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POSTHARVEST LOSSES IN CASSAVA VALUE CHAINS DIFFER ACROSS COUNTRIES AND DEMAND TAILOR-MADE SOLUTIONS

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Overview presentation

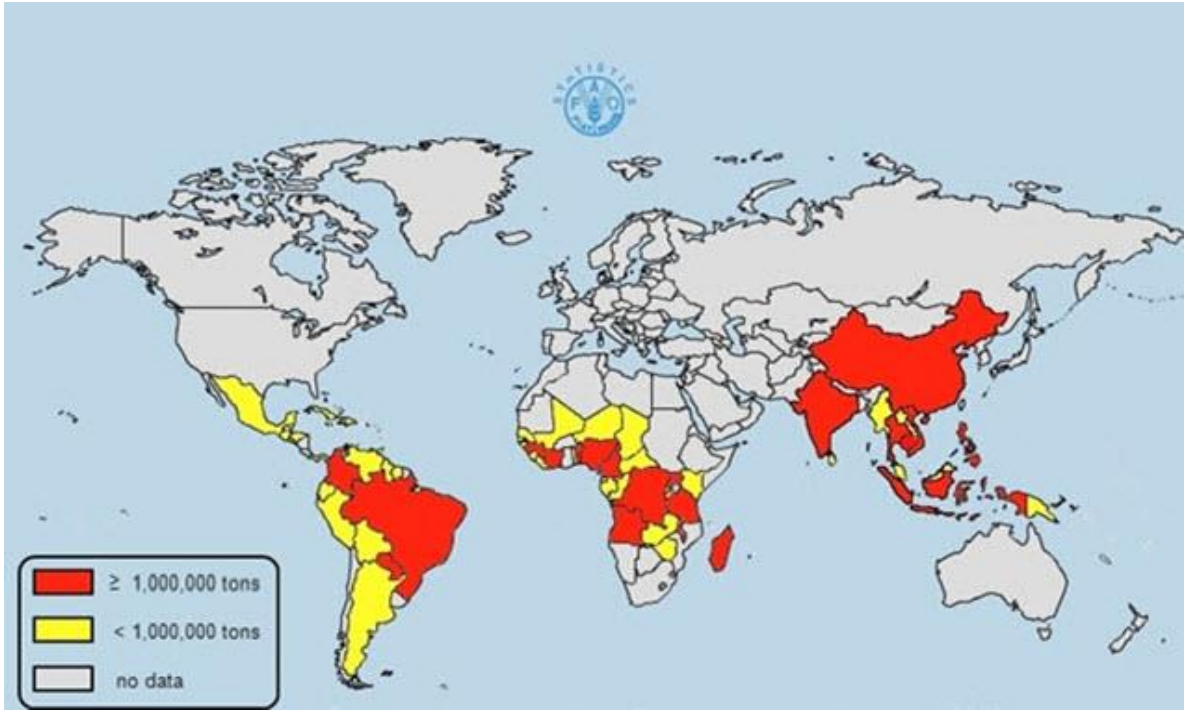
1. Cassava at a glance
2. What are PHL in cassava value chains?
3. Assessment of physical losses
4. Assessment of economic losses
5. Conclusions

CASE STUDY - CASSAVA AT A GLANCE

- 3rd source of calories in the tropics (2nd in SSA)
- Millions of people depend on cassava
- Still a subsistence crop except for a few countries
- Mainly grown by poor farmers, many of them women, often on marginal land
- Alternative to wheat, rice and maize when prices high
- World's 2nd most important source of starch for industrial use
- The most widely traded starch in the world
- Vital for both food security and income generation

CASSAVA PRODUCTION

Total world production: ~ 280 million tonnes (2012)



	(000 t)
Africa	**153,751**
Nigeria	57,564
Congo (DCR)	15,495
Ghana	15,463

	(000 t)
Asia	**93,068**
Indonesia	28,710
Thailand	26,601
Viet Nam	10,294

	(000 t)
Latin America	**34,710**
Brazil	26,035
Paraguay	2,652
Colombia	2,170

About 600 million people depend on the cassava for their food and incomes

An ideal vehicle for rural development and reach the poorest of the poor

POST HARVEST LOSSES

Remain in the ground for several months without serious deterioration (food reserve)….

…but highly perishable once harvested (rapid post-harvest deterioration of cassava restricts the storage potential of the fresh root to 2-3 days).

The most common and sensible way to minimize the losses is to consume or process as soon as possible after the harvesting

Impact

- Loss of income
- Loss of food intake and nutrition
- Less food security
- Challenges in transforming cassava from a subsistence to a cash crop
- Environmental footprint

Gratitude

Reducing Losses from Roots and Tubers

Objective: Improve the post-harvest management of cassava (and yam) leading to reduced postharvest losses through value-added processing and valorisation of wastes

SEVENTH FRAMEWORK PROGRAMME

Ghana, Nigeria, Thailand, Vietnam (2012 to 2015)

POST-HARVEST LOSSES CAN OCCUR ANYWHERE ALONG THE VALUE CHAIN

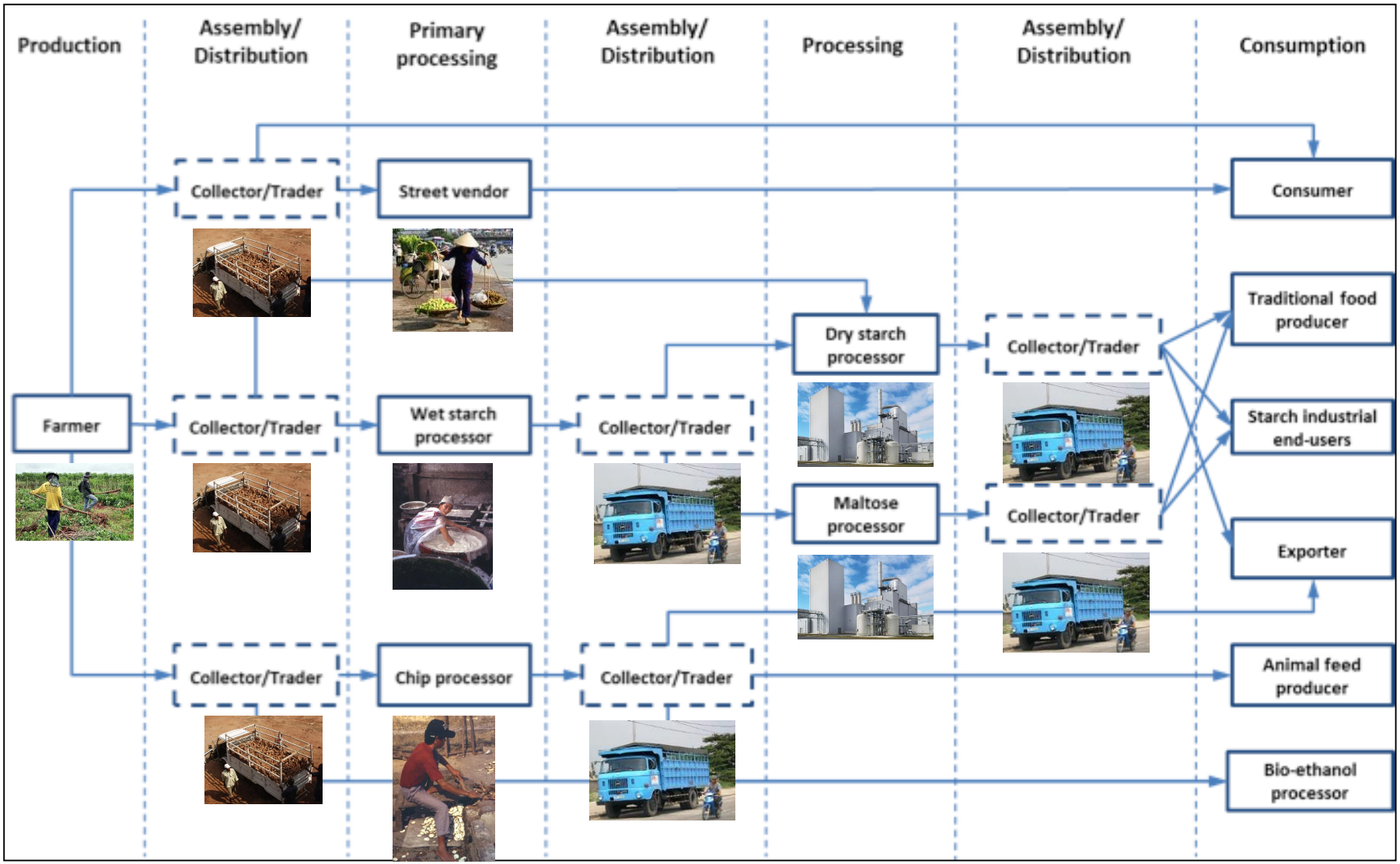
On farm

Trading, transport and handling

Processing

Distribution, retail and consumption

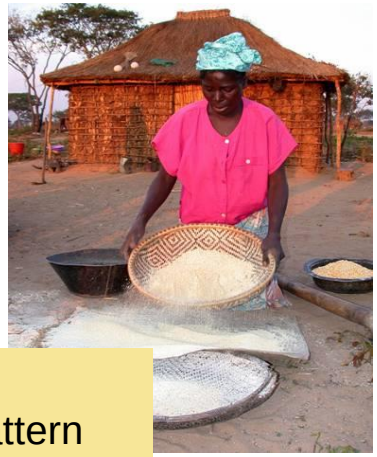
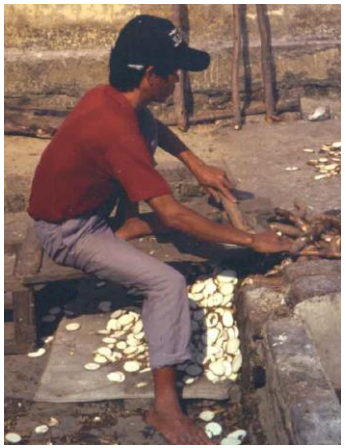
….BUT IT IS NEVER STRAIGHTFORWARD



Cassava value chain map in Vietnam

CASSAVA PRODUCTS AND THEIR VALUE CHAINS: FROM VERY RUDIMENTAL TO EXTREMELY DEVELOPED AND WELL-ADVANCED




Differences in:

- Consumption pattern
- Processing capacity
- Investment capacity
- Innovation
- Governance of the VC
- Standards/norms
- Etc.


Impact on PHL



ASSESSMENT OF POST-HARVEST LOSSES IN THE VALUE CHAINS

For each stage of the value chains

Causes of losses

Mitigation measures

Extent of physical and economic losses

Definitions

Physical losses:
- Product left behind during harvesting
- Spoiled or damaged product that is thrown away
- Product that disappears along the value chain

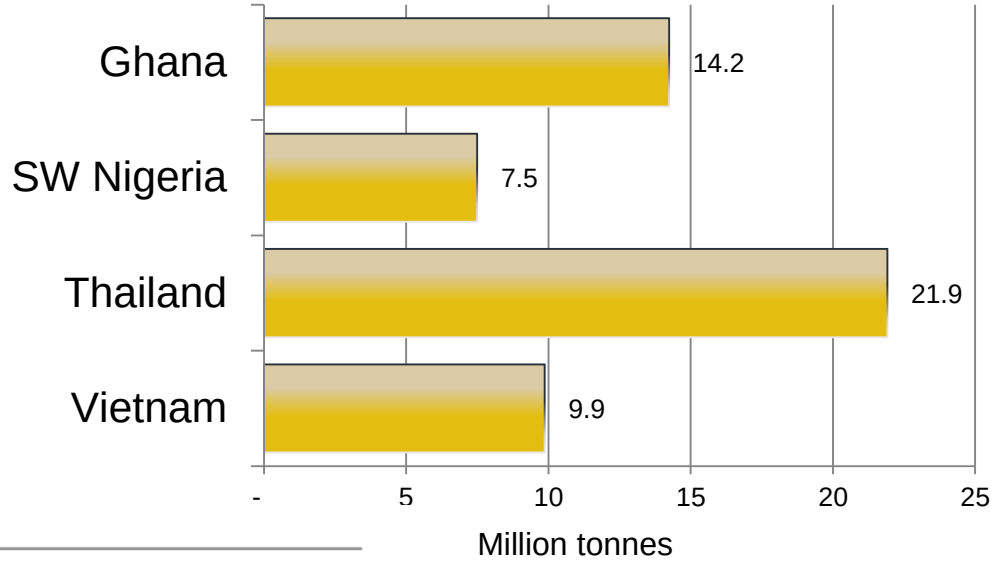
Physical losses have no residual value (no alternative use).

Economic losses:
- Spoiled or damaged product whose price is discounted
- Spoiled or damaged product that cannot be used for what initially meant

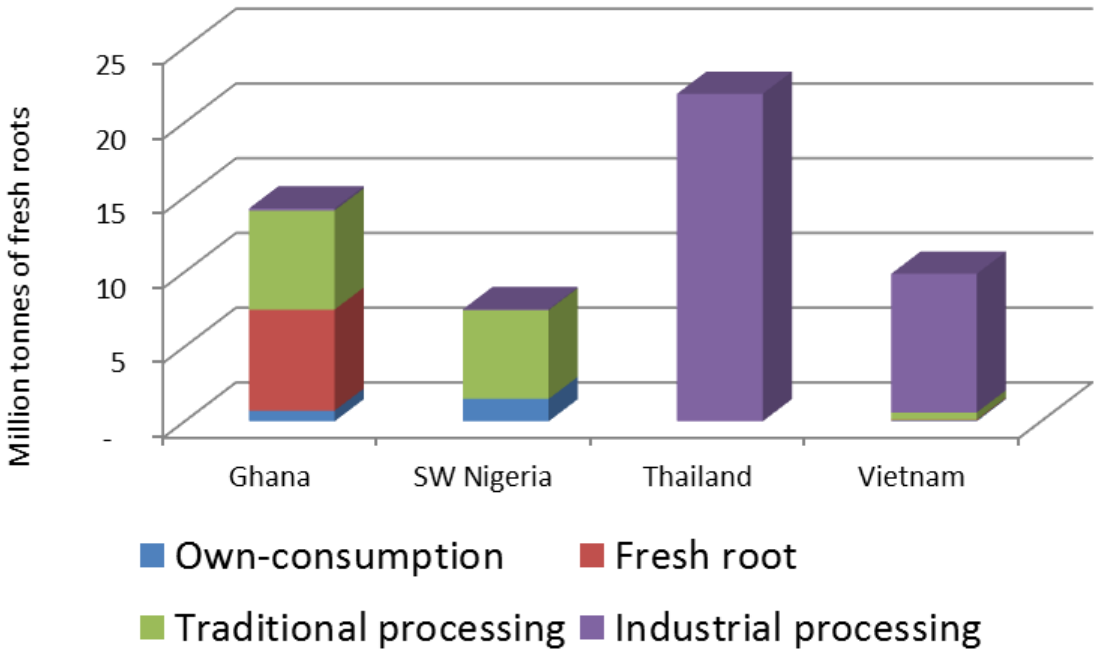
Economic losses have residual value (alternative use).

CASSAVA PRODUCTION AND ITS USES IN THE SELECTED COUNTRIES

Cassava production



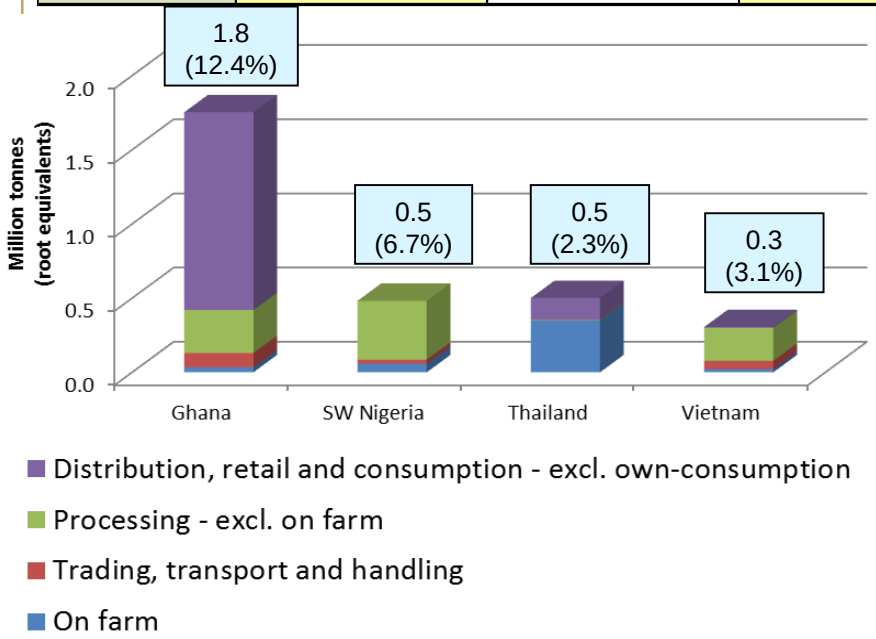
Allocation to different uses

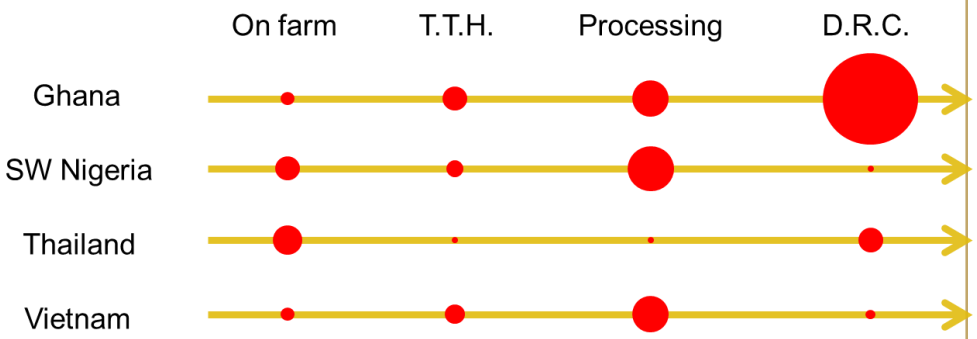


ESTIMATION OF PHYSICAL LOSSES

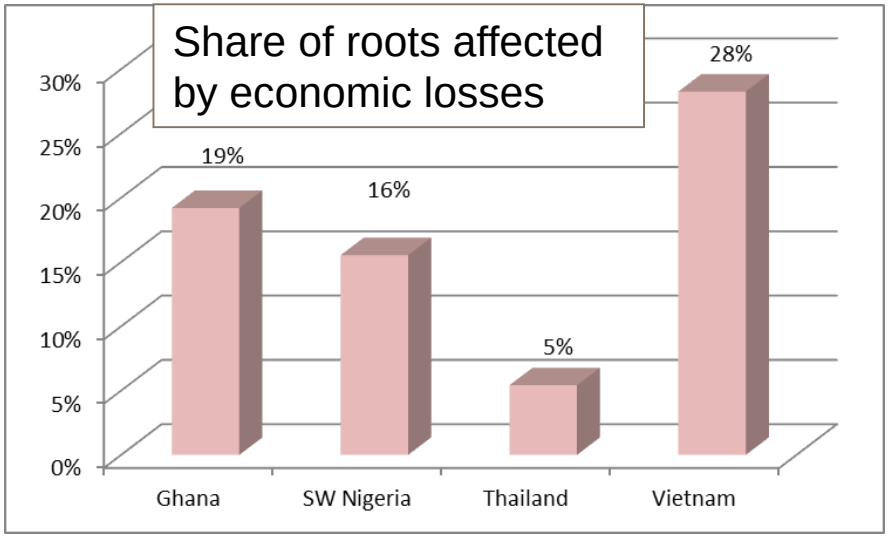
Stage of VC	Ghana	SW Nigeria	Thailand	Vietnam
On-farm	Negligible exc. FCR VC (~0.5%)	Only in trad. processing (~1%)	~1.5%	In dry chip and wet starch VC (~0.5%). Negligible in the dry starch VC
Trading, transport and handling	In trad. process. (~0.5%) and FCR VC (~1%). 0 for own-cons. and on-farm process.	In trad. process. (~0.5%). 0 for own-cons.	Minor (~0.01%)	In the wet starch VC (~2%) higher than in the dry starch and chip VC (~0.5%)
Processing	In trad. process. (~5%)	In trad. process. (~5% to 8%)	Minor (~0.01%)	Higher in the chip VC than wet starch and dry starch VC (~5%, 1% and 0.5%)
Distribution, retail and consumption	In FCR VC (~20%). Negligible for processed products	Negligible	In dry chips VC (~1.5%). Negligible for starch.	In the wet starch VC (~1%). Negligible in dry strach and chips

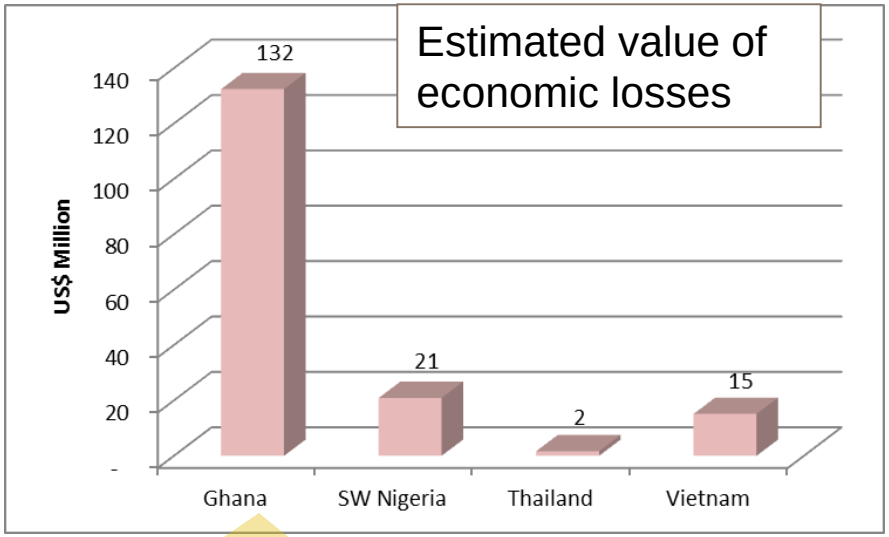
Very different levels of losses across different countries and different value chains within a single country





ESTIMATION OF ECONOMIC LOSSES





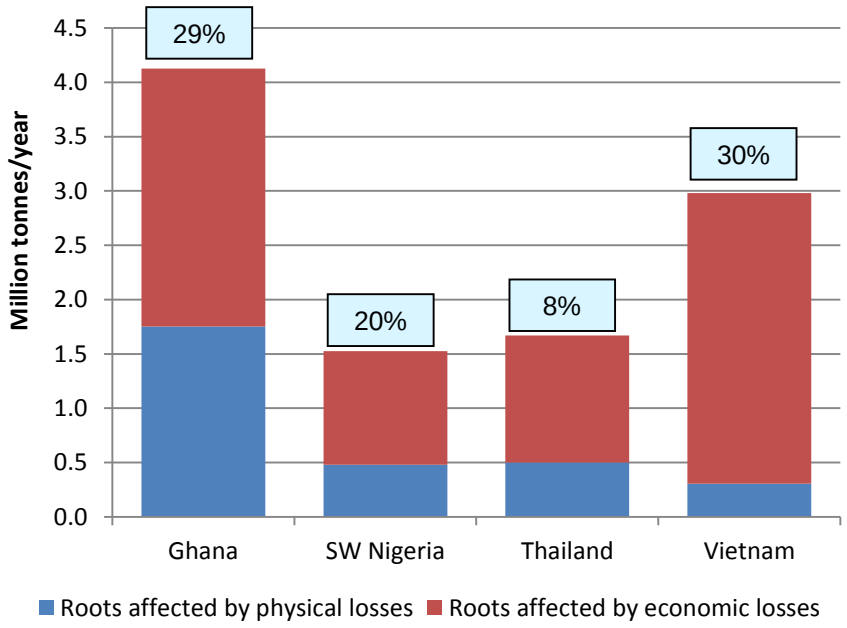
Monetary impact of economic losses depends on:

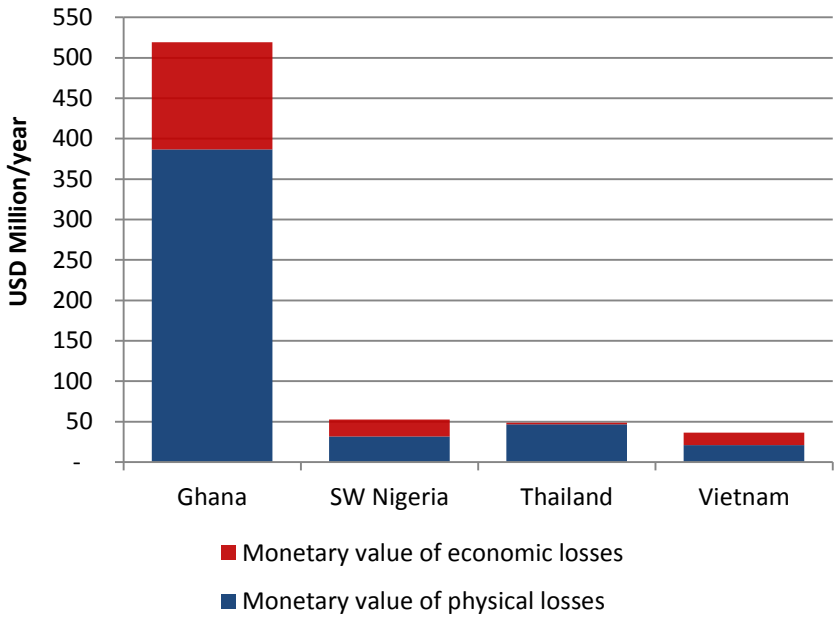
- Amount of roots affected
- Magnitude of quality deterioration
- Pricing mechanism

- 2nd largest producer
- 95% of roots are marketed
- Half of marketed roots reach the consumer in fresh form (more spoilage; higher price at the end of the chain)
- Very demanding buyers (up to 50%+ price discount).

COMBINING PHYSICAL AND ECONOMIC LOSSES

Estimated volume (left) and monetary value (right) of physical and economic losses





- More roots affected by economic losses than by physical losses
- Monetary impact of economic losses is lower (residual value)

Poorer countries and households have the ability to reduce the economic impact of PHL by transforming part of the physical losses into economic losses

CONCLUSIONS AND PROSPECTS

- Losses can be substantial (~USD 0.5 billion in Ghana)
- The use greatly influences the extent of the losses
- Despite absorbing sub-standard products, poorer countries incur higher losses
- Weak coordination within the value chain
- No “one-size-fits-all" solution for addressing post-harvest losses
- Need to understand where, when, why and how losses occur
- Solution is not just technological, but also needs institutional and business model changes
- We can apply this approach to other countries and other crops

CREDIT

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The diversity of postharvest losses in cassava value chains in selected developing countries

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