VIETNAM FRUIT AND VEGETABLE INDUSTRY

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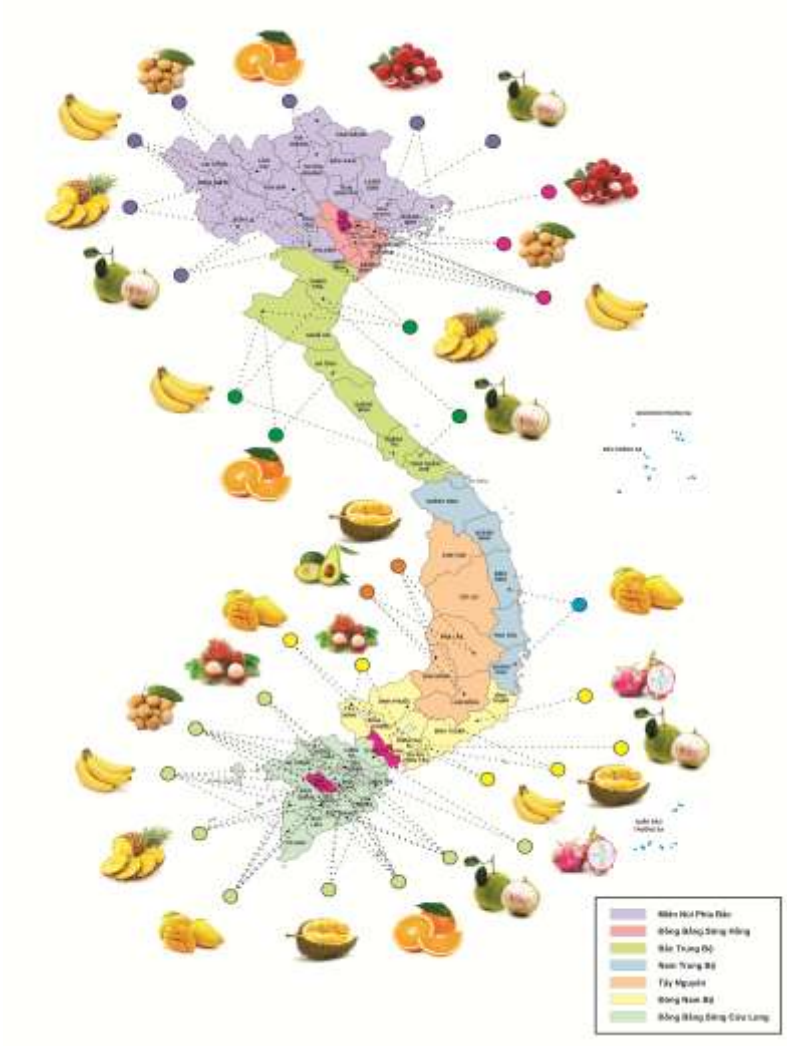
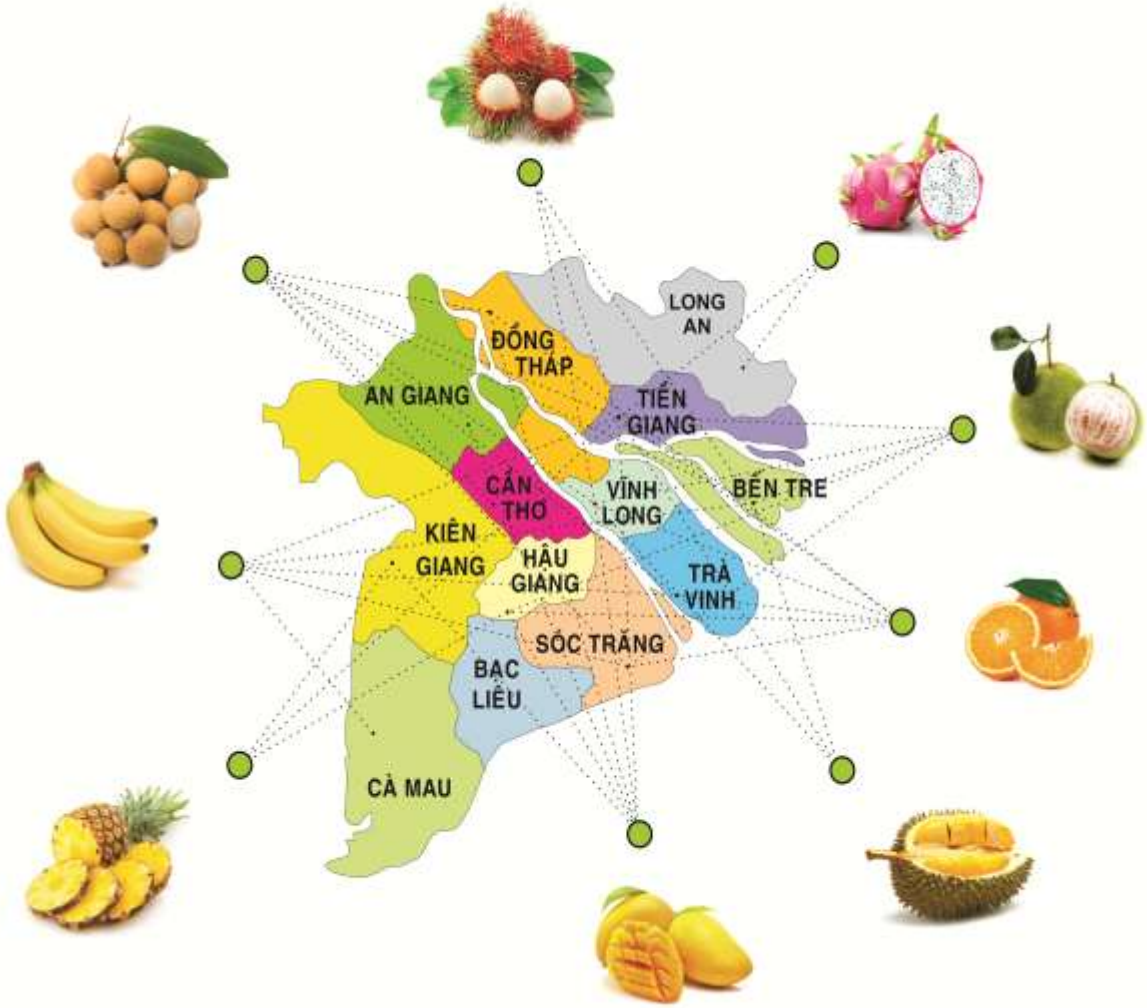
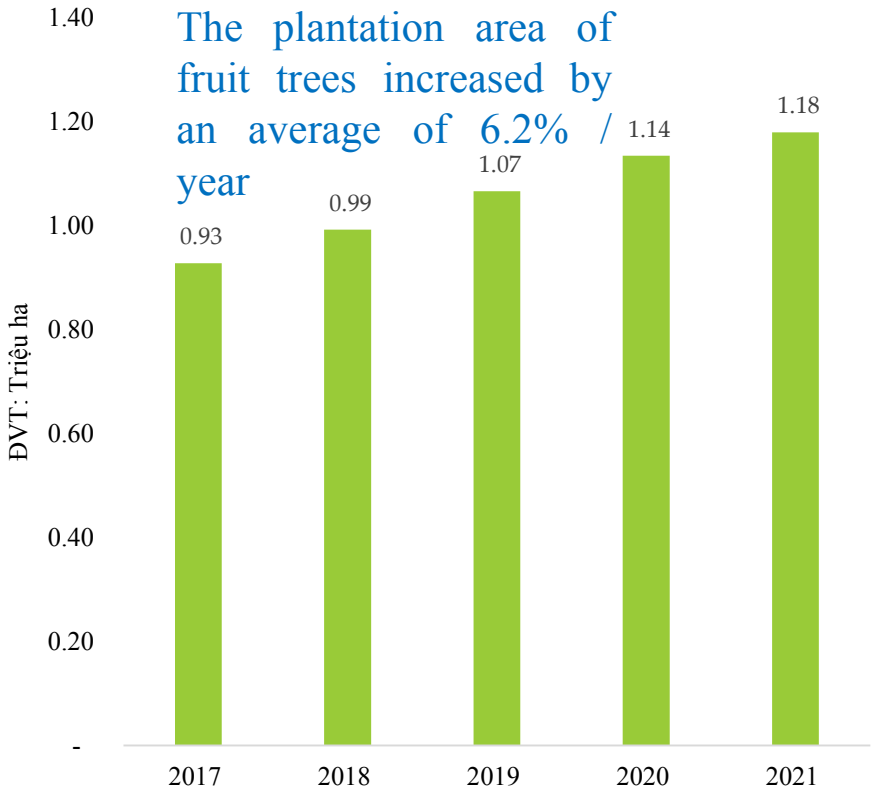
Wide division, variety of vegetables and fruits



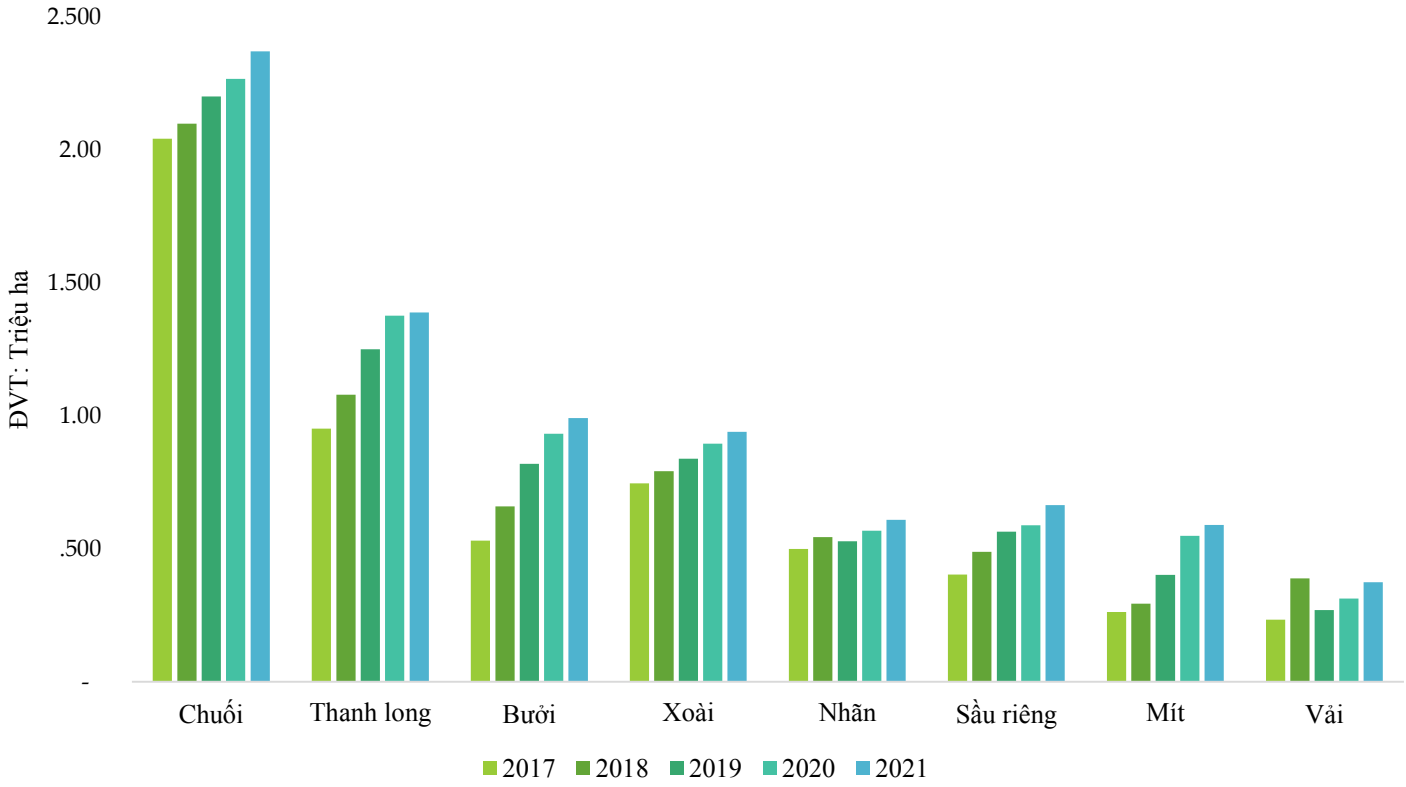


Area and output of fruit trees increased in the period 2017-2021

Fruit tree area of Vietnam 2017-2021

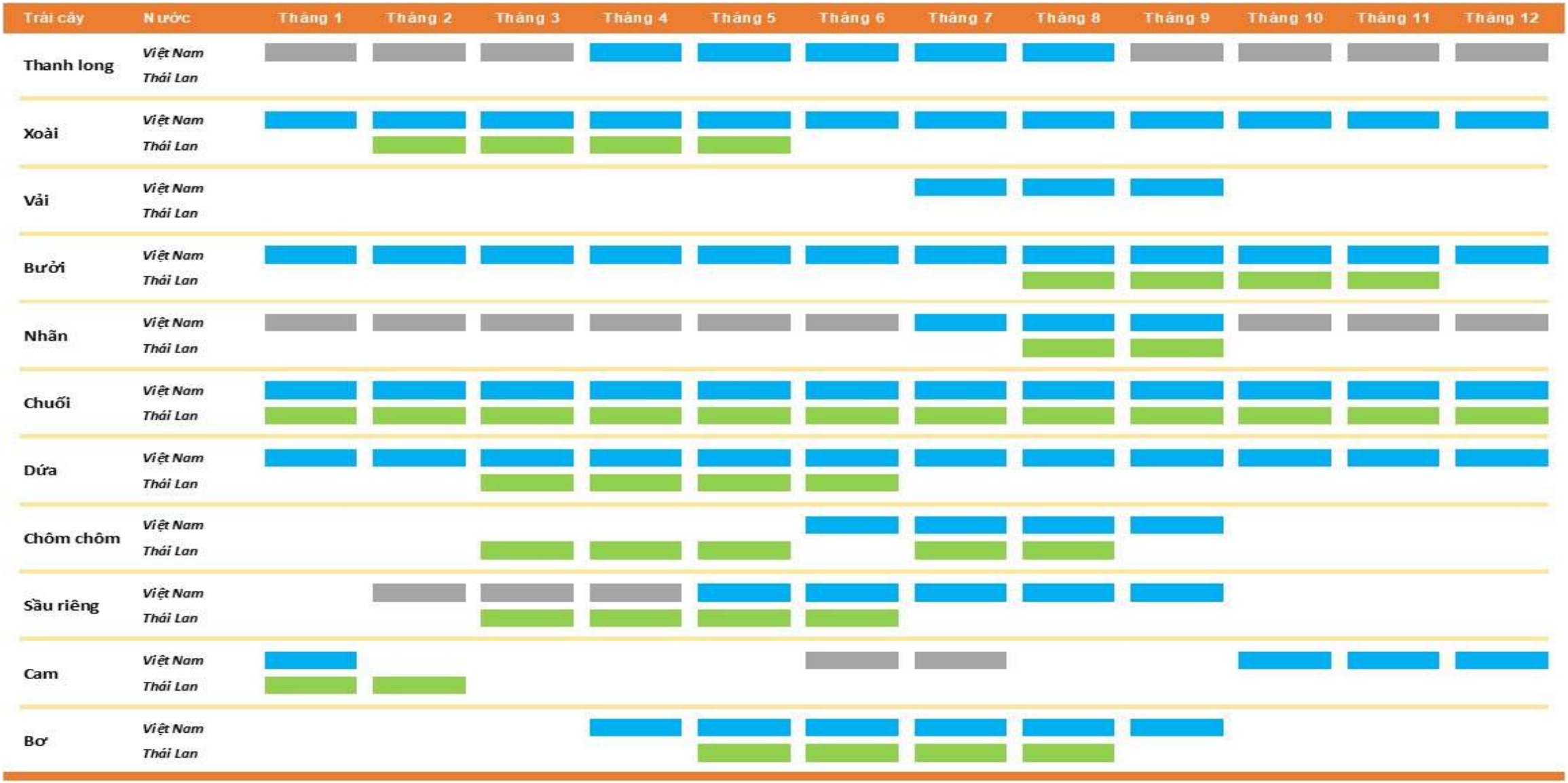


Production of some fruit trees of Vietnam 2017-2021



Source: MARD

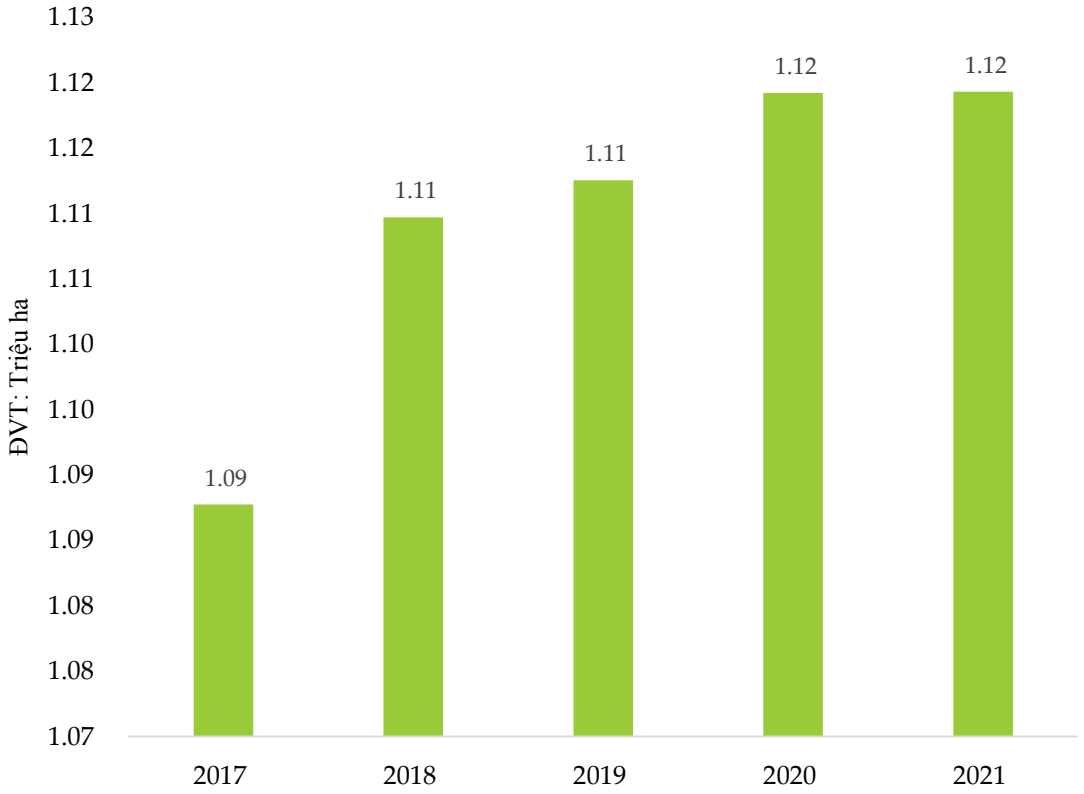
Spreading harvesting season for fruits tree was carried out successful



Area and output of vegetables and legumes increased in the period of 2017-2021

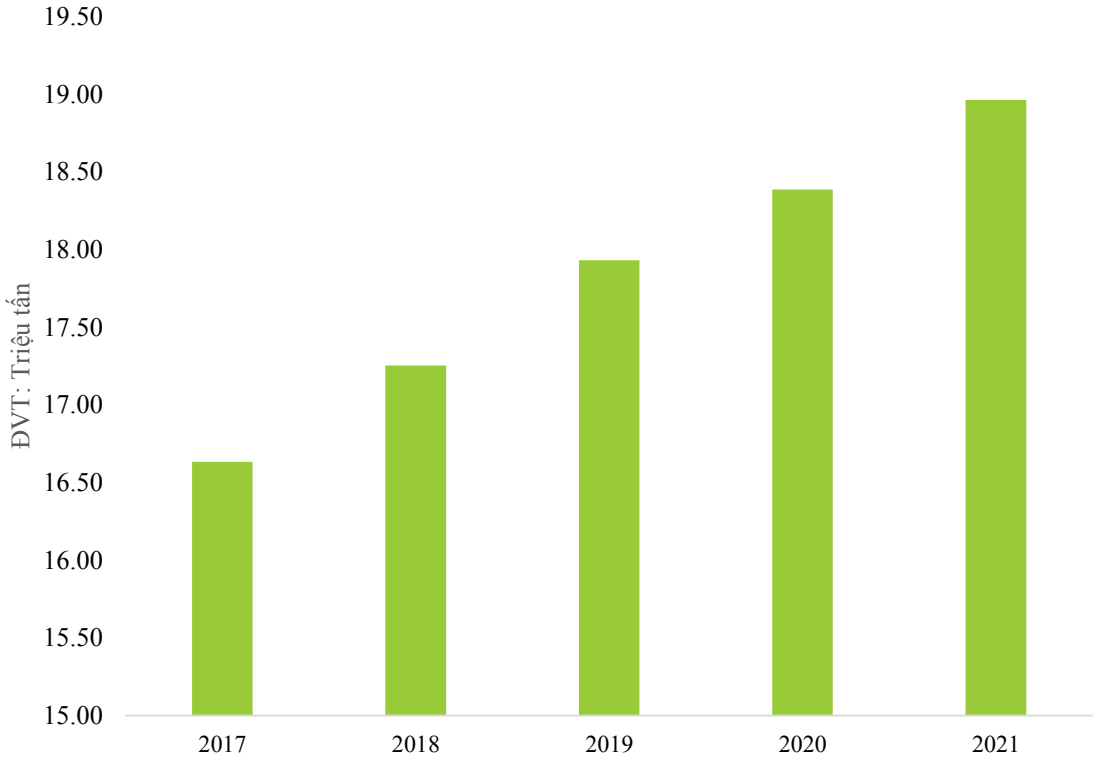
Area of vegtables and legumes in Vietnam 2017-2021

The cultivation area of vegetables and legumes increased by an average of 0.7% / year



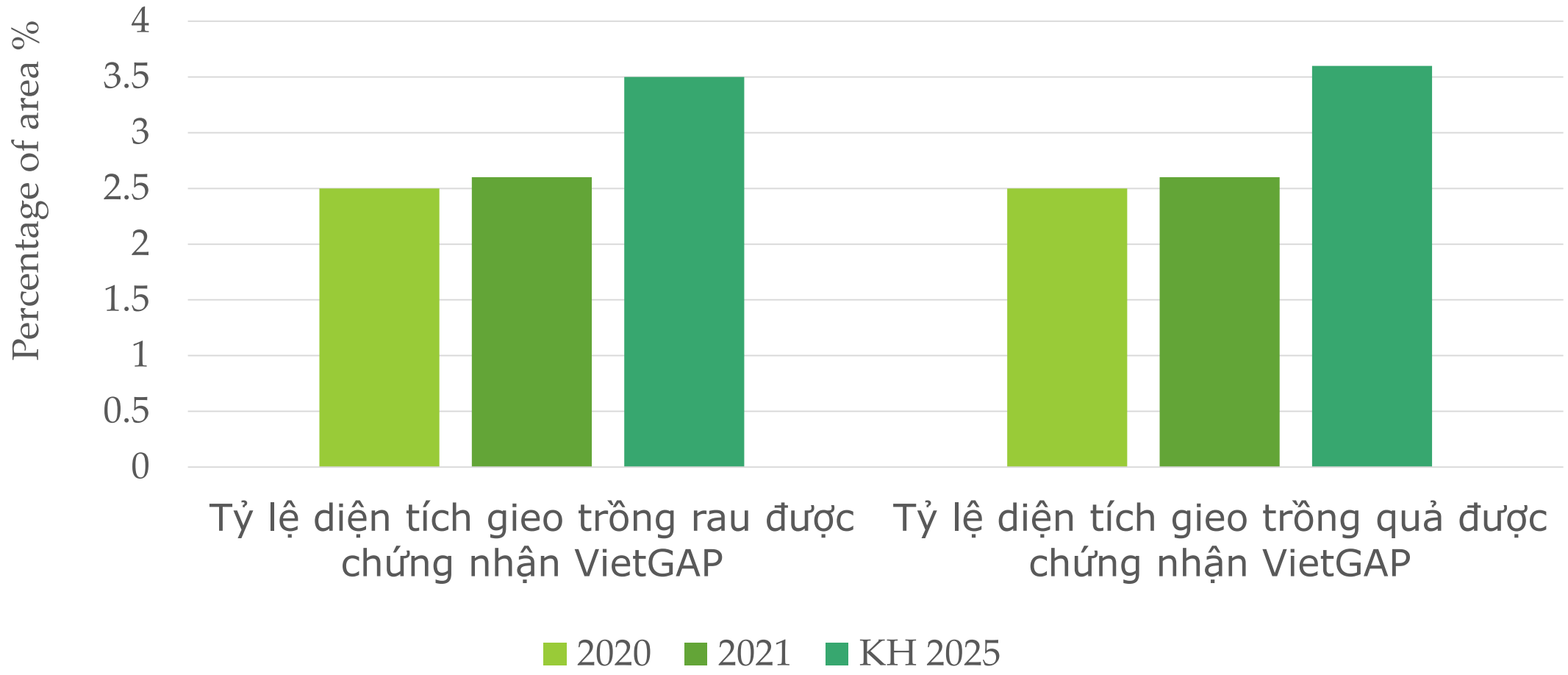
Output of vegtables and legumes in Vietnam 2017-2021

Vegetable and legume production increased by an average of 3.3% per year



Source: provincial statistics

increased



Source: Department of Crop Production

incentive policy

Summary of 3 years of implementation of Decree No. 109/2018/ND-CP dated 29/8/2018 on organic agriculture

1. Vegetables: there are 20 areas with nearly 900 certified hectares of vegetable plantation

- Hanoi: 269 hectares
- Tay Ninh: 54 hectares
- Lam Dong: 40.44 hectares
- Dak Lak: 30 hectares

2. Fruits: there are 14 localities with more than 14,000 certified hectares of fruit plantation

- Ben Tre with nearly 10,000 hectares of coconut trees
- Tra Vinh with more than 4,000 hectares of coconut trees
- Dak Lak with 200 hectares of fruit trees
- Dak Nong with more than 62 hectares of fruit trees

Improved capacity of fruit and vegetable processing

Number of fruit and vegetable processing enterprises in 2020

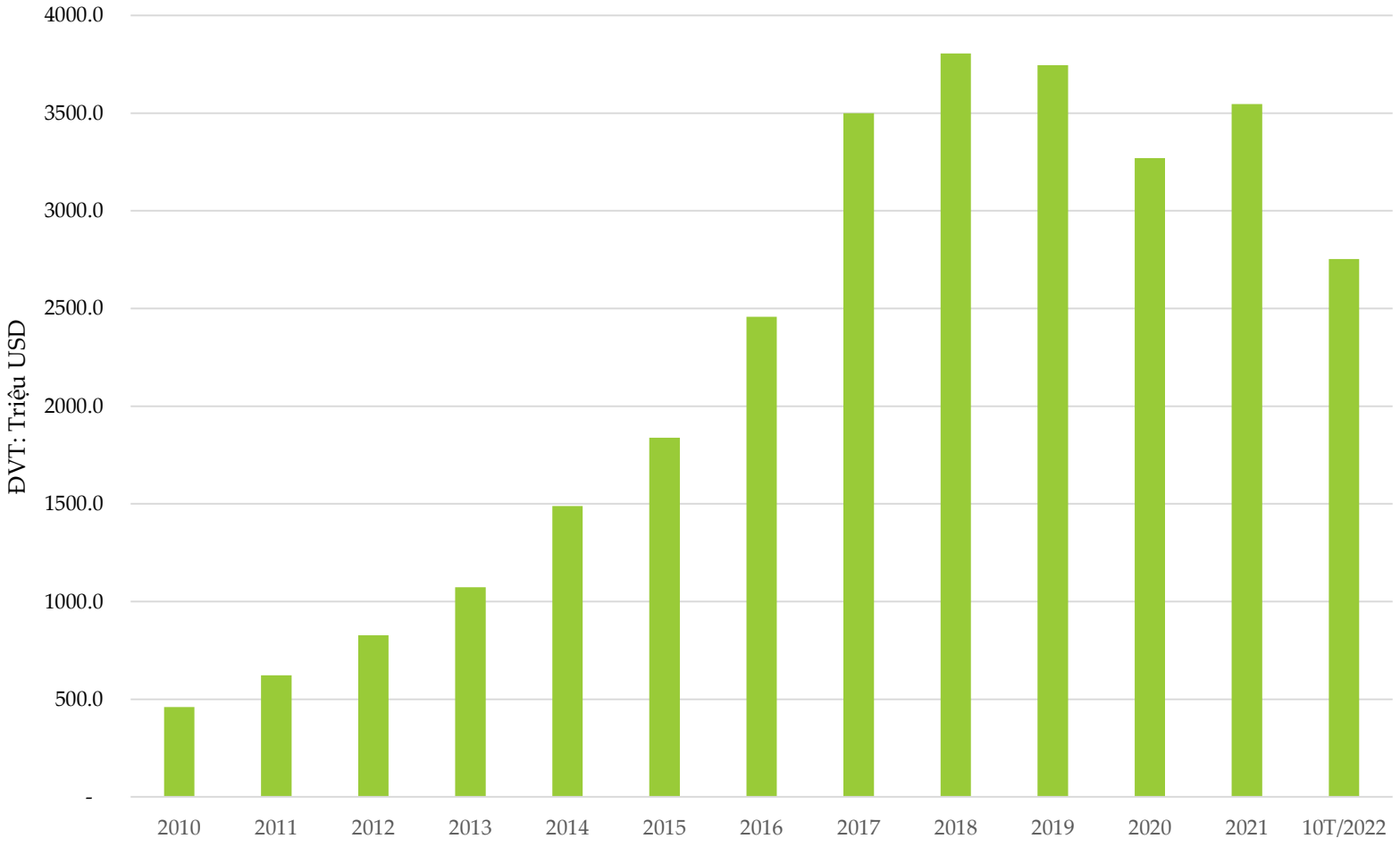
No	Region/ Province	Number of businesses	Number of employees (people)	Design capacity (tons SP/year)
I	NORTHERN	79	8.620	580.051
II	Central + Central Highlands	19	1.659	171.940
III	Southeast	35	4.702	170.495
IV	Mekong Delta	24	5.417	134.100
24	*Long An*	*2*	*140*	*9.000*
25	*Tiền Giang*	*7*	*1.700*	*40.200*
26	*Vĩnh Long*	*2*	*423*	*2.000*
27	*Cần Thơ*	*3*	*807*	*7.500*
28	*An Giang*	*2*	*734*	*10.000*
29	*Kiên Giang*	*2*	*220*	*6.000*
30	*Sóc Trăng*	*2*	*348*	*6.000*
31	*Hậu Giang*	*2*	*445*	*2.400*
32	*Tây Ninh*	*1*	*300*	*41.000*
33	*Bến tre*	*1*	*300*	*10.000*
Total		157	20.398	1.056.586

Source: AgroTrade

Processed fruit and vegetable products

No	Some processed fruit and vegetable productsiến	Mass (tons)	Proportion (%)
1	Canned goods, jams and processed products of other types	303.386	68,0
2	Dried bananas	53.538	12,0
3	Spices of all kinds	8.923	2,0
4	Frozen IQF	35.698	8,0
5	Juice	44.612	10,0
Total		446.157	100,0

Vietnam's fruit and vegetable export value increased rapidly



Source: General Department of Customs

- Vietnam's fruit and vegetable export value has increased sharply in recent years, with an annual growth rate of 17.6% per year in the period 2012-2021, from 827.0 million USD in 2012 to 3.5 billion USD in 2021.
- In the first 10 months of 2022 alone, the export value of vegetables and fruits reached 2.75 billion USD, down 8.0% over the same period in 2021.
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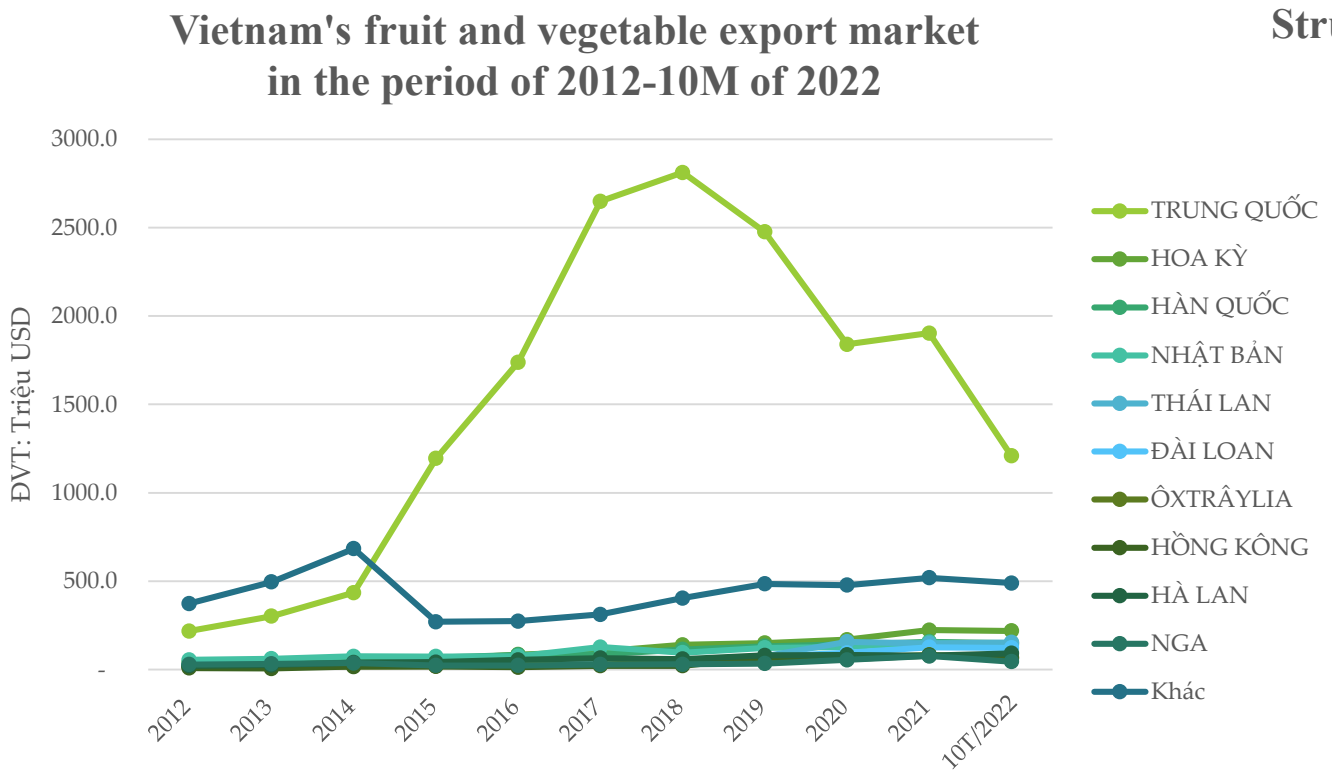
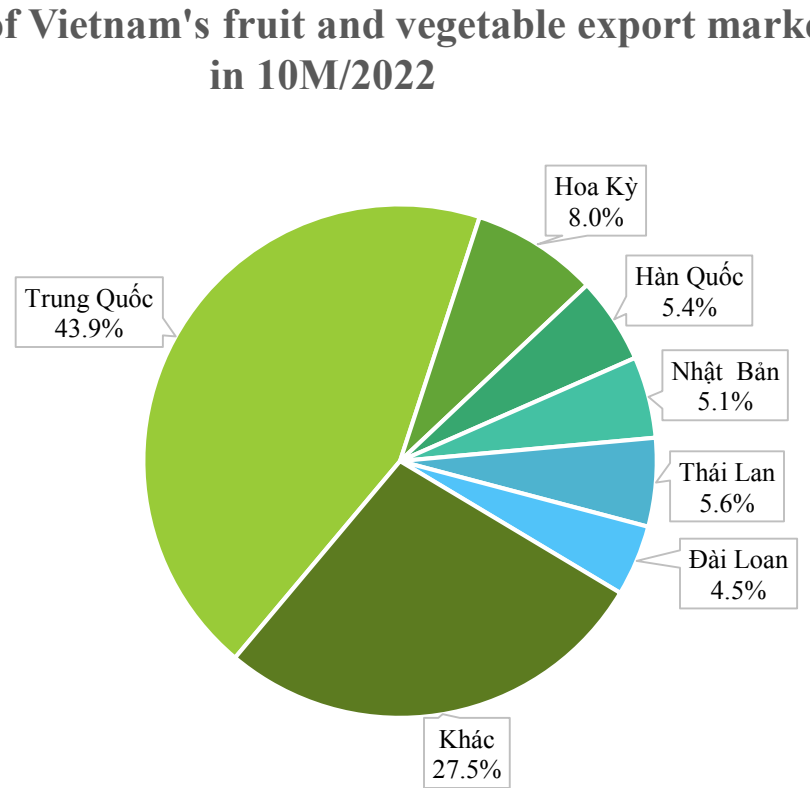
Diversified fruit and vegetable export markets



Source: General Department of Customs

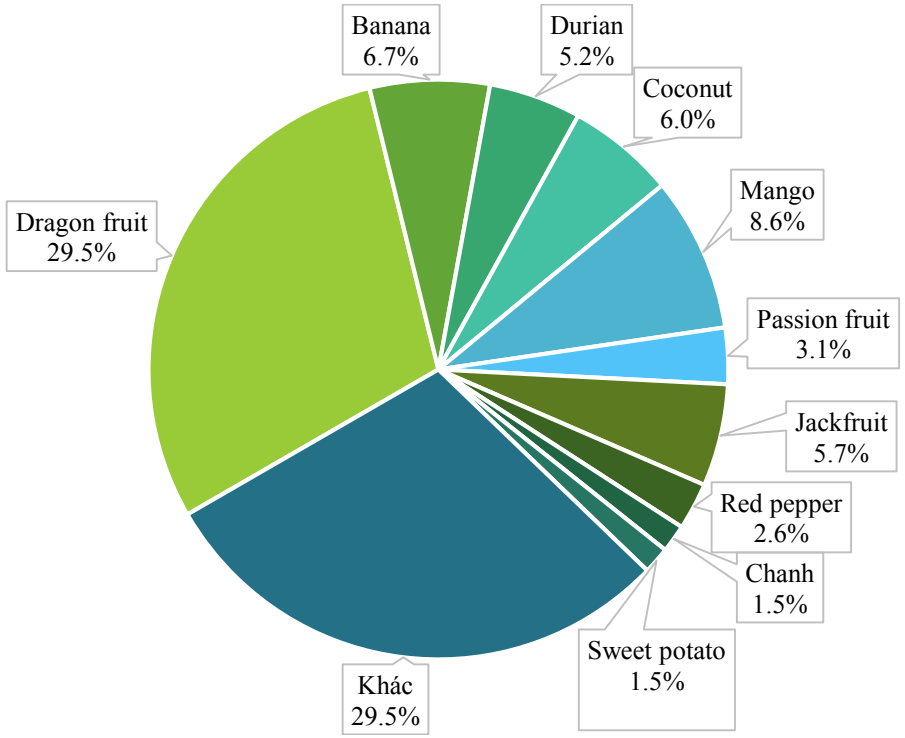


Nguồn: Tổng cục Hải quan

- Vietnam's major fruit and vegetable export markets in recent years have been China, the United States, South Korea, Japan, Thailand, Taiwan, Australia, Hong Kong, the Netherlands, etc.
- The market share of fruit and vegetable exports to China has decreased sharply in recent years, from 75.7% market share in 2017 to 53.7% in 2021, especially in the first 10 months of 2022 to 43.9%.

Diverse export categories

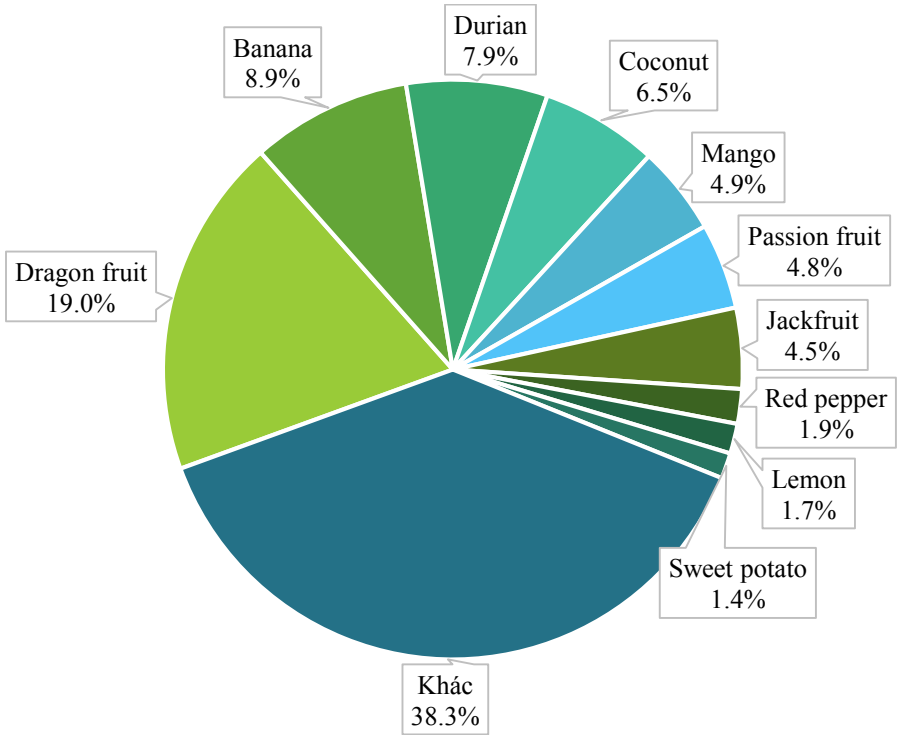
Structure of fruit and vegetable exports of Vietnam 2021 (by export value)



Source: General Department of Customs

In 2021, the most exported vegetables and fruits of Vietnam are: dragon fruit (accounting for 29.5% market share), banana (6.7%), durian (5.2%), etc.

Structure of fruit and vegetable exports of Vietnam in 10M/2022 (by export value)



In the first 10 months of 2022, Vietnam's most exported vegetables and fruits are: dragon fruit (accounting for 19.0% market share), banana (8.9%), durian (7.9%), coconut (6.5%), etc.

Market access negotiations progressed with good results (until the end of 2022)

- China Market:
  - Dragon fruit, mango, banana, longan, lychee, rambutan, mangosteen, watermelon, jackfruit, durian, sweet potato, passion fruit (pilot import).

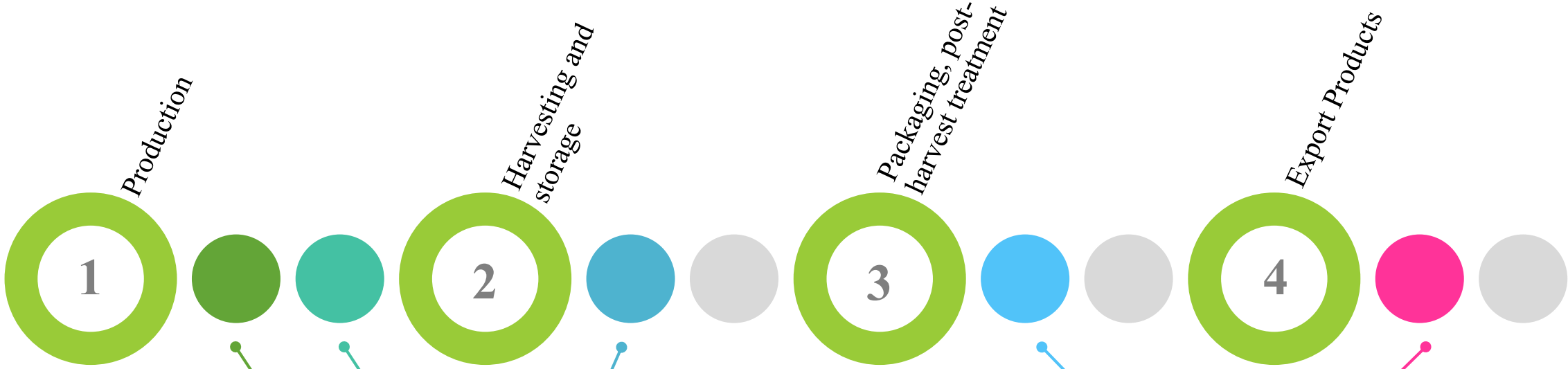
- U.S. Market:
  - Mango, longan, lychee, dragon fruit, rambutan, milk breast, green skin pomelos

- Japanese market:
  - Dragon fruit, Cat Chu mango, lychee, longan

- Australia, New Zealand:
  - Mango, dragon fruit, rambutan, pomelos and lemon

Difficulties and challenges

CHALLENGES IN THE FRUIT AND VEGETABLE VALUE CHAIN



Good Production practices

- The area occupies a small proportion
- Low support level (20tr)
- Does not support recertification
- Provinces that target VietGAP *(only valid in domestic)*
- Farmers are not interested
- Businesses supporting farmers *(principle contract=> high risk)*

Issue a Production unit code

- Area of each code: at least 10 adjacent hectares in the same village or same commune, same breed
- Large field criteria on vegetables?
- Difficult to attract enterprises to participate in large fields: high risk, difficulty
- capital recovery, poorly linked farmers,...

Preserve

- Large loss rate
- Invest in scientific and technological research in preservation and processing;
- Preservation support services;
- Large cost of investment in preservation and processing technology
- Difficulties in obtaining permits for import of preserved materials
- Poor competitiveness

Post harvest Processing

- Lack of post harvest processing facilities

+ 03 irradiation facilities
+ 05 vapor heat treatment facilities in the South

Failure to meet the conditions of high-value export channels

- Foreign experts directly supervise

Food safety hygiene

Pesticide residues

- People's sense and habits of use
- Cross-contamination of pesticides
- The role of farmers' organizations (THT, cooperatives) is limited in the application and management of general technical processes
- The role of state management agencies (quality control, production and business)
- Lack of consistency and synchronization with regulations of countries around the world
-

Issues of origin of goods

- Vietnamese fruits exported 10%
- 100% of enterprises use domestic sources
-

- Not familiar with the rules of origin (19.35% of enterprises know)
- Link between producers and enterprises is weak and lacking
- Self-certification of origin: capacity, process, responsibility, procedures related to tax, banking,...

Current situation of processing: Small scale, but attracting the most FDI in the field of food processing

Most processing plants are now small and medium-sized,

No raw material areas

Storage and processing are still limited,

The ability to invest and innovate processing technology is still slow

37% of the total value of fruit and vegetable trade is processed vegetables

The average fruit processing capacity is approximately 3.8%.

Phillipines: 28%;

Thailand 30%;

U.S. 65%;

Brazil and France 70%;

Malaysia 80%

Processed fruit products mainly include canned goods (pineapple, sugar water cloth, juice,... 50%), frozen (pineapple, lychee,...), crushed, concentrated (pineapple, lychee,...) juice, fried, salted,...

Actual capacity is only 50% due to lack of raw materials

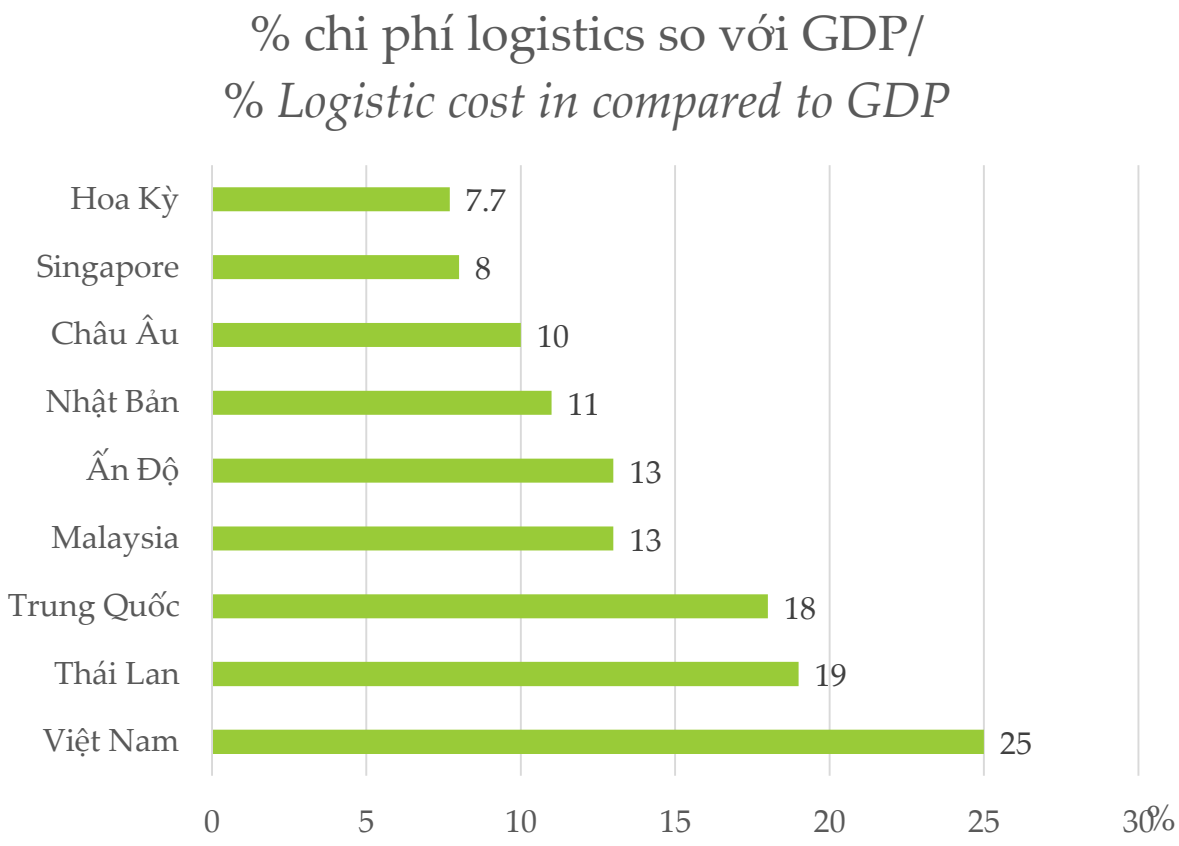
157 industrial-scale fruit and vegetable processing facilities

Total designed capacity over 1.1 million tons products/year

Source: Agrotrade

Logistics systems are reducing competitiveness

- According to the World Bank (WB), logistics costs (transportation, storage, customs clearance ...) in Vietnam are about 20.9-25% of GDP, while the world average is only 12%. The reason is due to:
- Goods to reach users have to go through too many intermediaries
  - Lack of close coordination among members of the supply chain
  - Logistics infrastructure system is still weak
  - There is no combination of different modes of operation to take advantage of each method
  - The specialized inspection fees are quite high: inspection fee, microbiology inspection of coffee goods: ~ 30 USD / container, cashew nuts: ~ 300 - 350 USD / container. Specialized inspection took from 1 to 2 days, incurring the cost of monitoring, storing containers, storing yards
- Losses in the logistic system amount to 30-40%;



Source: WB (2020)

Some solution & suggestions

Some suggestions & solutions

- Build a specialized fruit production area with a concentrated and large area, at least 5,000 - 7,000 hectares for each type of fruit to form large enough raw material areas, stabilize quality and lower product costs. Develop production unit codes, packaging house establishments that meet regulatory standards.
- Priority is given to science and technology capital: for seed research (productivity, high quality + climate change adaptation); technologies for clean agriculture, organic agriculture, circular agriculture.
- Pilot investment under PPP model of Regional Innovation Center to transfer technology to cooperatives and producers, meeting market demand; The regional innovation center was formed on the basis of linking public S&T organizations with high-tech parks, technology parks, financial centers, venture capital funds, foreign research organizations....
- Pilot investment under PPP fruit industry cluster model: planning for the development of a system of processing plants meeting quality standards, a collection system, preliminary processing facilities, packaging and storage facilities for preserving fresh vegetables and fruits, service providers (e.g. irradiation) connected to each other in the cluster to increase efficiency, regulate raw materials, avoid dependence on seasonality, reduce post-harvest losses.
- Promote fruit branding at all 3 levels: cooperative, corporate and national; trade promotion programs, search and expansion of export markets

Thank you!

Sustainable potato development partner

Da Lat, December 7, 2022

SUSTAINABLE POTATO PRODUCTION COOPERATION IN VIETNAM

PepsiCo's main potato production areas: Lam Dong, Dak Lak, Gia Lai

Background

- Together with the initiative of sustainable agricultural production
- Pest pressure on potato plants is great, so farmers have to use pesticides to manage pests and improve yield and quality of commercial potatoes.

Time:

Phase 1 (2019 – 2021) >> Phase 2 (2022-2025)

Target

- Building a safe, efficient and sustainable potato farm model;
- Develop and develop effective, safe and sustainable plant protection solutions to help farmers solve difficulties and challenges in potato production;
- Training and coaching PepsiCo's potato farmers on cultivation techniques, crop protection, safe, effective and responsible use of pesticides to help improve productivity, quality, income, life and efficiency, economy...
- Introducing, transferring and expanding PepsiCo's sustainable potato production model and system in Vietnam

KEY COOPERATION CONTENT

01. Cooperation in implementing a sustainable potato development project
Developing a framework for cooperation and an action plan for a sustainable potato development program
02. Information and technology sharing workshop
Sharing knowledge and techniques between the two partners
03. Farmer training
Training on safe and effective use of pesticides on potatoes
04. Management of safe use of pesticides
Store and collect pesticide packages after use
05. Pest Management
Building and developing solutions for plant protection on potatoes
06. Developing and testing the process of effective, safe and sustainable use of pesticides on potatoes.
Developing and providing solutions for crop protection on potatoes to farmers at a reasonable cost, bringing high economic efficiency.
Identification of pesticide solutions to control major pests and diseases at important growth and development stages
07. Workshop and solution development
Experiments, demonstration models applying economic and phytosanitary solutions for sustainable potato farming
08. Communicating the project to the farmer community and reporting to the authorities on the results of PPP cooperation in sustainable potato production in Vietnam
Sample farm, social responsibility programs, Project report to PSAV

KEY PERFORMANCE RESULTS

ACTIVITIES IMPLEMENTED
Phase: 2019-2021

AREA : Central Highlands (Lam Dong, Dak Lak)

QUY MÔ

expand reach

2025)

Number of farmers

600 (2019-2021) expansion: 1200 – 1500 farmers (2022 – 2025)

Number of sustainable farm models

3 models

Safe storage of pesticides

66 pesticide cabinets at the farm (> 10% of farmers have an area > 2 ha)

Packaging management

69 containers of after-use packaging (>10% of farmers with an area > 2 ha)

Protective equipment support

600 sets of work protective gear

Farmers are trained on safe use of protective gear

300 farmers

Build, test, and develop solutions
2 solutions
Experimental model for sustainable potato production solutions
3 models (3000 square meters/model) for higher productivity and economic efficiency from 6% - 23%
Trial of nematode management solutions at DakLak
4 Experimental model for nematode management efficiency up to 93.29%, higher yield from 10.12% - 16.88%
Testing solutions for mold management in Lam Dong
3 Experimental model for effective disease management and strong plant effect
Finalize the solution and register to expand the set of pesticides on potato plants
To help PepsiCo and farmers grow potatoes efficiently, safely and sustainably in Vietnam

ACTIVITY PICTURES

2019 - 2021

ACTIVITY PICTURES

2019 - 2021

ACTIVITY PICTURES

2019 - 2021

ACTIVITY PICTURES

2019 - 2021

Cooperation plan for the period of 2022 – 2025

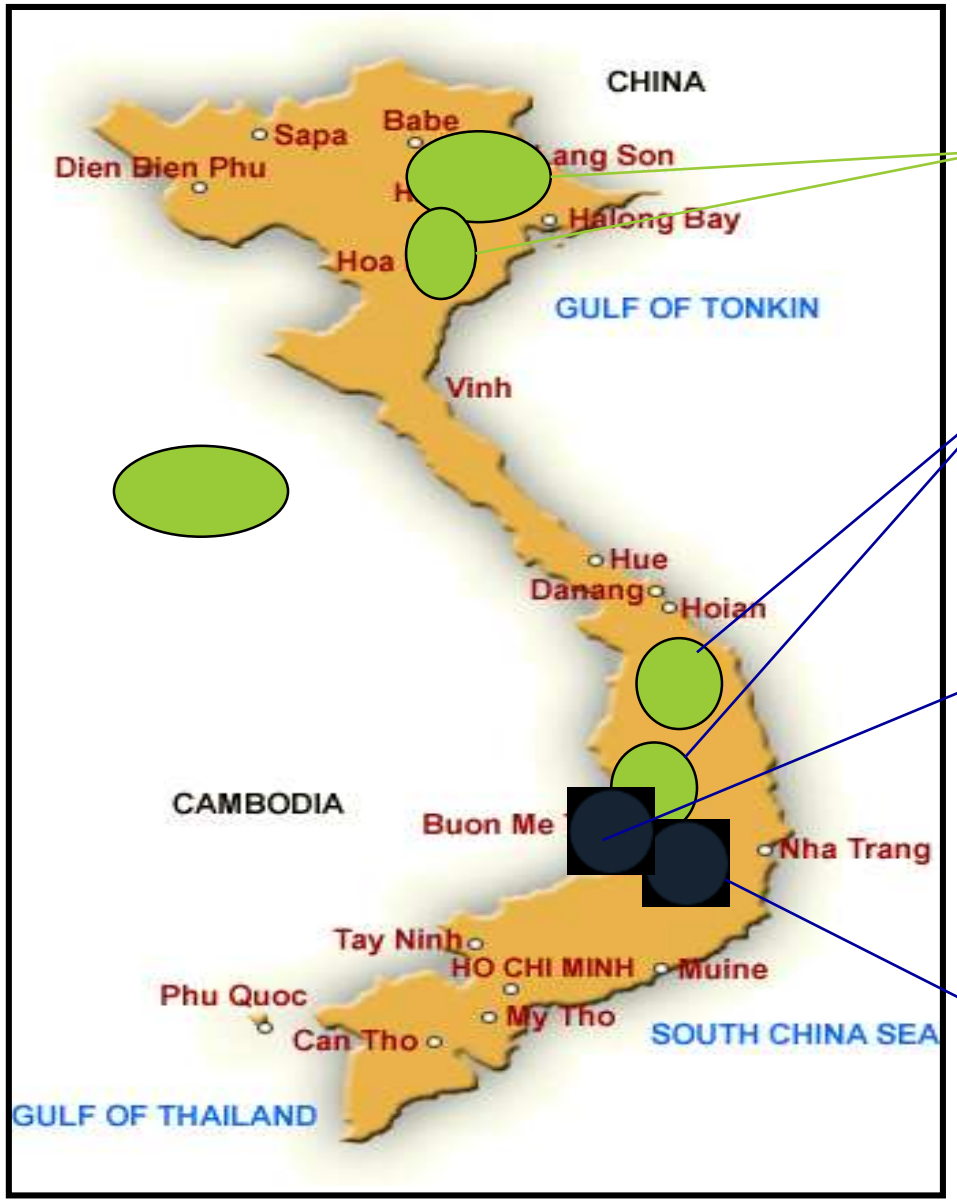
01. Building a strategic cooperation framework on sustainable potato production in Vietnam Syngenta milk and PepsiCo
02. Sharing information, knowledge and technological solutions in the field of potato cultivation and plant protection
03. Improving knowledge of potato farmers on pest management, safe, effective and responsible use of pesticides
04. Expand and develop a sustainable potato farming model to help farmers increase economic efficiency, improve quality of life and protect the environment
05. Testing new technologies and solutions for plant protection
06. Expanding registration and application of a set of pesticides to support sustainable potato production in Vietnam
07. Communication about sustainable agriculture development partnership program (sustainable potato production in Vietnam)


THANK YOU VERY MUCH!AND WELCOME TO THE VIDEO CONFERENCESUSTAINABLE POTATO PRODUCTION ACTIVITIES!
TOGETHER WE WIN

Agro Viet Nam
"BUILDING TRUST"

Nov 30, 2022

Potato Growing Areas



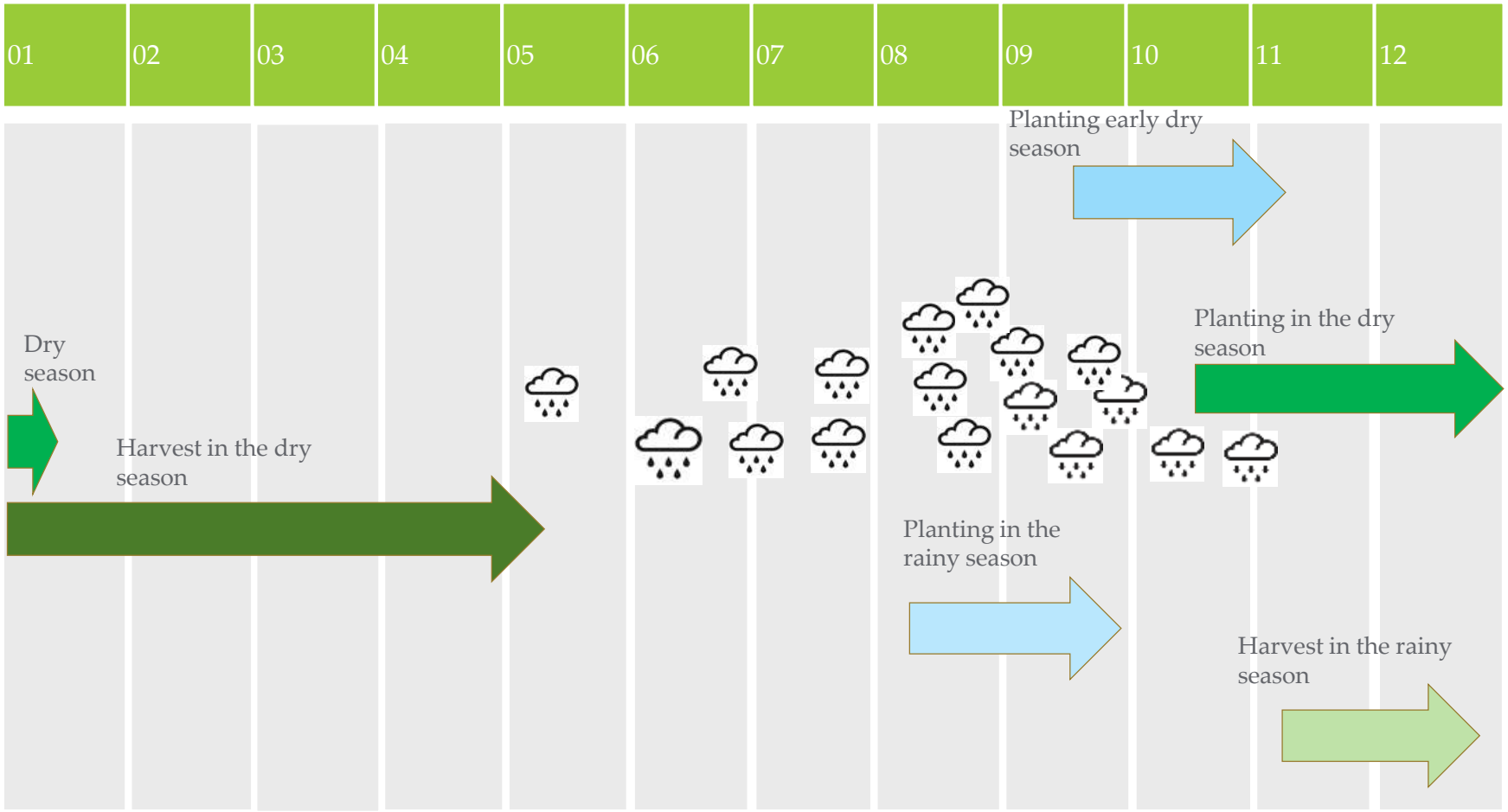
The North Plain
Altitude: 0-500m
Planting time: 25/10-10/12
Area: 1000m2/Farmer

Dak Lak, Gialai
Altitude: 500 -600m
Planting time: 10/10-30/11 for DS
Area: 5-10Ha/Farmer

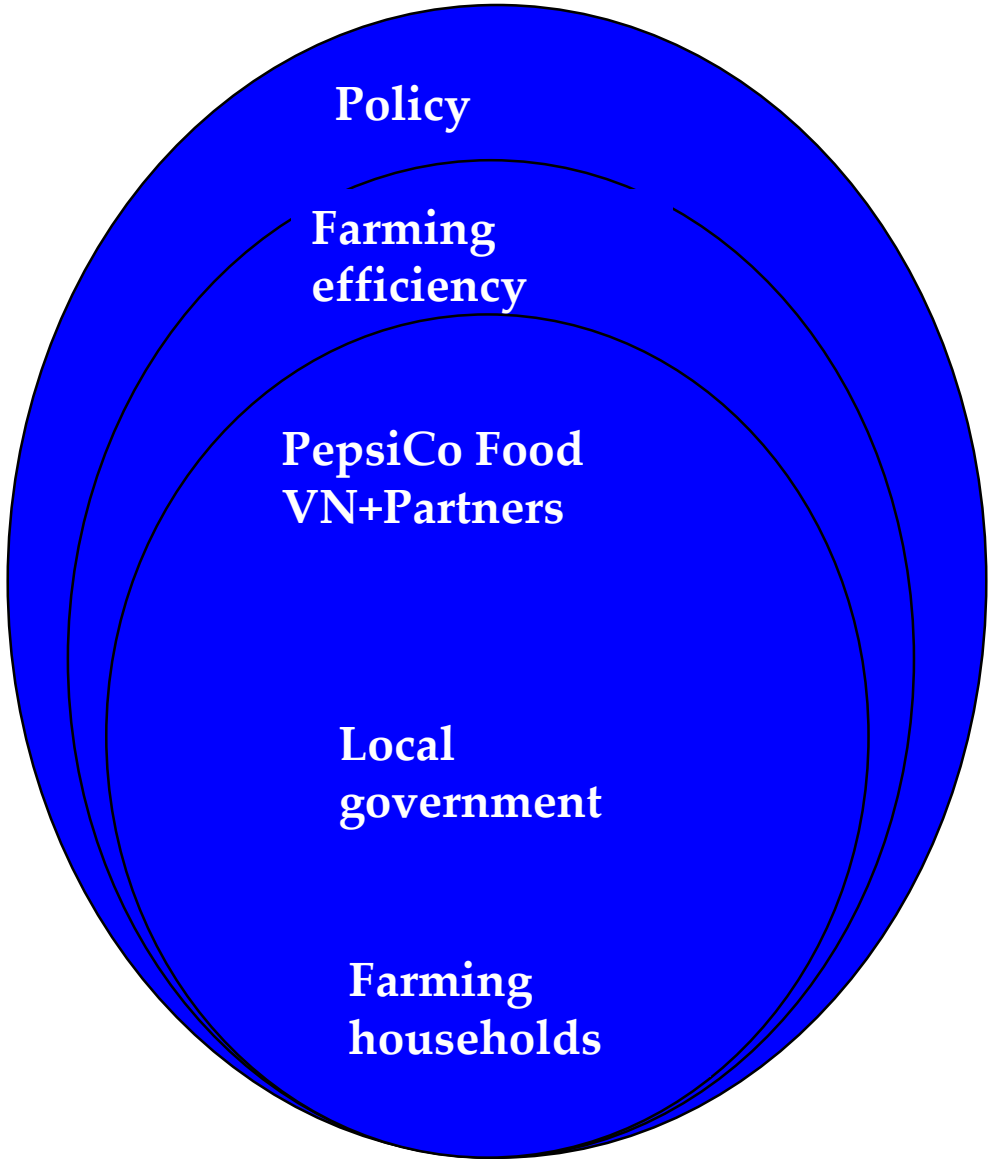
Dak Nong
Altitude: 700 -900m
Planting time: 15/09--10/10 for WS2 and 20/10-20/12 for DS
Area: 2-5Ha/Farmer

Lam Dong Plateau
Altitude: 800-1,200m
Planting time: October 20 to January 31 for DS, February 10 to March 31 for WS1 September 10 to October 15 for DS
Area: 0.5-0.6Ha/household

POTATO GROWING SUMMER



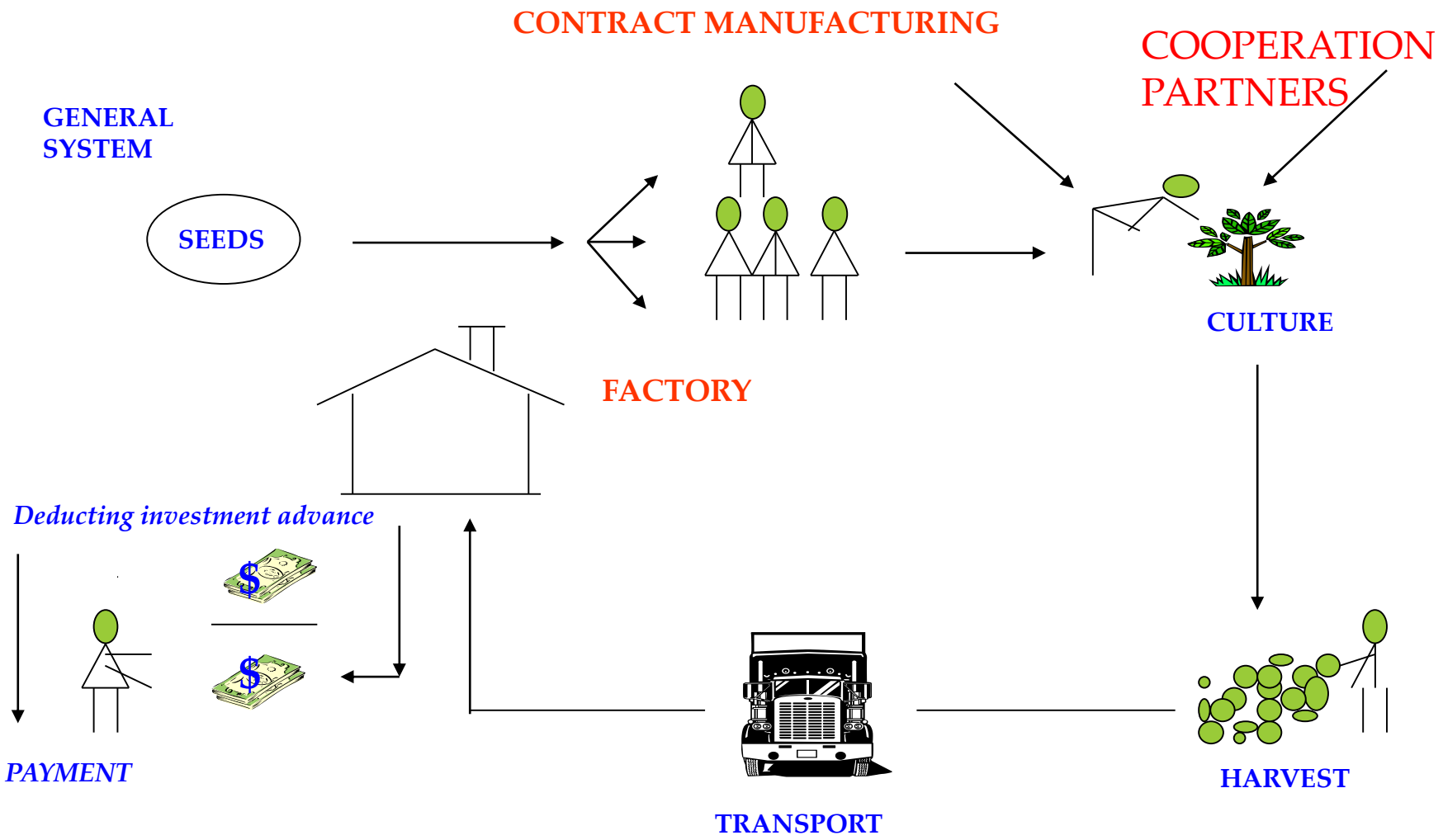
RELATIONSHIPS BETWEEN COMPONENTS IN FARMING EFFICIENCY



Supply Chain of PepsiCo Vietnam

2008

LOCAL SOURCE



AGRO VIETNAM_SUSTAINABLE AGRICULTURE PRODUCTION

BUILD CAPACITY AND TRUST

1 **Training for Farmers**

2 **Field technical support**

3 **Conferences and Awards**

4 **Community support**

IMPROVE YIELD THROUGH RIGHT PRACTICE AND NEW VARIETIES

1 **Perfect irrigation system**

✖

✔

✔

2 **Machine-based**

3 **New varieties**

Atlantic – Public

FL2215 – New Var.

FL2027 – New Var.

IMPROVE YIELD THROUGH RIGHT PRACTICE AND NEW VARIETIES

4 **Invest in storage of new varieties and varieties**

5 **SFI – Survey and assessment of farmers**

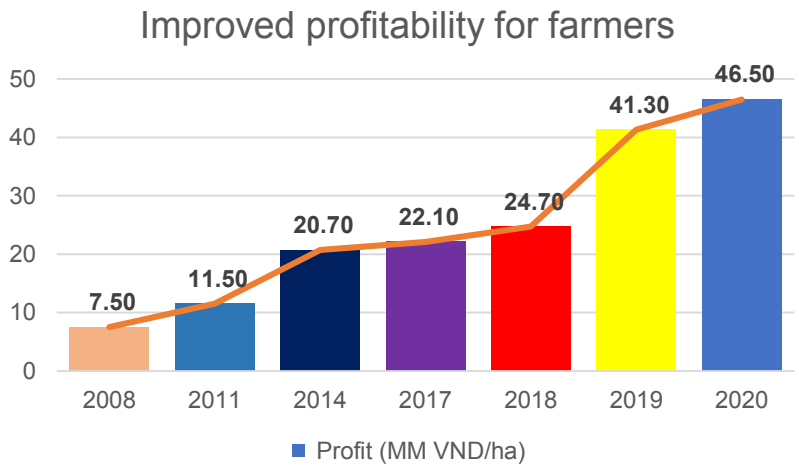
IMPROVE THE FARMING SYSTEM THROUGH Irrigation Measures

Sprinkler irrigation **Mist irrigation**

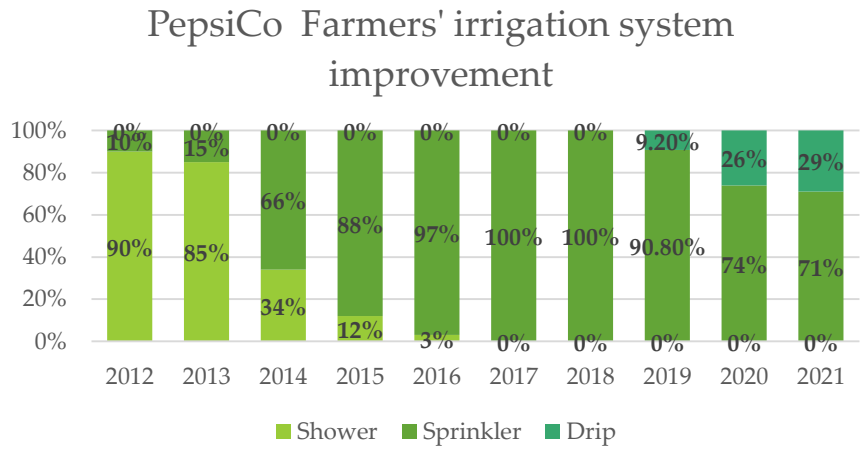
Showering

Sprinkler

Drip irrigation

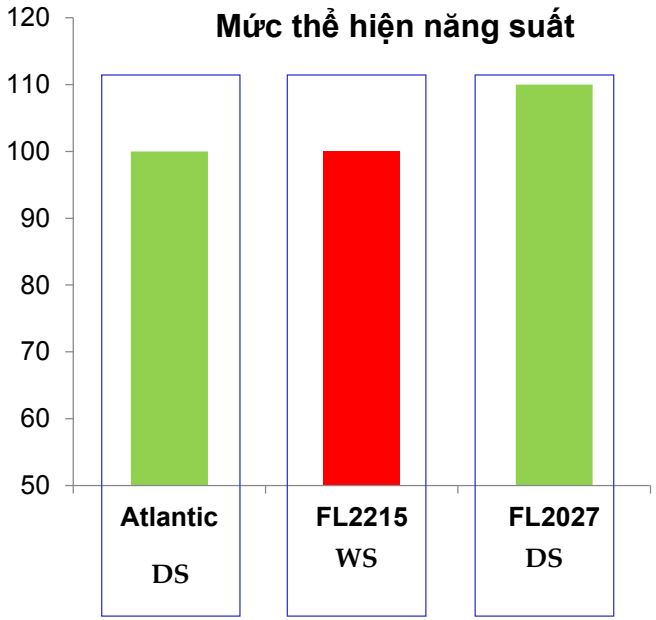


Net profit from potato production of ND PepsiCo: 2008 - 2021



NEW VARIETIES PROGRAM

Varieties introduced into commerce



performance level

Research on potato production in the rainy season

Other growing areas

Mechanization and increase of area per unit of potato cultivation

Prepare the land → Plant → Pest management → Harvest




0.6-0.8Ha/farm




3-5 Ha/farm

Drip Irrigation System For Potato Production

Potato Harvest