OPPORTUNITIES AND CHALLENGES IN COMMERCIALIZATION OF PLANTS VARIETIES IN THE VIETNAM: A Case study in the Northern Mountain Region

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OUTLINE OF THE PRESENTATION

- Introduction to PVP in Vietnam: Challenges/opportunities in commercialization of plants varieties in the Vietnam.
- Plant Varieties Protection for commercialization of plant varieties in Vietnam: New developments
- Plant Breeding and plant variety commercialization in 2017: Case study IFRAD - TUAF
- VN's Strategies in commercialization of plants varieties in the next stage.

• Part 1: INTRODUCTION

- Agricultural country.
- High density of population
- Almost slopping land (75%)
- **Improve living standard of the lowland and upland people** – The current main objective of VN's Government
- Seed Sector plays an important role to meet the objective – material contribution of new plant varieties.

Plant variety management system in Vietnam

PV National registration system (MARD)*

BEFORE 2006

- National seed registration system
- Management system (couple of aspects) not fully accordance with the WTO agreement

PV Protection department

2006-NOW

- Joining UPOV
- Two parallel systems
- Benefits to plant breeder, Local Seed Companies and farmers/growers

The Seed distribution system of new Var.

BEFORE PVP

Breeders

No Professional distribution system

Farmer

Is not professional, Difficult on Seed Quality control

AFTER PVP

License

Breeders

Company

Royalty

Good professional distribution system

Farmer, growers

Good service for the farmer; Better seed quality due to professionalism

Opportunities from plant breeding: Higher value for exporting Agricultural products

- Exporter on agriculture products.
- For rice: 5/10 protected varieties

are cultivated in biggest area for

exporting.

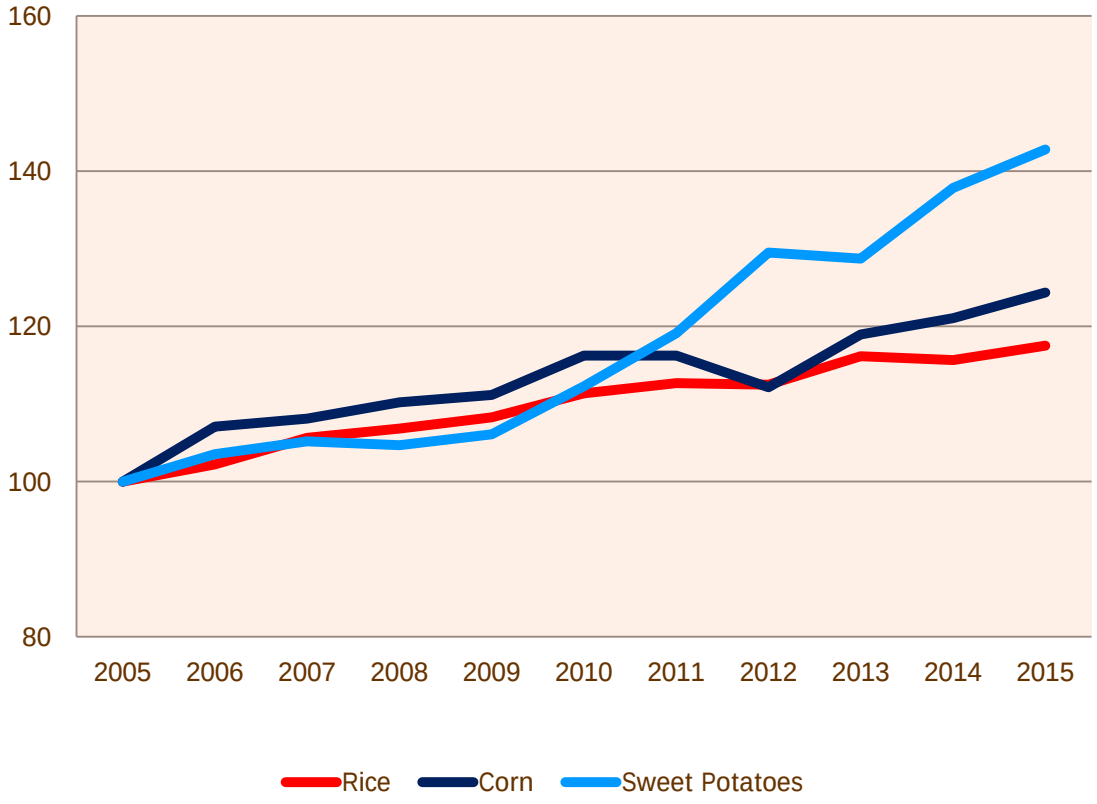
- New varieties of flowers (rose,

cymbidium, anthurium…) are being

introduced to VN by foreign countries.

Plant breeding in Viet Nam:
Yield vs. overall productivity developments

Vietnamese yield developments over time: major arable crops (index, 2005=100%)



→ Per annum since 2005:
- rice: + 1.6 %,
- corn: + 1.8 %,
- sw. potatoes: + 3.6 %.

→ To compare, global yield increases are in the range of:
- rice: + 1.3 %,
- corn: + 1.1 %,
- sw. potatoes: – 0.3 %.

→ Can Viet Nam already be considered an out-performer?

Source: UPOV Vietnam (from orginal source: FAO (2016), GSO (2016) and IRRI (2016)).

Plant breeding benefits:
Supply changes also have financial implications

The income effects referring to major arable crops are just part of the overall impact.

→ Whereas approximately USD 3.5 billion have been added to GDP when looking at rice, corn and sweet potatoes, ...

→ … an additional GDP of at least USD 0.2-0.3 billion has been added by having invested ten years into plant breeding for flowers.

→ Indeed, Viet Nam has become one of the fastest growing flower markets.

→ In 2016 for the first time in history the exportation value of fruit (banana, guava…) reached 1 billion USD and exceeded oil exportation in Vietnam

Opportunities for Local seed companies

- Before PVP: almost of them are trade company (not interest in research)
- When PVP system is established:
  - ✓ Beginning: they are licensed to exploit PBR from owner (transferred)
  - ✓ They develop breeding facility
- Now, many of them have own breeding facility
- Some become big with very good breeding facility.

Increasing farmer income

- A cuttings of new rose varieties may be sold 10 – 15 times more expensive than old Var.
- New variety is introduced in VN.
- Indigenous species are improved and transferring to growers.
- Farmers in both lowland and upland have chance to increase their income.

Farmers produce under license from Owners

Waiting to the aircraft for exportation

Challengies

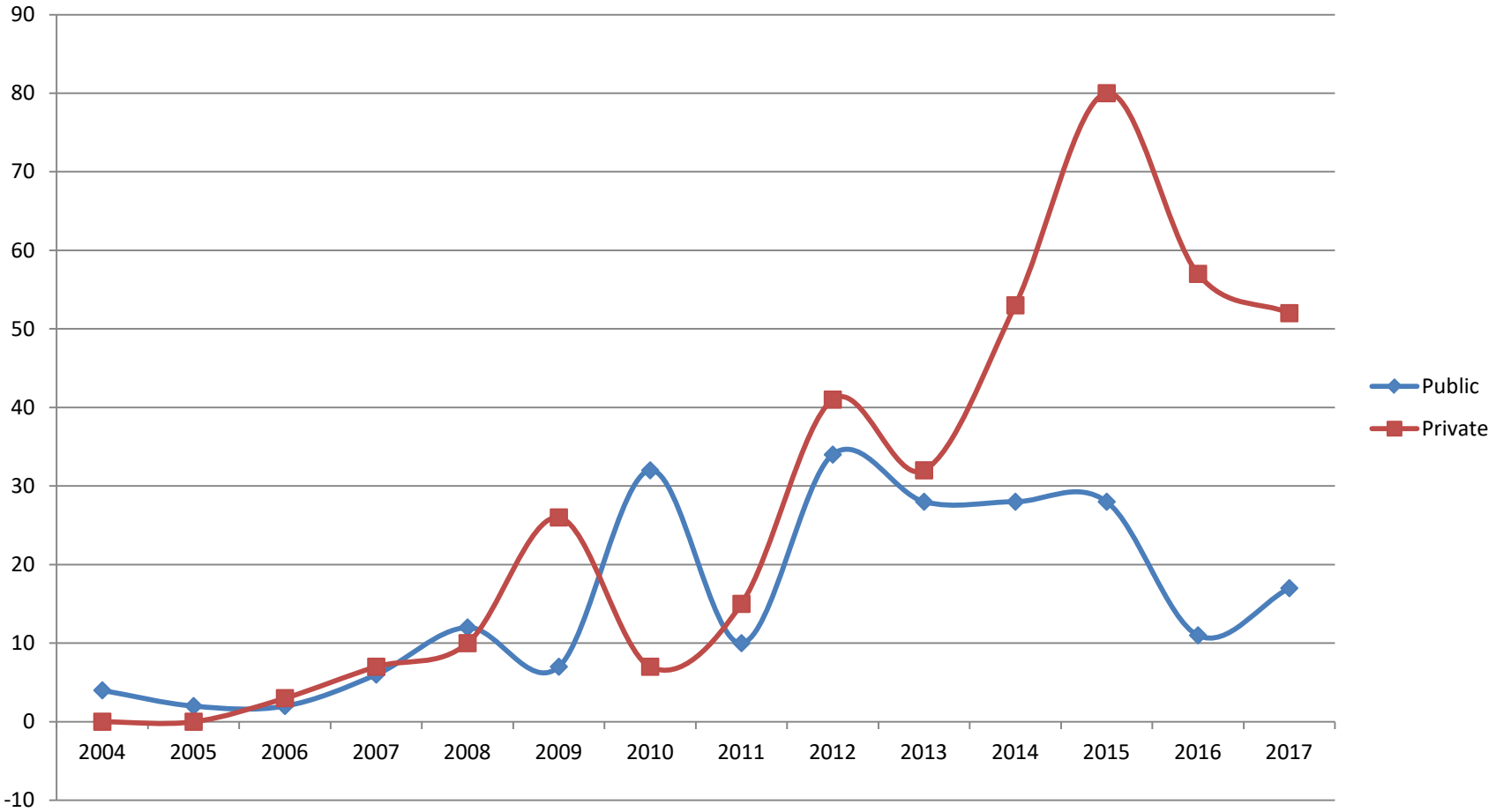
- More competition between local companies and international companies
- Administration system lagging behind and not upto international standards.
- Limited Awareness of PVP among communities, leading to difficulties in commercialization of PVP business.

II. PVP FOR COMMERCIALIZATION OF PLANT VARIETIES IN VIETNAM: NEW DEVELOPMENTS

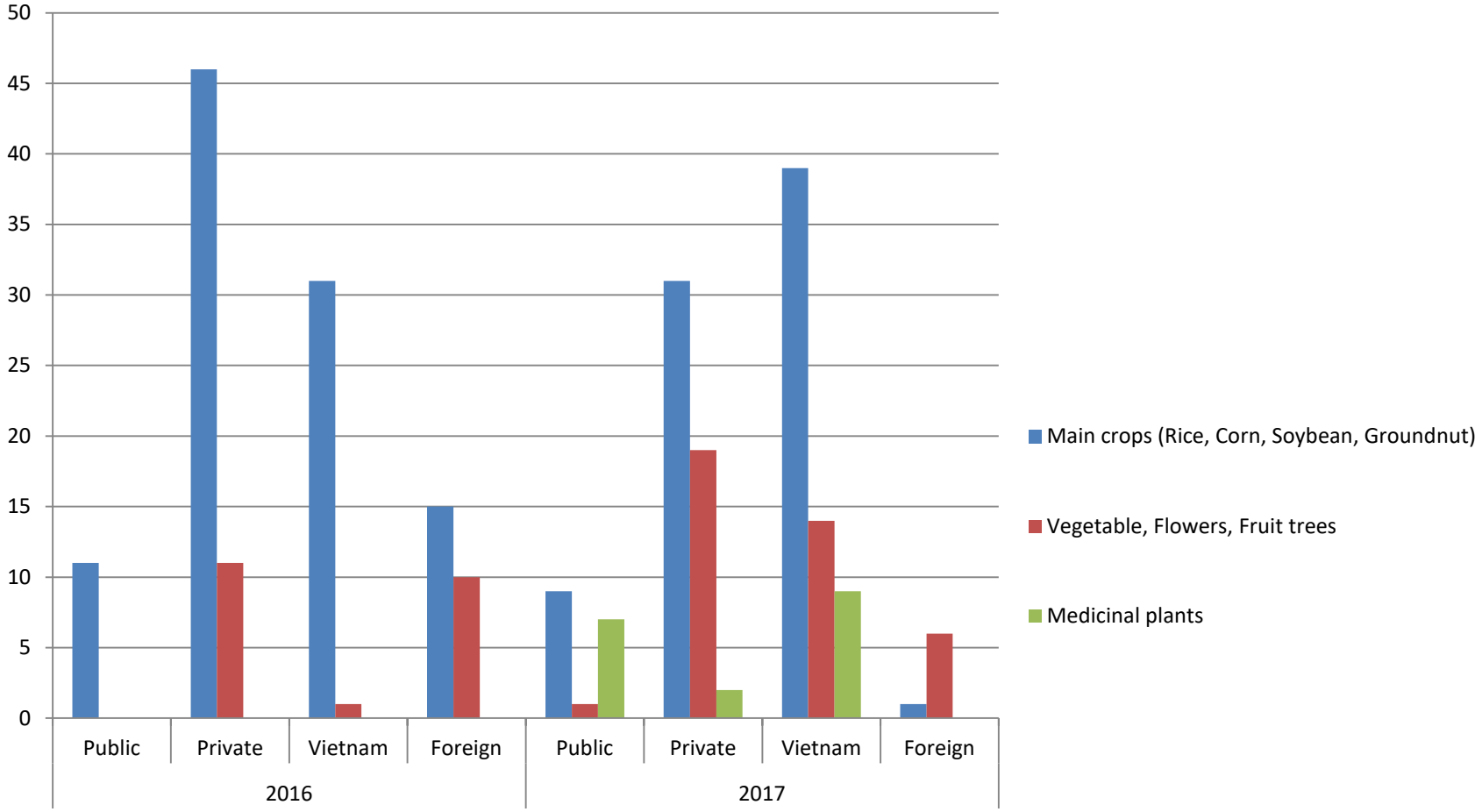
Increasing groups of plant varieties

- Main crops: for food products
- Horticulture plants: Horticulture products and food products
- Medicinal plants: for medicinal products
- Forest trees: for wood products.

Number of PVP in Vietnam (2004-2017)



Number of PVP in Vietnam (2016-2017) by groups



Application is increasing

- Number of applications increased very quickly
  – Many good new varieties and native species released for farmer and growers.
- Good new var. from oversea and new species
  – farmers/enterprises generate good income.

Value chain of production

Food crops

VSATTP

3-4 months

Trees

FSC

7-30 years

Medicinal plants

GAP/ GACP (GMP)

1-10 years

CONTENTS OF GUIDELINE OF GOOD PRACTICING ON GROWING/COLLECTING MEDICINAL PLANTS (GAP/GACP)

1. Growing right varieties/species

2. Growing with appropriate conditions

3. Applying right technical

4. Using right technical for harvesting & processing

5. Good packing, preservation & transport

6. Documentation for each lot

Ngoc Linh Ginseng is becoming national product which was accepted application form for PVP in 2017.

IV. PLANT BREEDING AND PLANT VARIETY COMMERCIALIZATION IN 2017

plant variety commercialization in 2017: A case study IFRAD - TUAF

Introduction: Thai Nguyen University of Agriculture & Forestry TUAF (TUAF)

TUAF was founded in 1970

From 1994, TUAF became a member of Thai Nguyen University

TUAF has been recognized as one of the four Leading National Agriculture Universities in Vietnam




MISSION

- To offer a higher education on agriculture, forestry, environmental science and fields related to rural development in North Mountainous region of Vietnam;

- To conduct researches and transfer new technologies (agriculture, forestry and environmental science….)

- One of national key universities, largest Uni. In agriculture
- Multidisciplinary University: 8 faculties and 9 research institutes/centers
- Total staff: 652; 13,000 students (Vietnam, Philippine, Indonesia, Myanma, Laos, Cambodia, Africa…)
- First university in VN having PV protected and commercialized on medicinal plants
- Contributing 40% inbreed medicinal seeds for the country.

Prize of forestry seeding production

Prize “ Golden rice”

On system of high quality seeds production by QD no. 4139/QĐ-BNN-TCCB dated 20/10/2015

Number of PVP at the IFRAD in 2017

No.	Plant Variety	Species	Plant variety Owner	Plant breeder
1	ĐINH LĂNG HM-TN	Đinh Lăng *Polycias fruticosa* (L.) Harms.)	IFRAD	Tran Thi Thu Ha and others
2	BA KÍCH TÍM HM-QN	Ba kích tím *Morinda officinalis* How	IFRAD	Tran Thi Thu Ha and others
3	SA NHÂN TÍM HM-ĐL	Sa nhân tím Amomum *Longiligulare T.L.Wu*	IFRAD	Tran Thi Thu Ha and others
4	GỪNG GIÓ HM-BS	Gừng gió *Zingber zerumbet* (L.) Sm.	IFRAD	Tran Thi Thu Ha and others
5	LAN KIM TUYẾN HM-LC	Lan kim tuyến *Anoectochilus setaceus* Blume	IFRAD	Tran Thi Thu Ha and others
6	LAN KIM TUYẾN HM-HG	Lan kim tuyến *Anoectochilus setaceus* Blume	IFRAD	Tran Thi Thu Ha, Pham Van Dien, Bui Van Dong and others
7	HOÀNG TINH ĐỎ - HM - HG	Hoàng tinh đỏ *Polygonatum kingianum* Coll. Et Hemsl	IFRAD and CAFED	Tran Thi Thu Ha, Pham Van Dien, Bui Van Dong and others

1. Đinh lăng HM-TN *Polycias fruticosa* (L.) Harms.)

Seedling of Dinh lang HM-TN

Cultivation by new variety

2. Ba kích tím HM-QN

(Species: *Morinda officinalis* How)

Cây giống Ba kích tím HM-QN

Mô hình Ba kích tím HM-QN

3. SA NHÂN TÍM HM- ĐL

(Species: Amomum *Longiligulare T.L.Wu)*

Sa Nhan tim HM-ĐL : planting at the Son Duong - TQ

Hoa Sa nhân tím HM-ĐL

Quả Sa nhân tím HM-ĐL

4. Gừng gió HM-BS

Species: *Zingber zerumbet* (L.) Sm.

7. Hoàng tinh đỏ HM-HG

Hoàng tinh đỏ HM-HG

Hoàng tinh trắng

Lan kim tuyến

Species: *Anoectochilus setaceus* Blume

Lan Kim tuyen HM-LC: Moc Chau

5. LAN KIM TUYẾN HM-LC

6. LAN KIM TUYẾN HM-HG

7. Hoàng tinh đỏ HM-HG

Hoàng tinh đỏ HM-HG

Hoàng tinh trắng

IFRAD's applications for PVP have accepted in 2017

No.	Plant Variety	Species	Plant variety Owner	Plant breeder
8	Hà Thủ ô đỏ	*Fallopia multiflora*	IFRAD	
9	Đẳng sâm	*Campanumoea javanica*	IFRAD	
10	Lan thạch hộc tía	*Dendrobium officinale* Kimura et Migo	IFRAD	
11	Khôi tía	*Ardisia silvestris* Pitard	IFRAD	
12	Trà hoa vàng	*Camellia hakodae* Ninh, Tr	IFRAD	

8. HÀ THỦ Ô HM-HG

Cây Hà thủ ô HM - HG

Lá Lan Thạch hộc tía HN-HG

Khôi tía HN-H

Trà Hoa vàng HN-ĐT

IFRAD supported other applications for PVP have accepted in 2017

No.	Plant Variety	Species	Plant variety Owner	Plant breeder
13	Sâm Ngọc Linh QN	*Panax* vietnamense Ha & Grushv	Trung tâm Bảo tồn và Phát triển Sâm Ngọc Linh	Nguyen Van Ut and others
14	Lan trầm tím HG	*Dendrobium* Nestor	CAFED	Nguyen Thi Lan and others
15	Giảo cổ lam BK	*Gynostemma pubescens* (Gagnep.) C. Y. Wu ex C. Y. Wu et S. K. Chen	Dang Kim Vui	Dang Kim Vui and others
16	Thông đất HM-HG	*Huperzia squarrosa*	CAFED and IFRAD	Tran Thi Thu Ha and others
17	Ba kích TG-QN		Trung tâm Bảo tồn và Phát triển Sâm Ngọc Linh	Nguyen Van Ut and others
18	Sa Nhân NG-QN			

13. SÂM NÚI NGỌC LINH QN

(Species: *Panax* vietnamense Ha & Grushv)

Sâm Ngọc Linh

Quả Sâm núi Ngọc Linh

Củ Sâm núi Ngọc Linh

Total of contracts for medicinal seedlings in 2017

Varieties	No of seedlings	Buyers	Notes
Đinh lăng HM-TN	1,000,000	Công ty CPPT NLN & MT Việt Nam	19/ HĐKT/2017
Ba kich tím HM-QN	100,000	Công ty TNHH Giống cây trồng LN Ba Vì	90/HĐKT/2017
	50,000	Công ty CPPT rừng Bền vững Quảng Ninh	171/HĐKT/2017
	45,000	TT giống cây trồng tỉnh Quảng Nam	
Lan kim tuyến	100,000	Công ty CPPT NLN & MT Việt Nam	05/ HĐKT/2017
	56,000	Trang trai Ông Sơn, Nghệ An	10/ HĐKT/2017
Gừng gió	100,000	Công ty CPPT NLN & MT Việt Nam	
Sa nhân tím	85,000	TT giống cây trồng tỉnh Quảng Nam	92/HĐKT/2017
Hoàng tinh đỏ	34,000	Công ty CPPT NLN & MT Việt Nam	190/ HĐKT/2017

Transferring breeding technologies for others by joining research/development projects

Varieties	Projects	Buyers	Periods
Đinh lăng HM-TN	Package for transferred seedling breeding	Trung tâm KHKT Thanh Hóa	2017-2019
Ba kich tím HM-QN	Package for transferred seedling breeding and rights to produce seedlings	Công ty TNHH Giống cây trồng LN Ba Vì	2017-2018
		Công ty CPPT rừng Bền vững QN	2017
		TT giống cây trồng QN Quảng Nam	2017-2020
Lan kim tuyến, Đinh lăng	Research project	Ministry of Science and Technologies/Northern mountainous region	2017-2020
Gừng gió	Package for transferred seedling breeding by *in vitro*	Công ty CPPT NLN & MT Việt Nam	2017
Sa nhân tím	Joint project for Rural Development	Trung tâm giống cây trồng tỉnh Quảng Nam/ Ministry of Science and Technologies	2017-2020
Hoàng tinh đỏ	Package for transferred seedling breeding by *in vitro*	Công ty CPPT NLN & MT Việt Nam	2017-2019

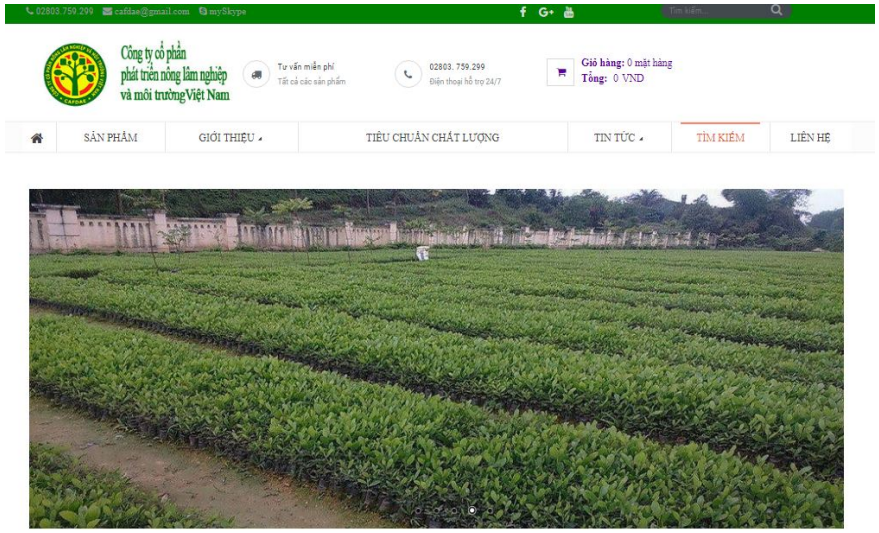
Commercialization: Own beneficiaries

- Plant breeders, research institution
  - Qualified to produce seedlings and selling in the markets at large scale.
  - Transferring techniques of seedling breeding for companies/enterprise/collectives/others through economic contracts/research projects/funding projects.
  - Expansion of international collaboration.
  - Increase number of contract funding for the institute/university→ adapted a new strategy “autonomy” at the University.
  - Fair Competition in trade: investment to research and development will have chance to have more benefits for re-investment.

Other beneficiaries

- For Local seeds companies (LSC): Better environment for LSCs to play in the seed industry through sharing authority rights of PVP for producing seed/seedlings and trading.
- Core value of business is protected (variety protection certification, seed copyright granted)
- Many companies growing from “middle man” to technological/research/breeding companies.

Promote trading for companies in 2017



CÔNG TY CỔ PHẦN PHÁT TRIỂN NÔNG LÂM NGHIỆP VÀ MÔI TRƯỜNG VIỆT NAM

Địa chỉ: Tổ 10, Xã Quyết Thắng, Thành phố Thái Nguyên, Thái Nguyên Mã số thuế: 4601292139 (19/05/2016)

Người ĐDPL: **Nguyễn Thi Lan**

Ngày hoạt động: 19/05/2016

Giấy phép kinh doanh: 4601292139 ()

Tên công ty	**CHI NHÁNH CÔNG TY CỔ PHẦN PHÁT TRIỂN NÔNG LÂM NGHIỆP VÀ MÔI TRƯỜNG VIỆT NAM** **QUANG NAM**
Mã số thuế	4601292139-002
Ngày cấp	10/05/2017
Nơi đăng ký quản lý	Chi cục Thuế Huyện Phú Ninh
Địa chỉ trụ sở	Quốc lộ 1A, Thôn An Thọ, Xã Tam An, Huyện Phú Ninh, Tỉnh Quảng Nam, Việt Nam

Tên công ty	**CHI NHÁNH CÔNG TY CỔ PHẦN PHÁT TRIỂN NÔNG LÂM NGHIỆP VÀ MÔI TRƯỜNG VIỆT NAM** – **HAF GIANG**
Mã số thuế	4601292139-001
Ngày cấp	13/02/2017
Nơi đăng ký quản lý	Cục Thuế Tỉnh Hà Giang
Địa chỉ trụ sở	Tổ 4, Thị trấn Vị Xuyên, Huyện Vị Xuyên, Tỉnh Hà Giang, Việt Nam

Challenges for commercialization of PVP in VN

- Legislation document
  - ✓ Still complicated, some articles are not clear
  - ✓ Punishment level is not strong enough
- Technical system
  - ✓ Can not meet the demand due to rich of species
  - ✓ Human resource
  - ✓ Investment
  - ✓ Technical Guidelines – especially for new species

Thanks for your attention!

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