to determine the existing and next handling.
- 4) All of the harvested fresh commodities should be directly consumed by the consumer or used for raw material in food or beverage industries before getting pilferage.

Total loss of agricultural fresh products: 20%-60% of the total amount of harvested products in any country.

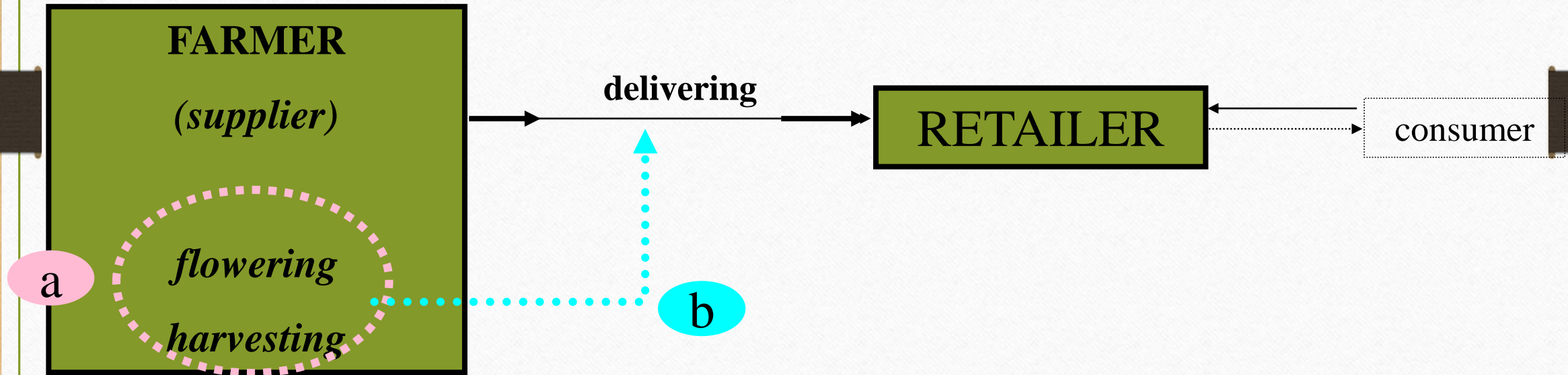


What is the major cause ?

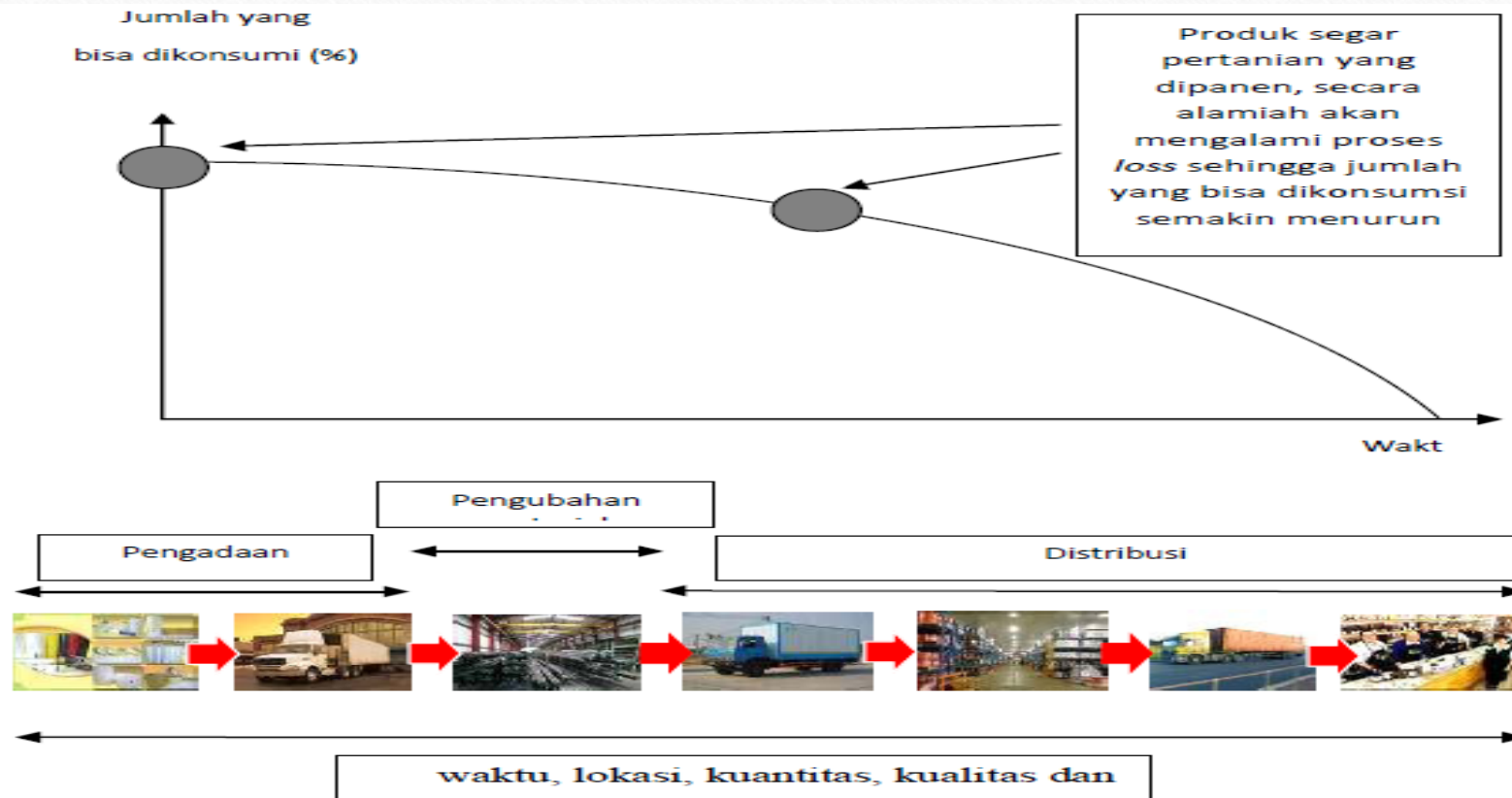


Mismatch between harvesting and delivering processes in timing and quantity

BASIC Agri-based SUPPLY CHAIN MANAGEMENT MODEL

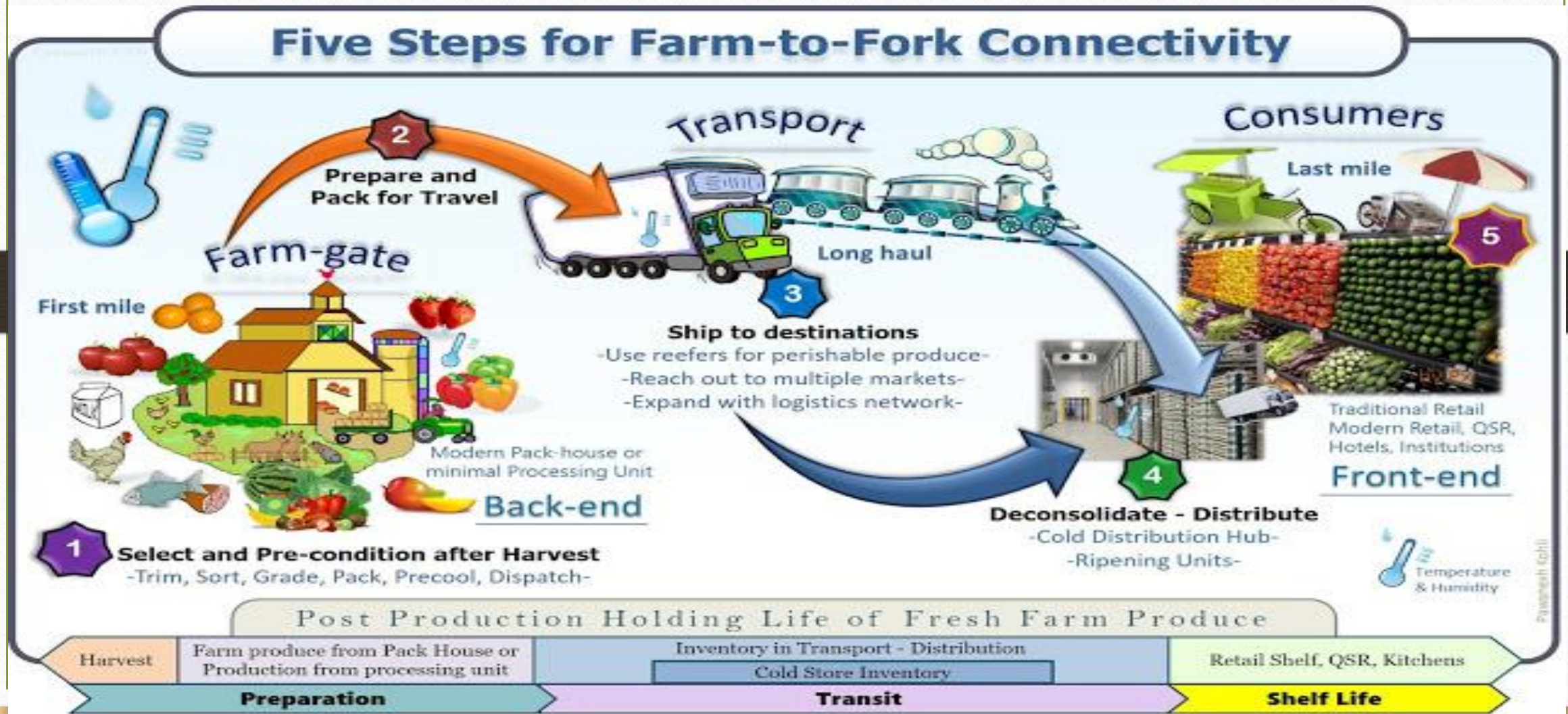


Loss Process of Fresh Agricultural Products



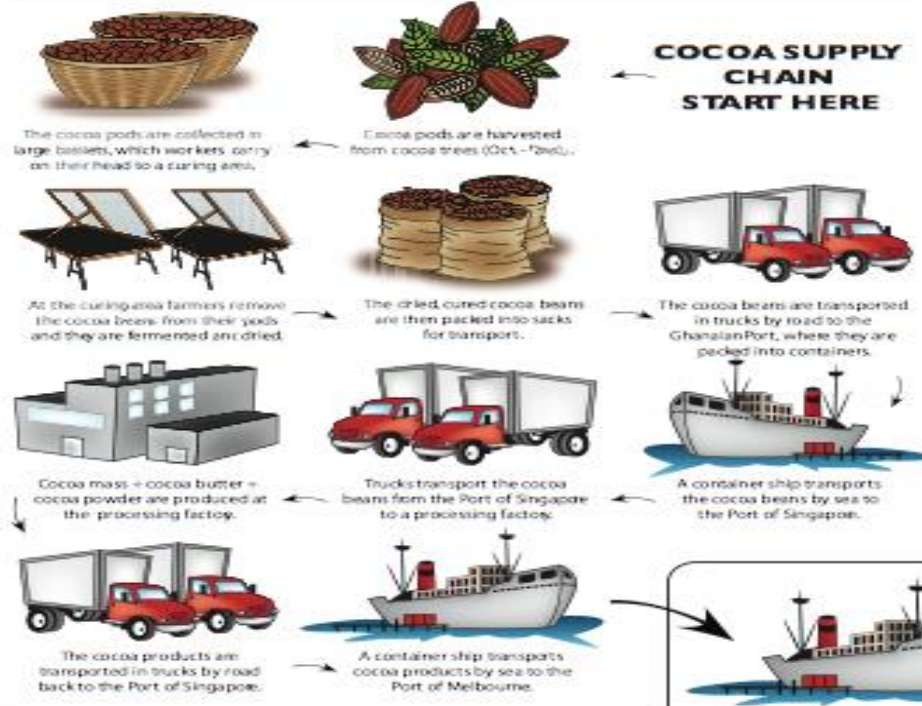
Gambar 1.2 Proses *Loss* Produk Segar Pertanian Sepanjang SCM

Food Supply Chain

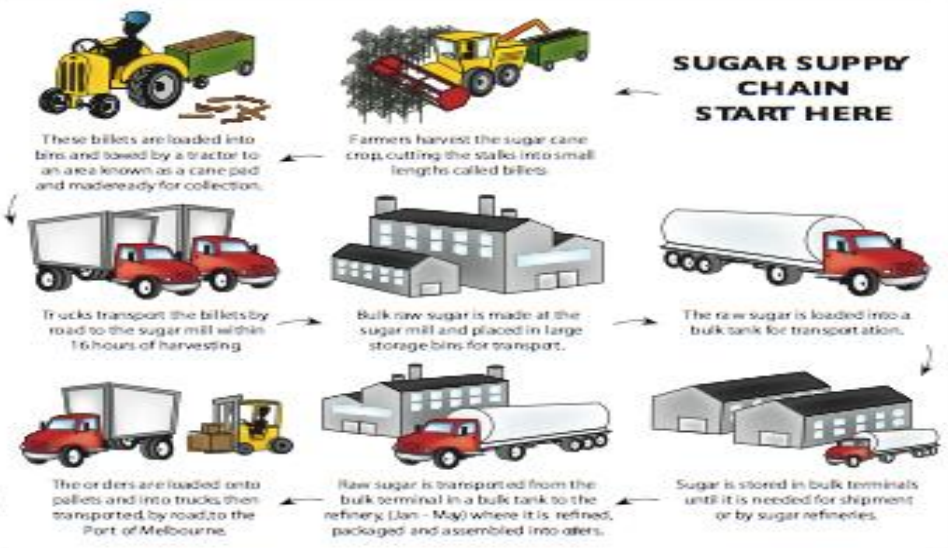


GLOBAL SCM for CHOCOLATE

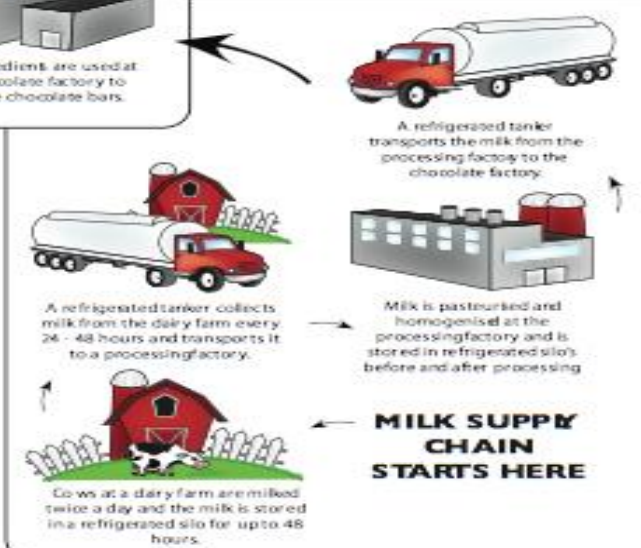
COCOA SUPPLY CHAIN START HERE



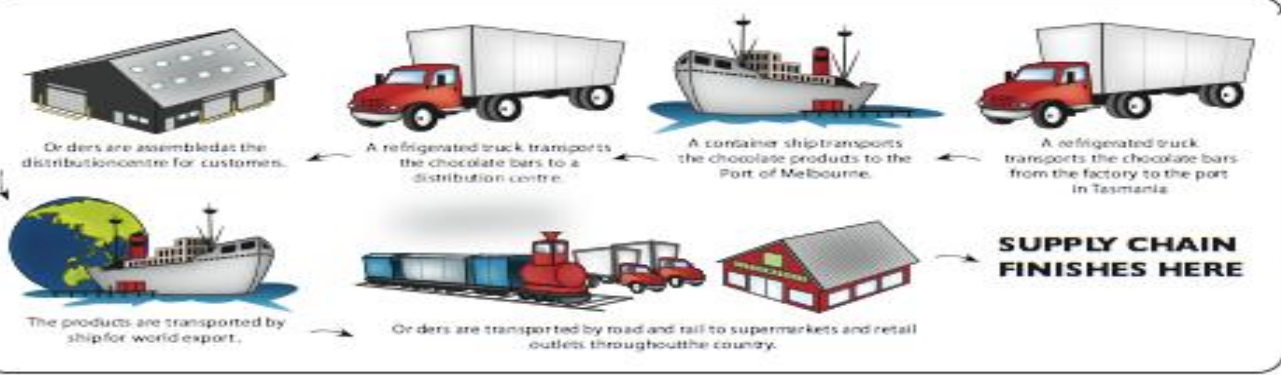
SUGAR SUPPLY CHAIN START HERE



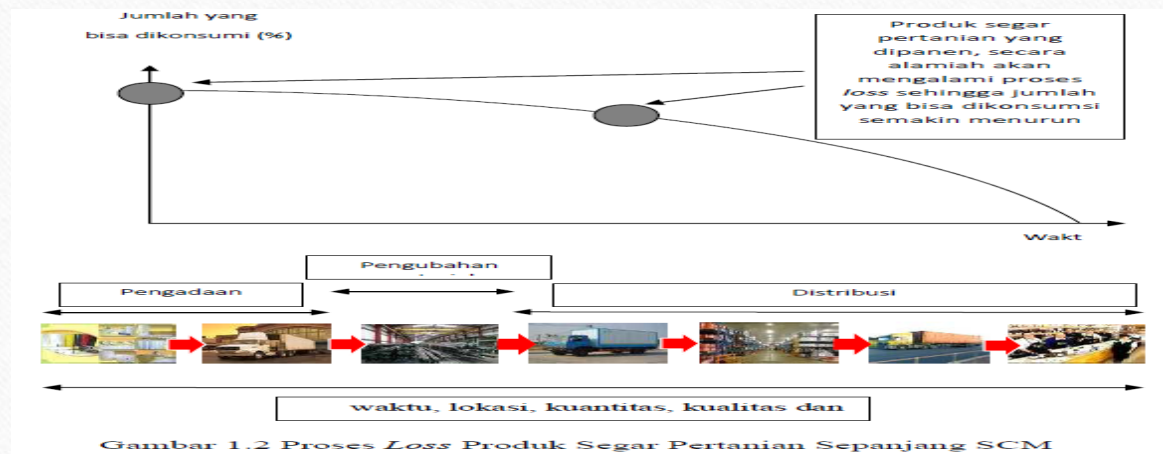
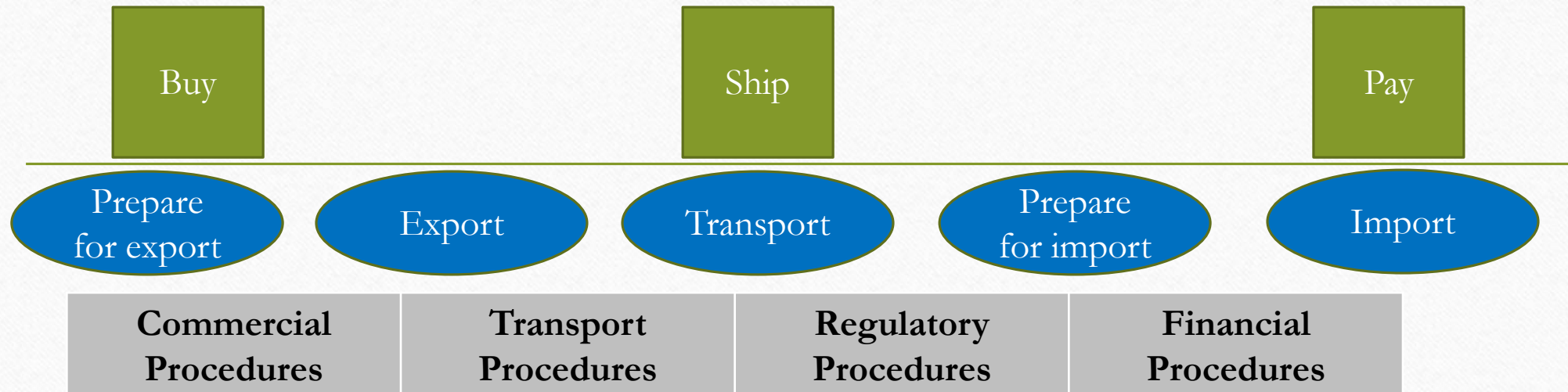
MILK SUPPLY CHAIN STARTS HERE



SUPPLY CHAIN FINISHES HERE

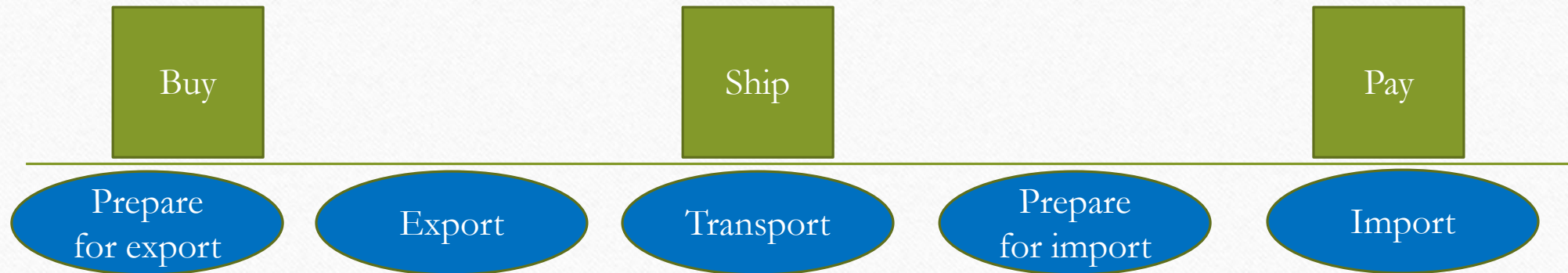


International Supply Chain Reference Model



Gambar 1.2 Proses *Loss* Produk Segar Pertanian Sepanjang SCM

International Supply Chain Reference Model



Cross-border costs

Indicators	OECD	Country J	Country T	County L	Country V
Documents to export (number)	4	4	4	9	6
Time to export (days)	11	10	13	48	22
Cost to export (US\$ per container)	1,059	1,010	625	1,860	555
Documents to import (number)	5	5	3	10	8
Time to import (days)	11	11	13	50	21
Cost to import (US\$ per container)	1,106	1,060	795	2,040	645

Source: World Bank (2010)

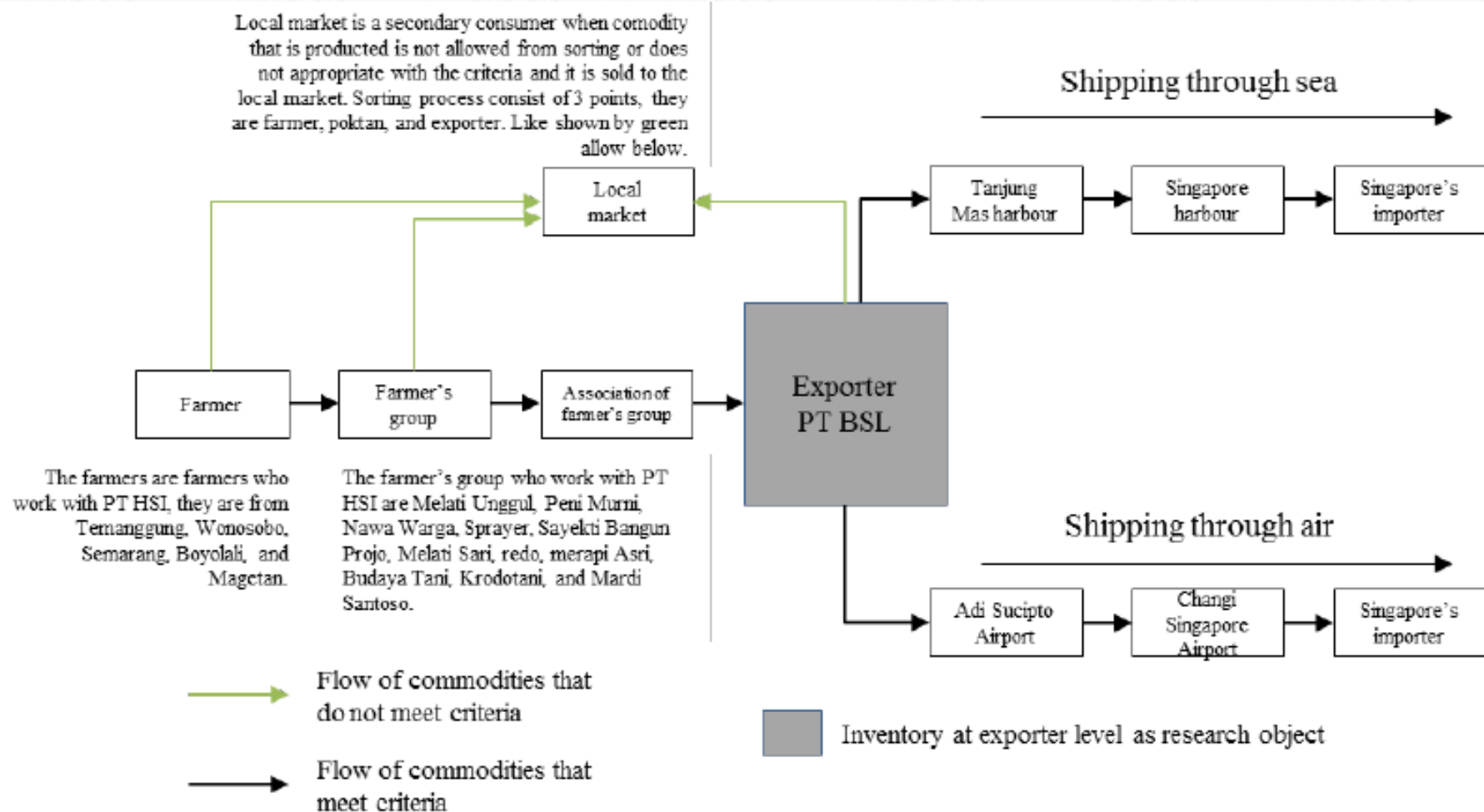


Figure 1 Supply Chain of commodities exported from Central Java Province Indonesia to Singapore (PT Sumber Sari lestari Fruit and Vegetables Exporter, 2014)

WHAT TO DO WITH YOUR PRECIOUS PERISHABLE GOODS

SHIPPING PERISHABLE GOODS IS A REALLY RISKY BUSINESS.
FIND OUT THE BEST WAYS TO SHIP OUR PRECIOUS CARGO WITH THESE TIPS.

THE REFRIGERATED SHIPPING CONTAINER



- 20 or 40' sizes
- also known as the Reefer Container
- has an integral refrigeration unit
- controls a constant internal temperature
- connected to the ship's power supply (by water)
- connected to an external power supply (by rail or road)
- has a compressor that's visible from the outside
- the most popular choice



THE INSULATED SHIPPING CONTAINER

- also known as the Porthole Container
- maintains a constant temperature inside the container
- does not have an integral refrigeration unit
- cooled by connecting directly to the ship's cooling plant
- has holes on the top and bottom of the container (like a port hole)

ATTENTION

THIS PACKAGE
CONTAINS
PERISHABLE GOODS





Innovation Need	Strategy	Improvement Target (KPI)
Economy of Scale	Load balancing from origin to destination and vice versa	Minimum Logistics Cost
Logistics Integration	Sourcing: In-sourcing vs Out-sourcing	Minimum Lead Time
Technology for end to end handling	Promoting appropriate technology for commodity handling	Minimum Total Loss
Providing appropriate transport and logistics infrastructure	Public Private Partnership	Adequate transport & logistics infrastructure
ICT application	Public Private Partnership	Adequate ICT
Capacity Building, Standardization	Training, Vocational School, University	Skill-full Human Resources
Partnership	Promotes domestics and international partnership	High Performance Logistics Service Provider

Thank you for your attention