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Workshop on Reducing Food Loss and Waste through Packaging Innovations and Progress Review of FLW in the APEC Region

Member economy report: Progress review on FLW reduction

VIET NAM

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CURRENT SITUATION AND SOLUTIONS TO REDUCE FOOD LOSS AND WASTE IN VIET NAM

SUPPLY CHAIN & OPERATIONS
IN EMERGING MARKETS
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THE DIFFERENCE BETWEEN

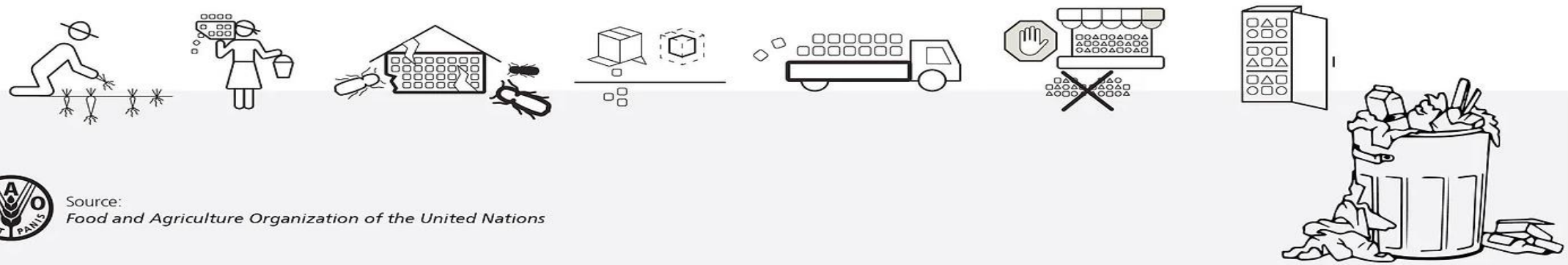
FOOD LOSS & FOOD WASTE

TAKES PLACE AT

Production
Postharvest
Processing Stages
Distribution

HAPPENS AT

Retail
Consumption



Source:
Food and Agriculture Organization of the United Nations

Food loss and waste comparison

THE CURRENT SITUATION OF FOOD LOSS IN VIET NAM

Aaccording to the survey of Viet Nam Institute of Agricultural Engineering and Postharvest Technology (VIAEP):

1) Post-harvest loss of agricultural products in general ranged from 20 - 25 %
2) Total estimated loss are about 8.8 million tons, equivalent to 3.9 billion USD (2% of Viet Nam's GDP; 12% of Viet Nam's agricultural GDP).

1. Postharvest loses of rice: 13,7% - 15,0% (3.0 million tons ~ 760 million USD/year).

Lossose stage	Winter-spring crop	Summer-autumn crop
Harvesting stage	1.5 - 2%	3.5 - 4%
Threshing stage	0.8 - 1%	1.8 - 2%
Drying stage	0.5 - 7%	1.2 - 1.4%
Transporting stage	1%	
Storage stage	1.2-1.9%	
Milling stage	7-12%	

2. Postharvest loses of corn: 15 - 18 %

Lossose stage	Amount
Harvesting stage	2 - 3%
Threshing stage	3 - 5%
Drying stage	3 - 6%
Transporting stage	2%
Storage stage	5 - 10%

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THE CURRENT SITUATION OF FOOD LOSS IN VIET NAM

Aaccording to the survey of Viet Nam Institute of Agricultural Engineering and Postharvest Technology (VIAEP):

3. Fruits and Vegetables:

Leafy vegetables	>30%
Root vegetables	10 - 20%
Fruits	>25%

4. Some other food:

Cassava	20 - 25%
Peanut	5.5 - 9.5%
Sweet potato	18 - 22%
Soybean	1.4 - 4.1%

5. Seafood:

Joint fishing	>20%
For trawlers preserved by salting	>30%

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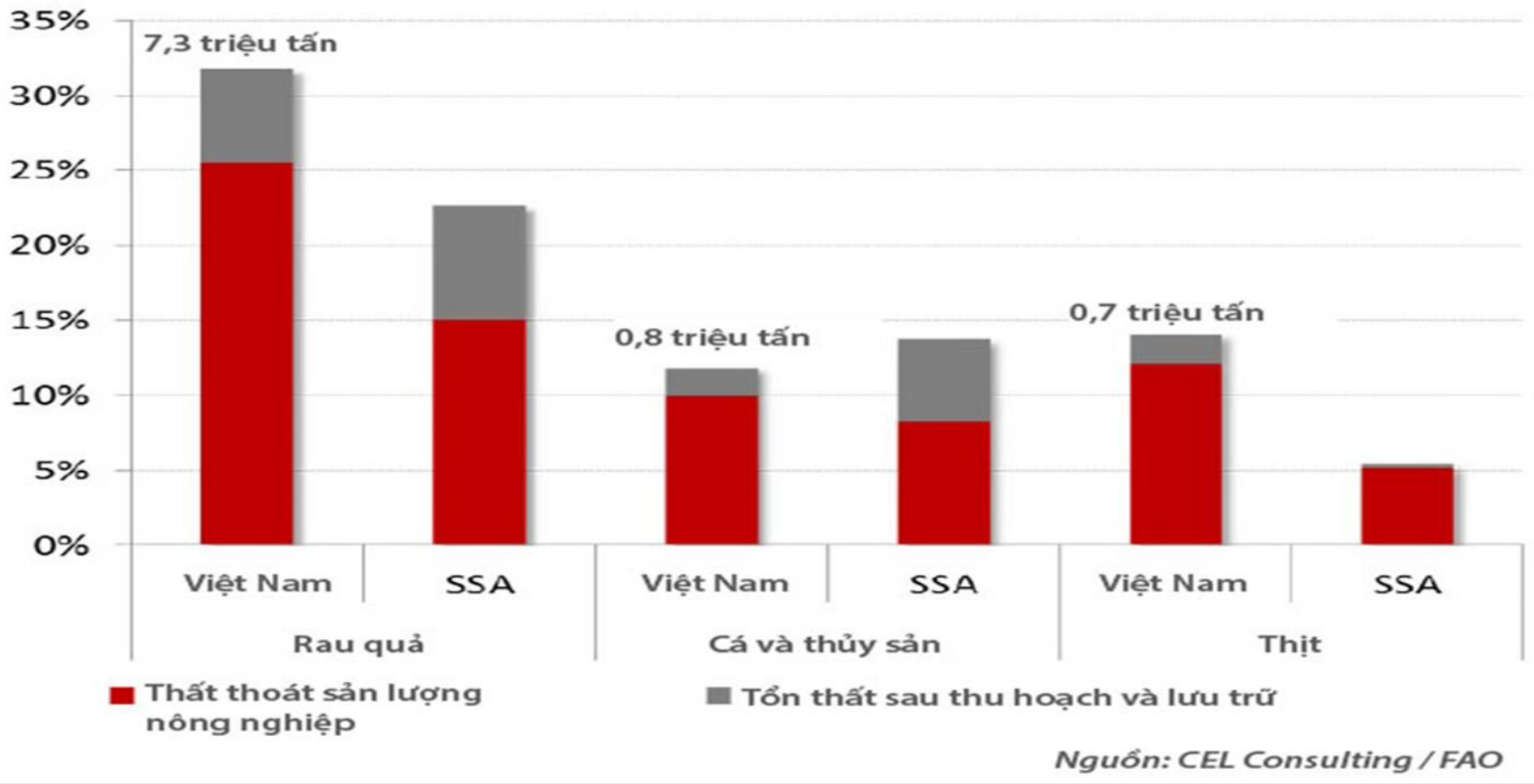
THE CURRENT SITUATION OF FOOD LOSS IN VIET NAM

Food production loss in Viet Nam is higher than in other economies in South Asia and Southeast Asia, ranking second after China in the Asia Pacific region.



- Losses in agricultural production and post-harvest handling, storage and transport for Vietnam (%/million tonnes) and for South Asia and Southeast Asia (%).

- Incomplete assessment of FLW (excluding FW)

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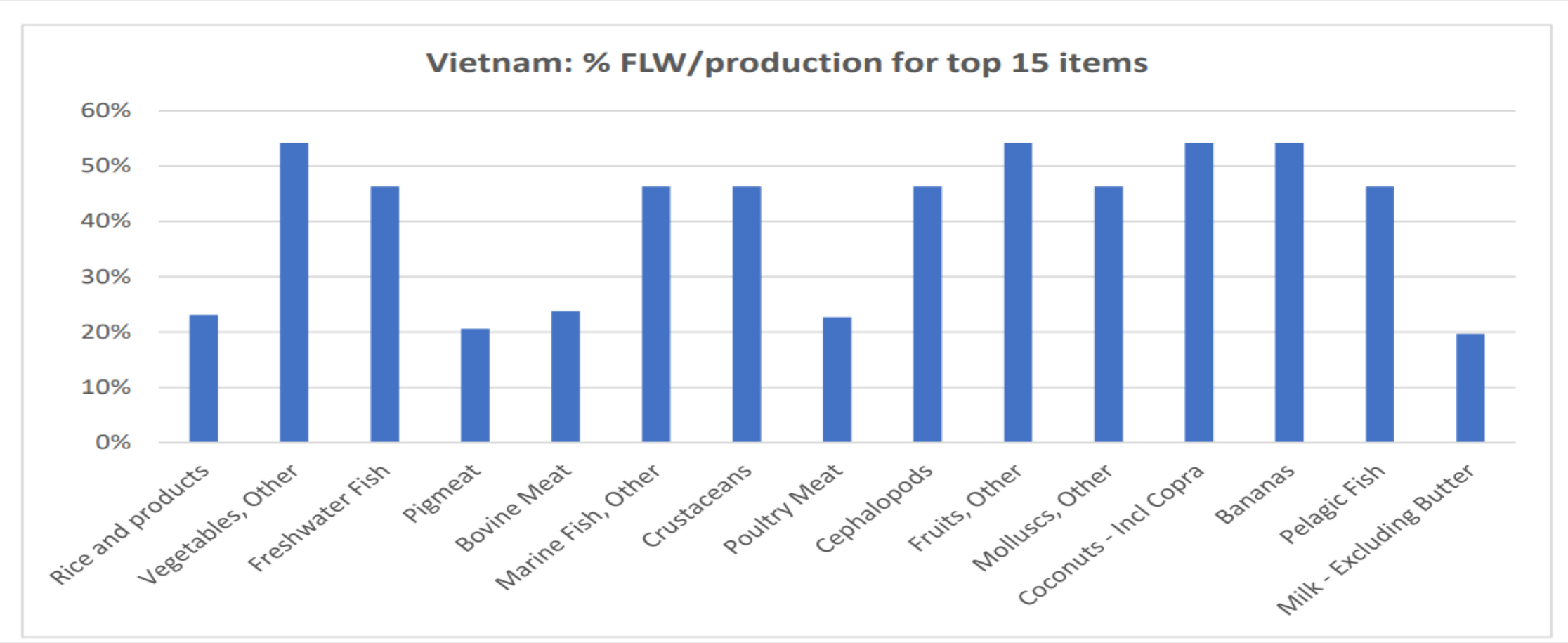
THE CURRENT SITUATION OF FOOD LOSS IN VIET NAM

According to the report of authors M.G. Kok *et al.*, (2002) on "*National Profile on Food Loss and Waste in Viet Nam Estimates of Food Loss and Waste, Associated Greenhouse Gas Emissions and Nutritional Losses*":



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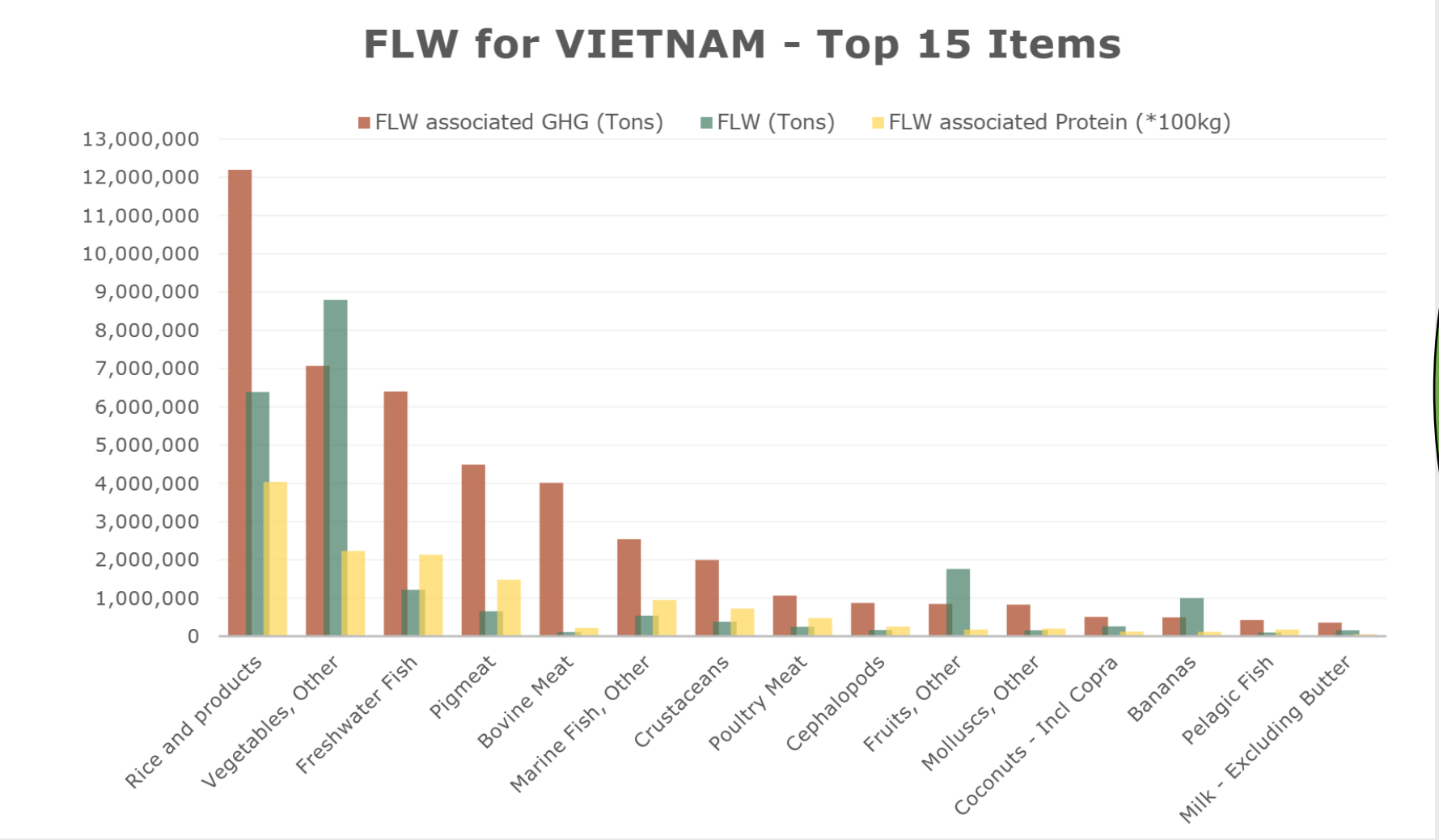
THE CURRENT SITUATION OF FOOD LOSS IN VIET NAM



Food loss and waste by weight, protein loss and ranked by FLW-related GHG emissions (CO_2).

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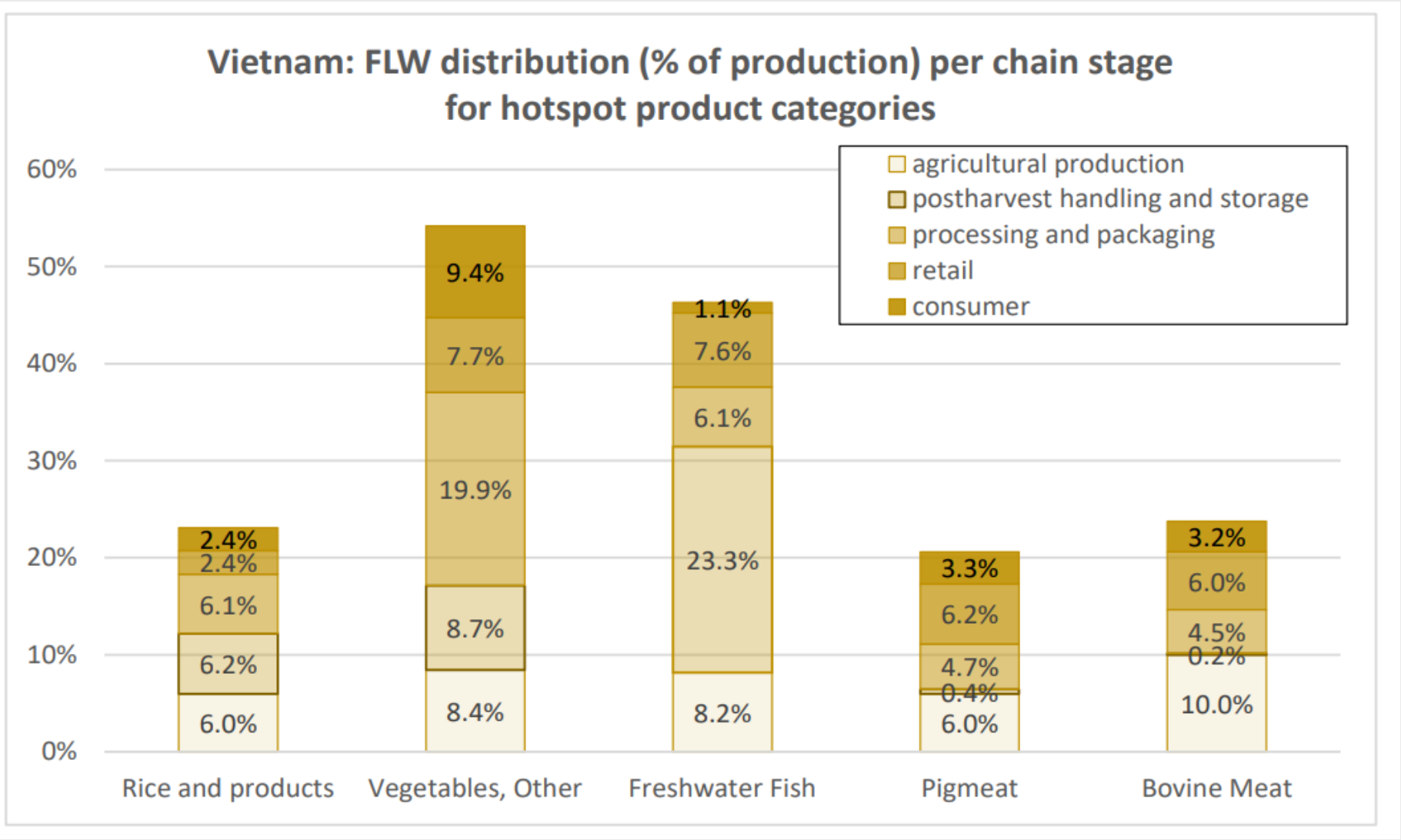
THE CURRENT SITUATION OF FOOD LOSS IN VIET NAM



FLW ratio by stage in the chain: (agricultural production; post-harvest handling and storage; processing and packaging; retail; consumer) for 5 product types

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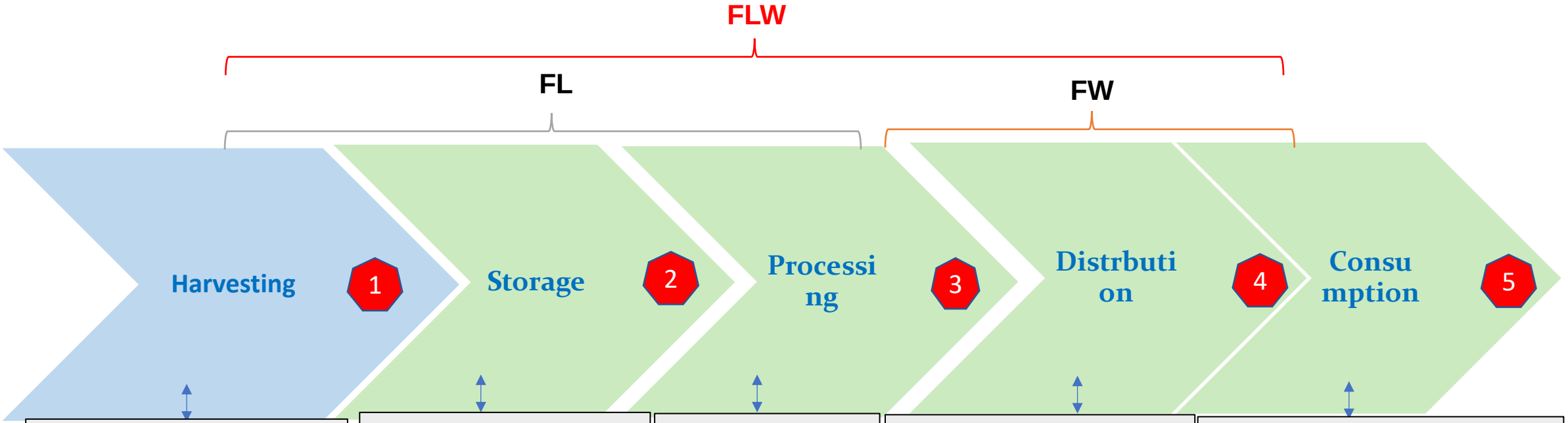
FACTORS AFFECTING FOOD LOSS AND WASTE IN CHAIN FROM PRODUCTION TO CONSUMPTION STAGE



- Production method and scale
- Technology level and harvesting equipment
- Harvest time
- Weather conditions

- Technological process
- Technological and equipment level of processing and storage
- Awareness, technical level and management

Technological Process
- Technological and equipment of processing
- Awareness, technical and management level

- Logistics Chain Connectivity Infrastructure
- Awareness, technical expertise and supply chain management.

- Consumer awareness and behavior.
- Consumption habits
- Media and policy

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CAUSES OF FOOD LOSS AND WASTE IN VIET NAM

- Agricultural production in small scale (Common scale about 0.4 ha);

Mechanization in agricultural production is still low compared to the region and the world, with an average of 3.3 HP/ha of cultivation (Thailand 4 HP/ha, Korea 10 HP/ha, China 8 HP/ha)..

- Lack of investment in infrastructure associated with raw material areas and logistics systems

Few large enterprises invest in agricultural production according to the value chain

- The level of applied technology is average and low compared to the region and the world

- 40% of enterprises have workers without professional qualifications or skills...

- The scale of digital transformation application in agriculture is still limited, not synchronized between regions, areas, and localities (Analysis, forecasting, traceability, disease control and supply chain...)

- The policy mechanism to support post-harvest loss reduction still has many shortcomings..

- Resources from the state budget and credit capital in investment in developing high-tech agriculture and smart agriculture are still limited.

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SOME POLICIES ON REDUCING FOOD LOSS AND WASTE IN VIET NAM

1. The ASEAN side:

On 5 September 2023 on the occasion of the 43rd ASEAN Summit in Jakarta, in ASEAN Leaders' Declaration on Strengthening Food Security and Nutrition in Response to Crises, ASEAN commit to accelerate and support economy, regional, and international initiatives to tackle food loss and waste…

SOME POLICIES ON REDUCING FOOD LOSS AND WASTE IN VIET NAM

2. The Viet Nam Government side:

The Prime Minister of Viet Nam has issued a number of decisions as follows:

1) **Decision No. 63/2010/QD-TTg dated October 15, 2010 on "Support policy to reduce post-harvest losses for agricultural and aquatic products".**
2) **Decision No. 68/2013/QD-TTg dated November 14, 2013 on "Support policy to reduce losses in agriculture".**
3) **Decision No. 300/QD-TTg dated March 28, 2023 of the Prime Minister approving the "National Action Plan for Transforming the Food System to be Transparent, Responsible and Sustainable in Viet Nam by the year 2030"**
4) **Viet Nam Government has issued Resolution No. 57-NQ/TW of 22 December 2024 on Breakthrough in Science – Technology Development, Innovation, and National Digital Transformation and Resolution No. 68-NQ-TW of 4 May 2025 on Private Economic Development.**

SOME POLICIES ON REDUCING FOOD LOSS AND WASTE IN VIET NAM

3. The Ministry side:

The Ministry of Agriculture and Rural Development (Now Ministry of Agriculture and Environment) has issued a number of decisions as follows:

1) **Decision No. 1003/QD-BNN-CB dated June 2, 2014 approving the "Project to Increase the added value of agricultural, forestry and aquatic products in processing and reduce post-harvest losses";**
2) **The same Ministry has issued Decision N0. 5430/QD-BNN-HTQT 19 December 2023 on Approval of Project on Establishment of Food Innovation HUB (FIH) in Viet Nam.**

Viet Nam and Ministry of Agriculture and Environment welcome cooperation with APEC and its Members on Food Innovation including on FLW and encourage Public – Private Partnership (PPP) to address that problem.

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REDUCING FOOD LOSS AND WASTE IN VIET NAM BY USING PACKAGING INNOVATIONS

1. TECHNOLOGY AND EQUIPMENT LINE FOR PREPARING, PACKAGING, STORAGE OF NINH THUAN GRAPES AND APPLES, CAPACITY 500KG/H

- Capacity: 500 kg/h;
- The product ensures food safety, extending the storage time from 55 to 60 days at 4^0C;
- The product has been commercialized in major supermarkets nationwide.

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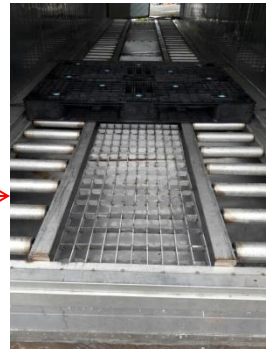
2. TECHNOLOGY AND EQUIPMENT LINE FOR PREPARING PACKAGING AND STORAGE 0F LYCHI, CAPACITY 1 TON/H

Harvested lychi

Preparing



Insect treatment

Fungal and Browning treatment

Drying

Packaging

Storage and Consumption

3. TECHNOLOGY AND EQUIPMENT LINE FOR PREPARING PACKAGING AND STORAGE 0F DRAGON FRUIT, CAPACITY 2 TON/H

Application of Modified Atmosphere Packaging (MAP) Technology to pack and store for reducing postharvest loss and prolong the storage time of dragon fruits.

4. APPLICATION OF TECHNOLOGY FOR PACKAGING AND STORAGE 0F FRUITS IN VIET NAM

Application of Modified Atmosphere Packaging (MAP) Technology to pack and store for reducing postharvest loss and prolong the storage time of passion, mango, longan, orange and other fruits.

SUGGESTIONS AND RECOMMENDATIONS TO REDUCE FLW IN VIET NAM

1. • It is necessary to approach, innovate and perfect the method of calculating FLW systematically according to international standards.
   • Strengthen international cooperation activities to learn and exchange experiences to improve research capacity, analysis, planning strategies to reduce FLW and sustainable development.
2. • It is necessary to focus investment resources on projects to investigate and assess the current status of FLW for each agricultural and food product and By-product industry according to the value chain.
   • Strengthen consulting/training activities for the small and medium-sized enterprises participating in the production/processing/distribution chain of key agricultural and food products.
3. • It is necessary to invest in developing a network of analysis and testing rooms for food quality to meet the needs of producers and consumers in a safe and transparent manner.
   • Prioritize investment in research institutes/universities (meeting public service requirements while serving research and supporting businesses).
4. • It is necessary to review and change the quality standards and regulations for food products that have been issued for a long time and are now too outdated.
5. • It is necessary to review and change appropriate policy mechanisms to support more effective reduction of post-harvest losses for cooperatives, agricultural enterprises.

SUGGESTIONS AND RECOMMENDATIONS TO COOPERATE BETWEEN VIET NAM AND APEC

1

- **Sharing and exchange experiences to improve research capacity, analysis, planning strategies to reduce FLW and sustainable development.**

2

- **Financial support through projects to investigate and assess the current status of FLW in Viet Nam according to the value chain.**

3

- **Transferring smart and advanced packaging technology to pack and store food for reducing FLW in Viet Nam.**

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THANK FOR YOUR ATTENTION!