UPOV IN VIETNAM
A case study of Vinaseed group
I. AGRICULTURAL INDUSTRY IN VIETNAM
AGRICULTURAL INDUSTRY IN VIETNAM

- The growth of agriculture has decreased in recent years from 2.68% in 2012 to 1.36% in 2016.
- The proportion of value-added product is low.
- Low quality products
- Weak competitiveness

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP of Agriculture</th>
<th>The proportion of Agriculture to GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>5.25</td>
<td>0.51%</td>
</tr>
<tr>
<td>2013</td>
<td>5.42</td>
<td>0.49%</td>
</tr>
<tr>
<td>2014</td>
<td>5.98</td>
<td>0.58%</td>
</tr>
<tr>
<td>2015</td>
<td>6.68</td>
<td>0.36%</td>
</tr>
<tr>
<td>2016</td>
<td>6.21</td>
<td>0.22%</td>
</tr>
</tbody>
</table>

The export value of agricultural products (2016)

- **Vegetable**: 2.5 billion USD, 34% increase
- **Cashew**: 2.8 billion USD, 19% increase
- **Coffee**: 3.3 billion USD, 25% increase
- **Rice**: 2.2 billion USD, 22% decrease

Labor force in the agricultural sector (2016)

- Labor force: 59%
- Labor force in rural area: 68%
- Labor force in urban area: 32%
- Others: 41%

92.7 million persons (2016)

42% labor force working in agricultural sector

Source: General Statistics Office of Vietnam (GSO)

Note: The value were compared to the previous period’s value

Source: General Department of Vietnam Customs
## MARKET SIZE OF AGRICULTURAL PRODUCTS

### Year 2016: 59.8 billion USD (estimated)

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Value (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeds</td>
<td>Rice</td>
<td>504 mil</td>
</tr>
<tr>
<td></td>
<td>Maize</td>
<td>86 mil</td>
</tr>
<tr>
<td></td>
<td>Vegetable</td>
<td>81 mil</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>Fertilizers</td>
<td>6.6 billion</td>
</tr>
<tr>
<td>Crop protection chemicals</td>
<td>Crop protection chemicals</td>
<td>1.6 billion</td>
</tr>
<tr>
<td>Food, animal feed</td>
<td>Rice</td>
<td>25.5 billion</td>
</tr>
<tr>
<td></td>
<td>Maize</td>
<td>3.2 billion</td>
</tr>
<tr>
<td></td>
<td>Vegetable</td>
<td>5.4 billion</td>
</tr>
<tr>
<td>Another agricultural product</td>
<td>Coffee, cashew nuts, pepper, tea, cassava, rubber</td>
<td>12.5 billion</td>
</tr>
<tr>
<td></td>
<td>Domestic consumption</td>
<td>4.2 billion</td>
</tr>
</tbody>
</table>

### Year 2020: 97.2 billion USD

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Value (USD)</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeds</td>
<td>Rice</td>
<td>1.35 billion</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Maize</td>
<td>131 mil</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Vegetable</td>
<td>215 mil</td>
<td>20%</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>Fertilizers</td>
<td>5.5 billion</td>
<td>3.8%</td>
</tr>
<tr>
<td>Crop protection chemicals</td>
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<td>35.6 billion</td>
<td>11.5%</td>
</tr>
<tr>
<td></td>
<td>Maize</td>
<td>4.9 billion</td>
<td>11.5%</td>
</tr>
<tr>
<td></td>
<td>Vegetable</td>
<td>9.7 billion</td>
<td>11.5%</td>
</tr>
<tr>
<td>Another agricultural product</td>
<td>Coffee, cashew nuts, pepper, tea, cassava, rubber</td>
<td>26 billion</td>
<td>17.7%</td>
</tr>
<tr>
<td></td>
<td>Domestic consumption</td>
<td>12.3 billion</td>
<td>21.4%</td>
</tr>
</tbody>
</table>
I. AGRICULTURAL INDUSTRY IN VIETNAM

II. SEED INDUSTRY IN VIETNAM

III. INTRODUCTION OF VINASEED GROUP

IV. PLANT VARIETY PROTECTION

V. THE VALUE CHAIN OF VINASEED GROUP
II. SEED INDUSTRY IN VIETNAM
Recently, agriculture production has faced several challenges caused by adverse weather such as: extremely cold weather in the Northern provinces; drought, heavy rain and flood in the central provinces; especially drought-parched in the Central Highlands, and severe saline intrusion in Mekong River Delta. Those problems force Vietnam to find solutions to improve seeds adapting with climate change.

In fact, the area for agricultural production decreases faster and faster than the previous period. => The requirement of increasing of yield to meet food safety.

Market size of seed industry

11.5 million ha agricultural production land

Average yield per hectare 5.0 ton/ha ↑ 25%

Before 2006

After 2006

Source: General Statistics Office of Vietnam (GSO)
To solve problems in terms of low value of agricultural production and improving quality of seeds, putting seed production in a food value chain become a strategic and necessary solution in Vietnam.

- Seeds are at the upstream of the Food Value Chain.
- High quality seeds are essential to start expected production.
- Without qualified seeds, effective and efficient food value chain cannot be implemented.
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III. INTRODUCTION OF VINASEED GROUP
1. **Name of company**
   Vietnam National Seed Joint Stock Company

2. **Head office**
   No. 1 Luong Dinh Cua Str., Phuong Mai Ward, Dong Da Dist., Hanoi, Vietnam

3. **Business areas**
   - Produce, trade, export, and import agricultural products and materials
   - Research, select, produce and trade seed
   - Transfer high-tech agricultural technical services

4. **History**
   - **1968** Established Under MARD
   - **2004** Privatized
     The enterprise was changed into Vietnam National Seed Corporation
   - **2006** Became a public company
     Listed on HOSE with trading code NSC
   - **2011 - Now**
     Recognized as a Science and Technology Enterprise (From 2011)

5. **Branches and Subsidiaries**
   - **11** Branches
   - **1,700** Dealers nationwide
   - **2** Research centers
   - **4** Subsidiaries
INTRODUCTION OF VINASEED

6. Human resources

- Total 719
  - 2% Professor, Doctor of Science
  - 11% Master
  - 87% Bachelor, Agricultural engineer

7. Business status

- Revenue 58.8 million USD
- Total asset 65.8 million USD

8. Product structure by revenue

- 20% Corns
- 72% Rice Seeds
- 5% Vegetable
- 3% Others (beans, nuts, ...)

9. PVP activities

- 55 Applications
- 35 PVP Certificates
PRODUCTS OF VINASEED
AGRICULTURAL PRODUCTS

TRAN CHAU HUONG RICE
HOA VANG DB GLUTINOUS RICE
RVT RICE
JAPONICA RICE

MELON
TAKI MELON
TAKA MELON
ICHIBA MELON
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IV. PLANT VARIETY PROTECTION
Establish PVPO/DUS Test Office (April 1st, 2004)

Exploit the benefits from PVP system

Drafting Legislation Document

Operating the system under UPOV Convention

Vietnam became the 63rd member of UPOV (2006)

Dispatching staffs to Overseas
Invite Experts from experienced countries and UPOV
Seminars/Workshops on PVP for relevant persons

Study the real conception of PVP

Establishing National PVP system and Preparations to join UPOV

Implementing PVP System under UPOV Convention

NOW

Fully member of UPOV on December 24th, 2016

1995

2004

2006

2016
No of PVP Certificates per total applications

- **Granted certificates (total)**
- **Total Applications**

<table>
<thead>
<tr>
<th>Year</th>
<th>Granted Certificates</th>
<th>Total Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2008</td>
<td>51</td>
<td>83</td>
</tr>
<tr>
<td>2009</td>
<td>18</td>
<td>136</td>
</tr>
<tr>
<td>2010</td>
<td>29</td>
<td>204</td>
</tr>
<tr>
<td>2011</td>
<td>60</td>
<td>204</td>
</tr>
<tr>
<td>2012</td>
<td>99</td>
<td>255</td>
</tr>
<tr>
<td>2013</td>
<td>146</td>
<td>359</td>
</tr>
<tr>
<td>2014</td>
<td>213</td>
<td>451</td>
</tr>
<tr>
<td>2015</td>
<td>251</td>
<td>560</td>
</tr>
<tr>
<td>2016</td>
<td>314</td>
<td>708</td>
</tr>
<tr>
<td>2017</td>
<td>380</td>
<td>893</td>
</tr>
</tbody>
</table>
UPOV IN SEED INDUSTRY

SUBJECTS APPLYING FOR PVP CERTIFICATES IN VIETNAM

2006
- Public research institutes: 98%
- Other: 2%

2016
- Company: 48%
- Public Research Institutes: 34%
- Researcher: 4%
- Individual (Grower and others): 4%
- Farmer: 4%
- Universities: 6%
Distribute of application by species/group

2006
- Rice: 93%
- Maize: 5%
- Other: 2%

2016
- Rice: 56.2%
- Maize: 13.9%
- Vegetable: 11.3%
- Flower: 12.0%
- Short Industrial Crop: 2.6%
- Fruit tree: 2.4%
- Other: 1.7%
PVP IN VINASEED GROUP

1. Investment
2. Facilities
3. Breeders
4. R&D center
5. Import genes
6. Breeding of New Variety
7. Registration
8. Receiving certificate
9. Transfer
10. Commercialize
11. Vinaseed Group
12. Mass production
13. Reinvestment
14. Farmers and Consumers enjoy new varieties
15. Promoting new varieties
16. Distribution channel
17. Processing Packaging
18. Vinaseed’s factory

PVP system
The Impact of UPOV

**a. Increase number of PVP certificates and R&D investment**

**APPLICATIONS AND PVP CERTIFICATES FROM VINASEED GROUP**

- **Applications**
- **PVP Certificates**

**55** Applications in total

**35** Certificates in total

**10** self-developed seeds

**25** transferred seeds

Between 2006 and 2017, no. of PVP certificates of Vinaseed have increased dramatically from 0 to **35**

**13,500 USD**

**1.5** million USD for transferring

**9.0** million USD for self-development and R&D facilities

Investment for R&D activities from 2006 to now

**10.5** million USD

In total

**778** times
Enhancing investment on R&D has brought Vinaseed group economic and productive effects.

From 2006 to 2016, the revenue of PVP products increased significantly from 26,500 USD to 38.2 million USD which was accounted for 65% of total revenue in 2016.

The average selling price of PVP products have gone up by 115% compared to the public one. In addition, the PVP products have an increase in average yield by 21%. These are strong evidences to prove positive impacts of UPOV in Vietnam seed industry.
c. Increase income of farmers

- Farmers are able to increase their income by using PVP products whose productivity, quality and value are higher than non-PVP product’s.
- Reducing the cost of pesticides and chemicals is also one of benefits that farmers get from PVP program.

<table>
<thead>
<tr>
<th>Year</th>
<th>Yield (ton/ha)</th>
<th>Price of fresh paddy (USD/ton)</th>
<th>Average income per ha (USD/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>4.0</td>
<td>230</td>
<td>920</td>
</tr>
<tr>
<td>2006</td>
<td>5.0</td>
<td>288</td>
<td>1438</td>
</tr>
</tbody>
</table>

Average income per ha has increased by 147%.

d. Protect the environment

- Developing “Green” products and kinds of products resisting pests and disease and adapting to climate change => Decrease the rate of using pesticides and chemicals by applying new preeminent genes in breeding seeds and new technology in production.
- Saving electric and water power by using clean energies and environmentally-friendly materials.
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HIGH QUALITY AROMATIC RICE RVT

GROWTH PERIOD

Winter – Spring season
120 – 130 days

Summer – Autumn season
95 – 105 days

PRODUCTIVITY

7.0 – 7.5 tons/ha

ABILITY TO RESIST PESTS

Good

ABILITY TO RESIST LODGING

Very good

ADAPTABILITY

High adaptability
Can be grown on many types of land.

OTHER TRAITS

High halophilic resistance
High resist drought
Delicious and aromatic

PVP PERIOD

From May, 2012 to May, 2032

Focus on high quality rice to develop a national brand of rice for domestic and exporting market
THE VALUE CHAIN MODEL OF RICE RVT

FARMERS

- Increase income by 51% compared to farmers not joining the value chain

<table>
<thead>
<tr>
<th></th>
<th>Joining the model</th>
<th>NOT joining the model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield (tons/ha)</td>
<td>7.0</td>
<td>5.8</td>
</tr>
<tr>
<td>Purchase price of fresh paddy (USD/ton)</td>
<td>288</td>
<td>230</td>
</tr>
<tr>
<td>Total income per ha (USD/ha)</td>
<td>2.016</td>
<td>1.334</td>
</tr>
</tbody>
</table>

VINASEED GROUP

- Buy seeds
- Support input materials (seeds, fertilizers,...) partly
- Technology transfer
- Training course

Create jobs for local workers especially for female

Processing, packaging

DISTRIBUTION CHANNEL

CUSTOMERS

- Profit: Increase by 68% per unit compared to not using the model

The purchase of customers for products:
- Using the model: 1.1 USD/kg
- NOT using the model: 0.6 USD/kg
Vinaseed group has emerged a niche market – glutinous corn market in Vietnam instead of single cross-breeding corn and set the target to dominate this market.
THE VALUE CHAIN MODEL OF CORN HN88

FARMERS

- Buy seeds
- Support input materials (seeds, fertilizers, …) partly
- Technology transfer
- Training course

Increase income by **100%** compared to farmers not joining the value chain

<table>
<thead>
<tr>
<th></th>
<th>Joining the model</th>
<th>NOT joining the model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield (ears/ha)</td>
<td>40,000</td>
<td>28,000</td>
</tr>
<tr>
<td>Purchase price per fresh ear (USD/ear)</td>
<td>0.13</td>
<td>0.09</td>
</tr>
<tr>
<td>Total income per ha (USD/ha)</td>
<td>5,310</td>
<td>2,478</td>
</tr>
</tbody>
</table>

VINASEED GROUP

- Technology transfer
- Training course

Create jobs for local workers especially for female

Processing, packaging

DISTRIBUTION CHANNEL

CUSTOMERS

Sell output products

Profit
Increase by **140%** per unit compared to not using the model

The purchase of customers for corn seed:
- Using the model: **12.6 USD/kg**
- NOT using the model: **5.3 USD/kg**
THANK YOU!