

Activity 10

Seminar on Plant Variety Protection and UPOV 1991

Impact of UPOV on plant variety protection system

Manabu Suzuki, Technical/Regional Officer for Asia, UPOV

December 4, 2023 (Jakarta, Indonesia)



Preview

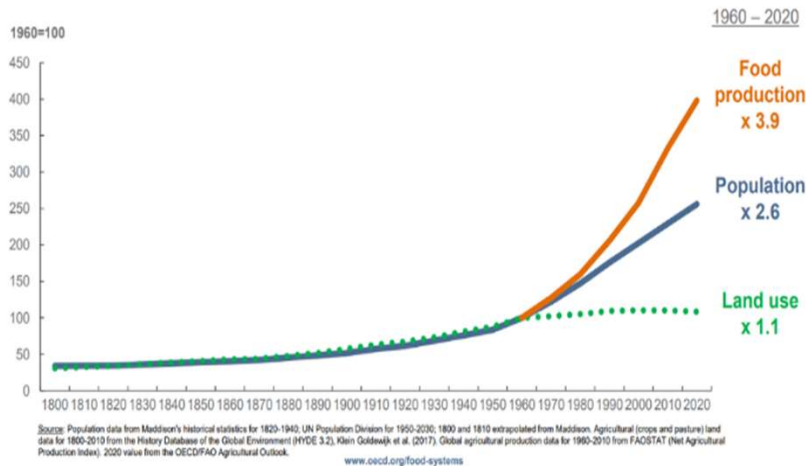
1. How to encourage the development of new improved varieties
2. Example of benefits in UPOV system for agriculture development (for society)
3. Services for UPOV members and users of the UPOV system

How to encourage the development of new improved varieties

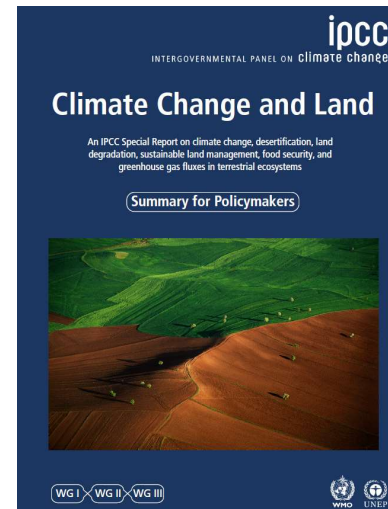


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Historically, greater food production meant greater land use; but there has been a “decoupling” since about 1960



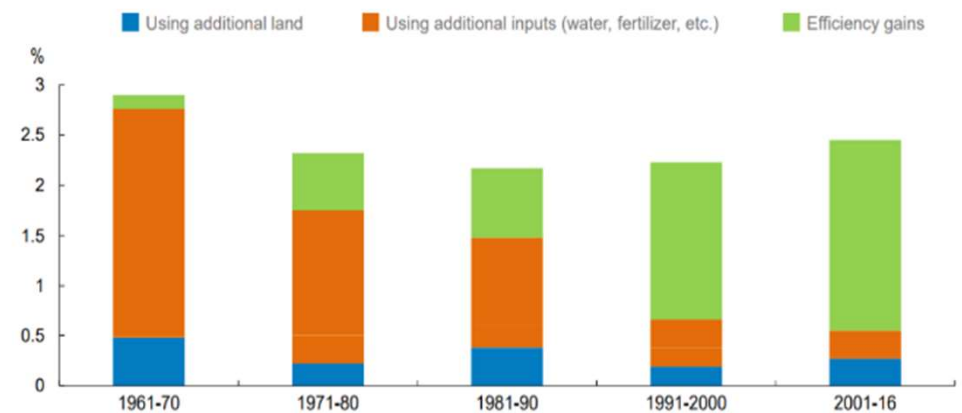
Source: Koen Deconinck, Food Systems Webinar, OECD Trade and Agriculture Directorate



Importance of increased food productivity

This “decoupling” was initially driven by greater use of inputs, but production growth increasingly comes from efficiency gains

Growth of global agricultural output, by source



Source: USDA Economic Research Service, International Agricultural Productivity estimates (November 2019 revision)

www.oecd.org/food-systems

Source: Koen Deconinck, Food Systems Webinar, OECD Trade and Agriculture Directorate

How to produce more and better with less

Mission statement



**“To provide and promote an effective system of
plant variety protection, with the aim of
encouraging the development of new varieties of
plants, for the benefit of society”**

How to become a member of UPOV



State/Intergovernmental Organization must:

- Have a **law which conforms to the UPOV Convention**
- Ask **advice of the Council** of UPOV
- If **advice positive**: deposit instrument of accession

Why is UPOV membership important?



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**Example of benefits in UPOV
system for agriculture
development (for society)**

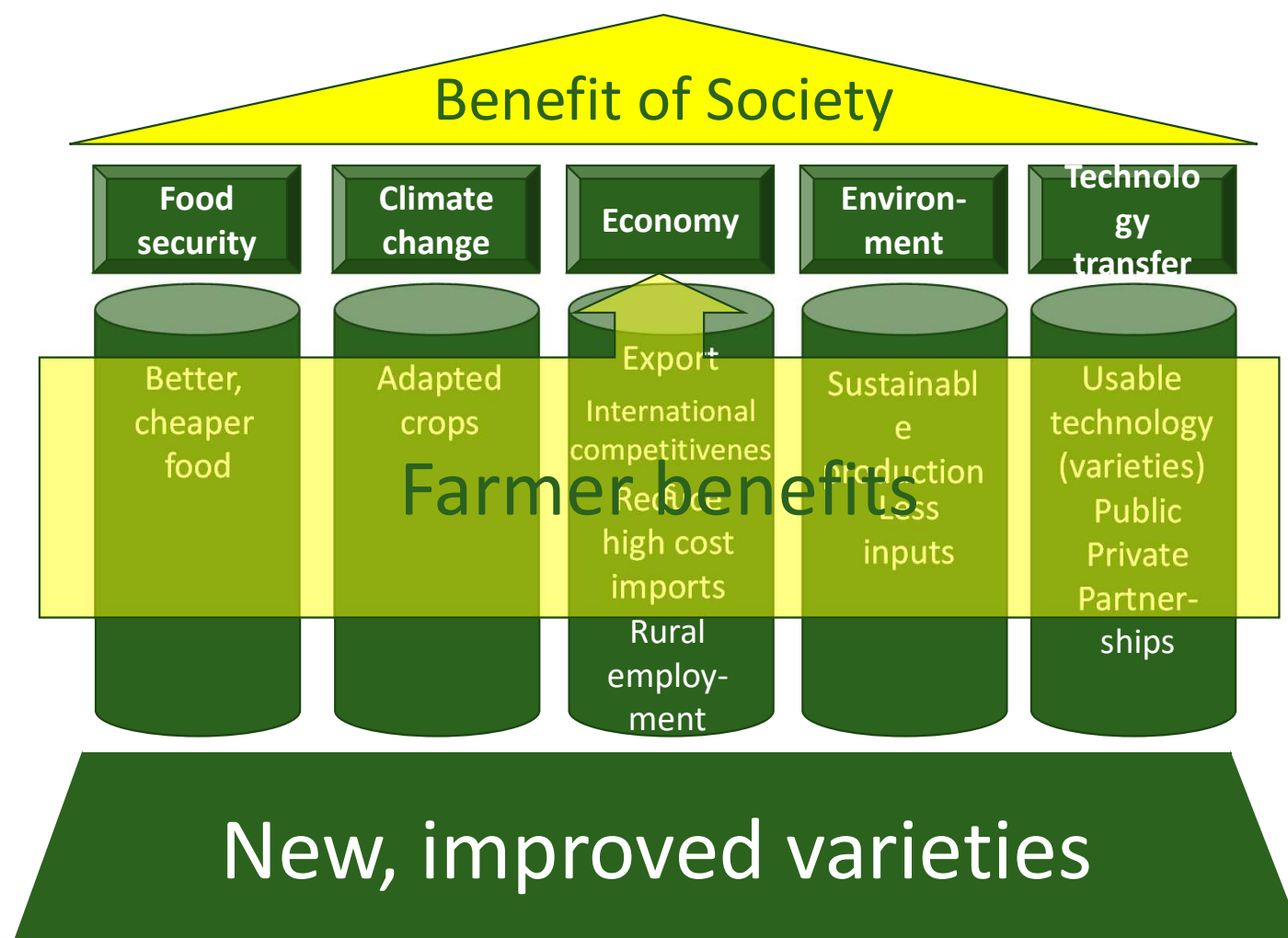


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What **benefits** do you
think **plant breeding** can
provide for **society**
(**agriculture**
development) ?

Benefits of the UPOV Plant Variety Protection System



Impact Study in Viet Nam*

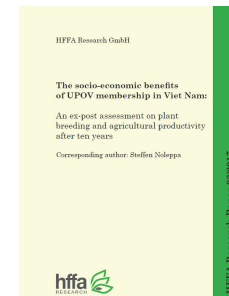
Annual land productivity developments
since Viet Nam joined UPOV in 2006 in

1995-2005: increase in yield mainly through
increased level of inputs – **no detectable
increase due to plant breeding**

2006-2016: annual land productivity
increase due to plant breeding

- **Rice** **1.7 %**
- **Corn** **2.1 %**

- “The socio-economic benefits of UPOV membership in Viet Nam; An ex post assessment on plant breeding and agricultural productivity after 10 years”
(Corresponding author: Steffen Noleppa) by HFFA Research GmbH
- https://www.upov.int/about/en/benefits_upov_system.html



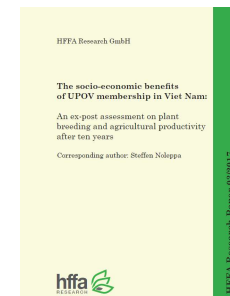
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Impact Study in Viet Nam*

Annual value added:

- Arable farming \$2.3 billion
- Horticulture \$1.0 billion
- Floriculture \$ 0.2 billion
- GDP added upstream/downstream (value chains)
\$1.5 billion

**TOTAL ADDED: \$5 billion
(> 2.5% GDP)**

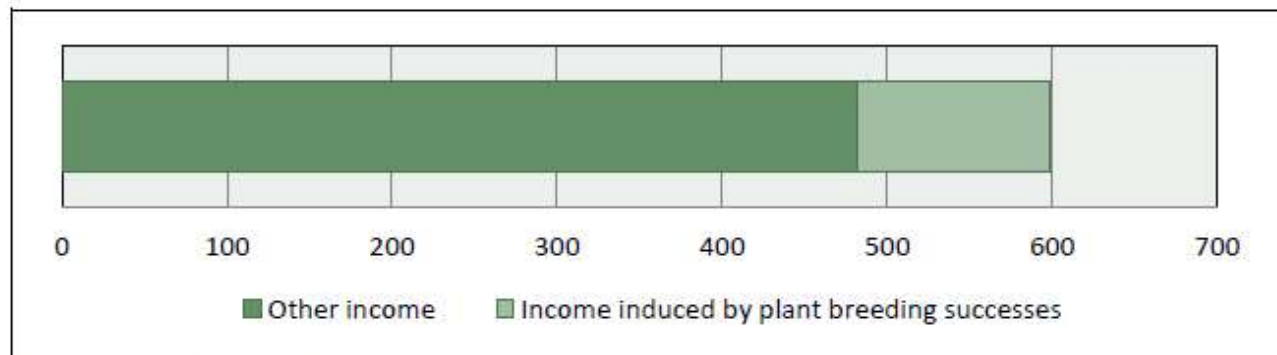


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Impact Study in Viet Nam*

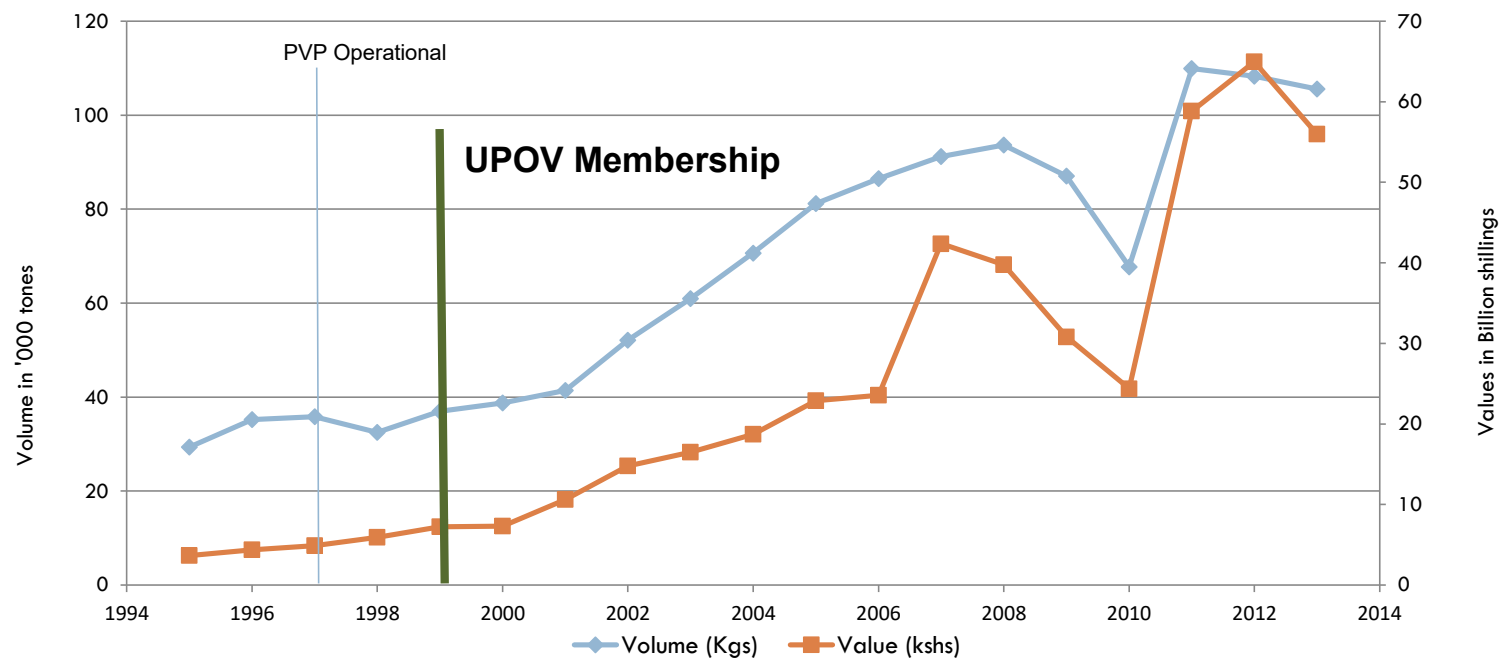
**INCOME of Vietnamese farmers has
increased by 24% since 2006**

Figure 4.6: Income of a Vietnamese farmer induced by plant breeding successes for major arable crops since UPOV membership vs. other income in arable farming (in USD)



Source: Own figure and calculations.

Impact of Plant Variety Protection in Kenya



CUT FLOWER EXPORTS 1995 - 2013

Source: HCDA



Impact of PVP in Kenya

Cut Flower Industry

The Kenyan floriculture market was valued at USD 861.6 million in 2018, and is projected to register an annual growth of 4.7% during the forecast period (2020-2025).

In the year 2020, 142,477.8 MT of fresh flowers **valued at USD 1.09 billion** was produced in Kenya.



Impact of Plant Variety Protection in
Kenya

Simon M. Maina,
Head, Seed Certification and Plant Variety Protection,
Kenya Plant Health Inspectorate Service (KEPHIS)
(website: www.kephis.org)

March 2021

Impact of PVP in Kenya

Employment creation

It is estimated that the floriculture industry **employs over 150,000 people directly** and **more than 500,000 indirectly** who supply goods and services

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March 2021





WIPO Seminar on Intellectual Property, Innovation, and Exports: A Look at the Cocoa Industry in Trinidad and Tobago

Port of Spain - August 2, 2017

Best Practices of Plant Variety Protection (case study)

Michael D. Carriere, Ph.D.
UC Davis InnovationAccess



Connecting research to market

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The World

\$16.50/1000 plants royalty¹

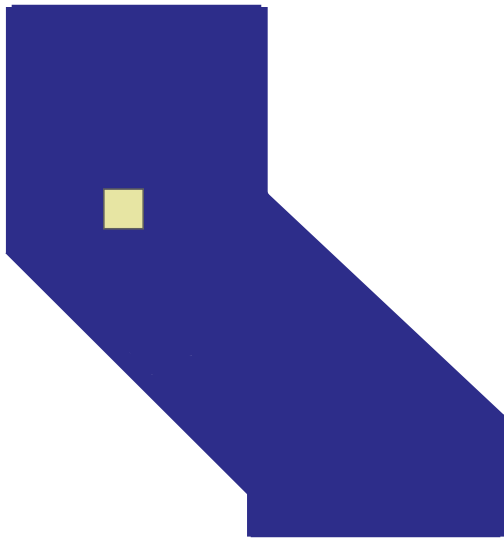
¹royalty shared between
UC and master licensees

United States

\$9.00/1000 plants royalty

California

\$8.00/1000 plants royalty





UPOV Plant Breeders' Rights (PBR) Filings for UC Davis Strawberry Varieties 'Benicia' and 'Mojave'

Argentina	PBR
Australia	PBR
Belarus	PBR
Brazil	PBR
Canada	PBR
Chile	PBR
China	PBR
Columbia	PBR
Ecuador	PBR
EU	PBR
India	wait for UPOV PBR availability
Israel	PBR
Japan	PBR
Jordan	PBR
Lebanon	wait for UPOV PBR availability
Mexico	PBR
Morocco	PBR
New Zealand	PBR
Peru	PBR
Republic of Korea	PBR
Saudi Arabia	wait for UPOV PBR availability
South Africa	PBR
Switzerland	PBR
Tunisia	PBR
Turkey	PBR
Uruguay	PBR

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Farmers: income is increased

Example on benefits of Protected Varieties

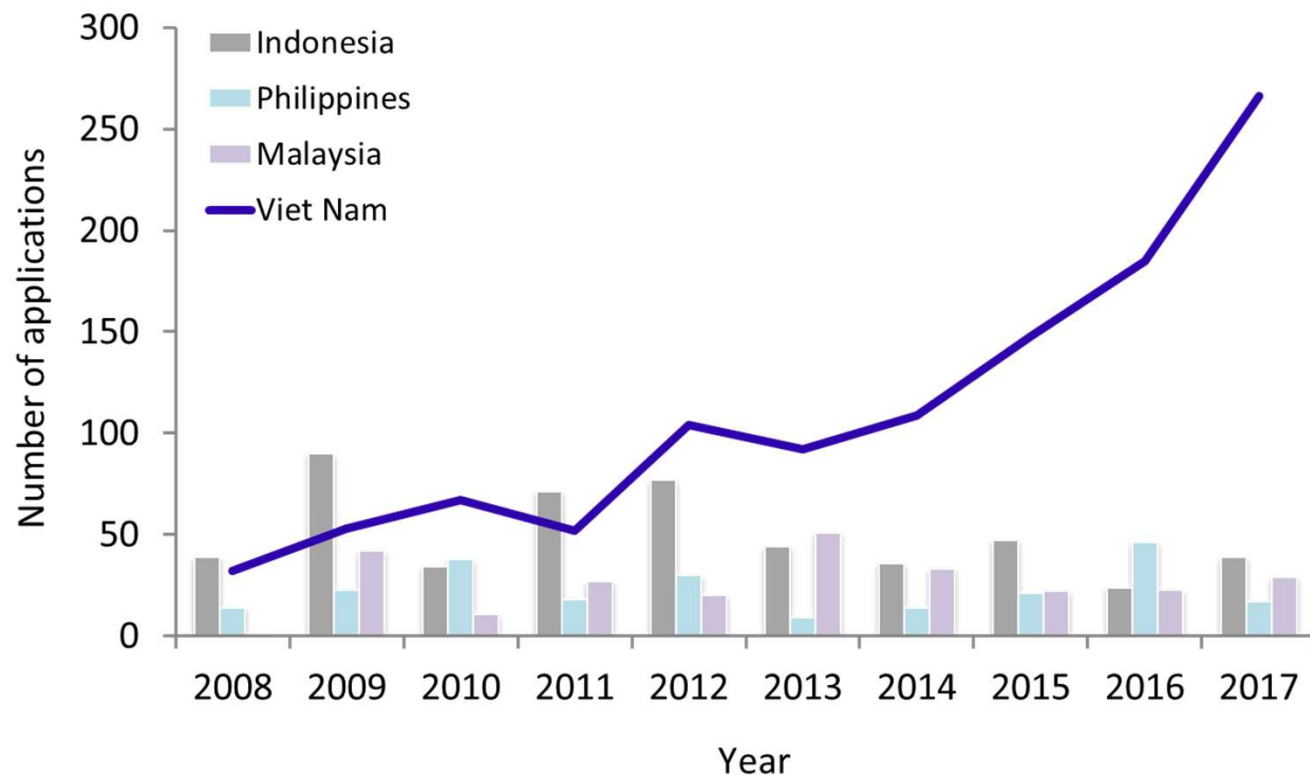
Items	Protected Varieties	Non protected varieties
Price of Seed (rice, USD/1 kg)	<u>1.39</u>	0.64
Price of commercial grain is sold by farmer (rice,USD/Ton)	<u>292</u>	236
Average income in 1 ha for farmer (rice); USD	<u>1897</u>	1298
Benefits from seed of protected varieties	✓ Better quality, productivity ✓ Better tolerance in bad climate and diseases, insect	? ?
* Source: VINA Seed Corporation (report on Nov. 2020)	for production	?



UPOV = more choice for farmers...

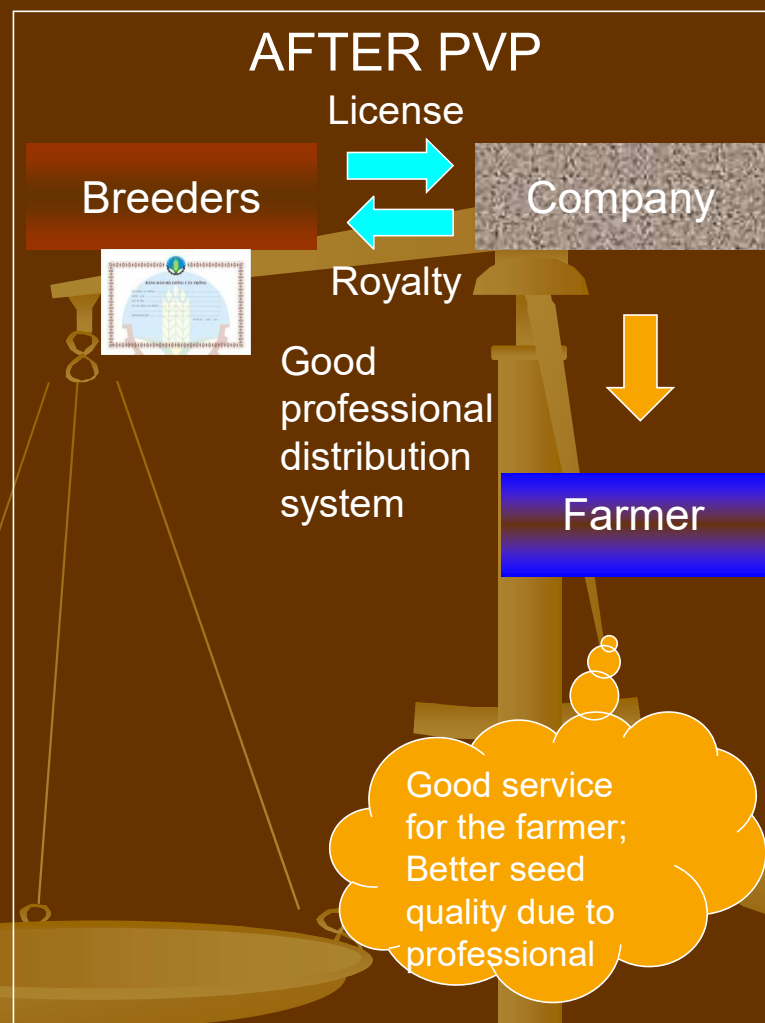
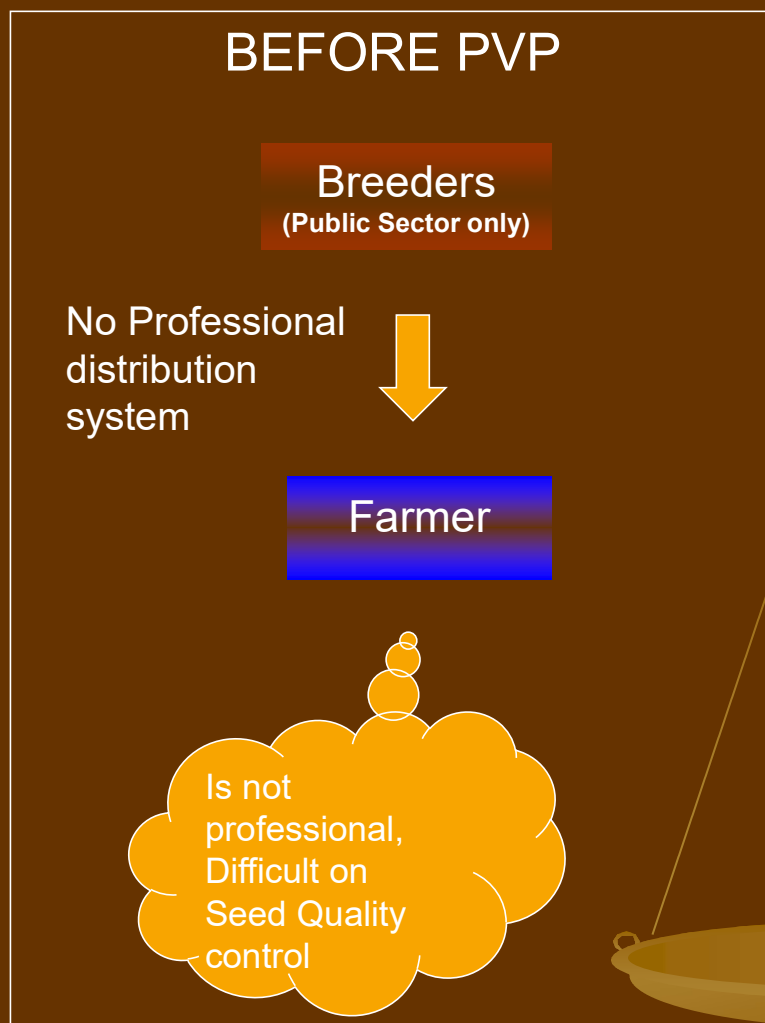
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Applications for Plant Breeders' Rights

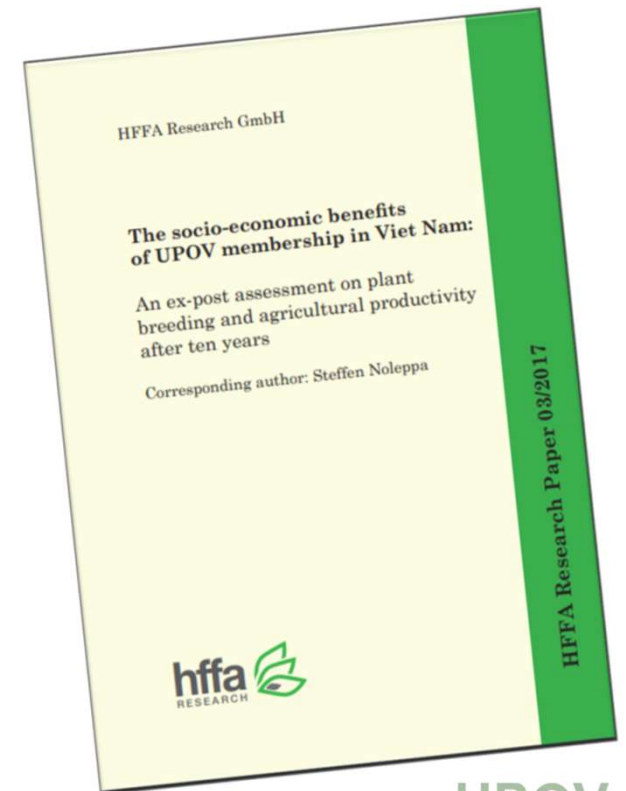


1. Erizal Jamal, Director, Center for Plant Variety Protection & Agriculture Permits, Indonesia. 10th East Asia Plant Variety Protection Forum Meeting
2. Dr. Mary Ann P. Sayoc, President, Philippine Seed Industry Association. National Seminar on Benefit of The Plant Variety Protection System, Philippines (11th EAPVP), August 2, 2018
3. Sri Ikarostika Rahayu Binti Muhammad Ghazi. Department Of Agriculture, Malaysia. National Seminar on Benefit of The Plant Variety Protection System, Philippines (11th EAPVP), August 2, 2018
4. Nguyen Thanh Minh, PVPO, Mard/Viet Nam. National Seminar on Benefit of The Plant Variety Protection System, Philippines (11th EAPVP), August 2, 2018

Seed Quality and Service is improved by a new system



Benefits of the UPOV System: **publications**



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Benefits of the UPOV System: **VIDEOS**



Chile

Improved options for
raspberry growers in Chile



Brazil

Common Bean: Impact achieved by
EMBRAPA through PVP of new varieties

New Varieties of Trees and
Herbs with High Quality
Developed in China

The National Forestry and
Grassland Administration (NFGA) of China

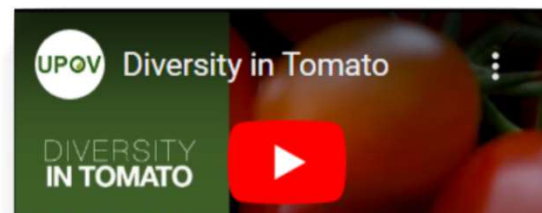


China



Netherlands

How UPOV helps a family plant breeding
business to operate globally



Diversity in Tomato

How plant breeding has increased
diversity in tomato

UPOV

NEW Viet Nam Stories Videos

Video 1 Farmer-Breeders



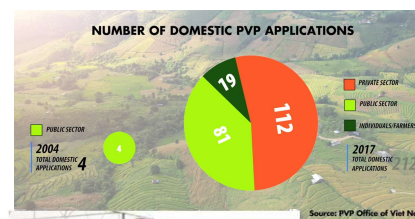
How farmers can benefit from using PVP to protect their own new varieties

Video 2 Flower Industry



How Da Lat has become the center of the horticultural sector

Video 3 Transformation of Seed Industry



Evolution of seed industry after UPOV membership

Video 4 National Agricultural Policy



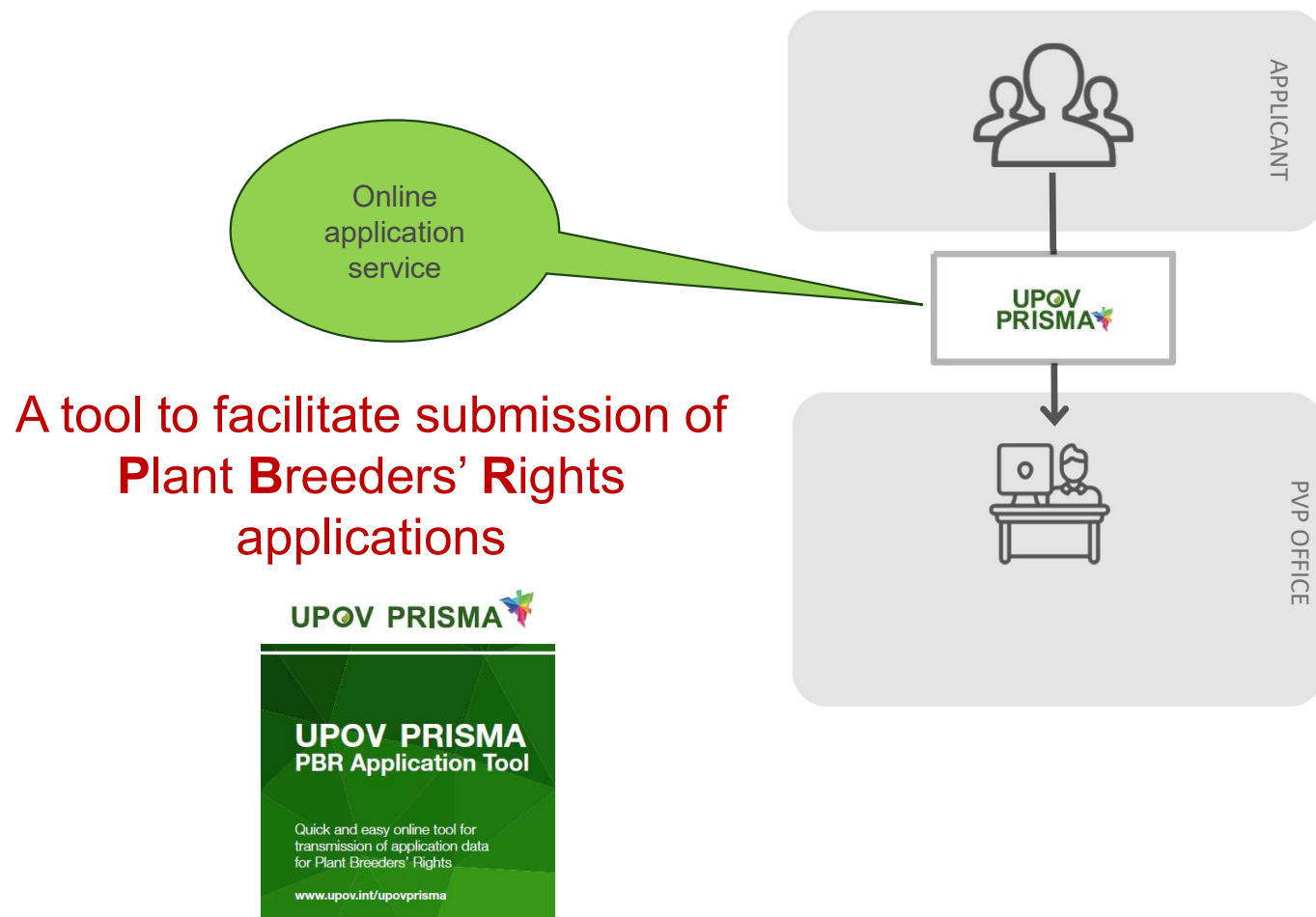
What is the impact of PVP on the economy in Viet Nam?

Role of PVP in agricultural policy

Services for UPOV members and users of the UPOV system



UPOV e-PVP

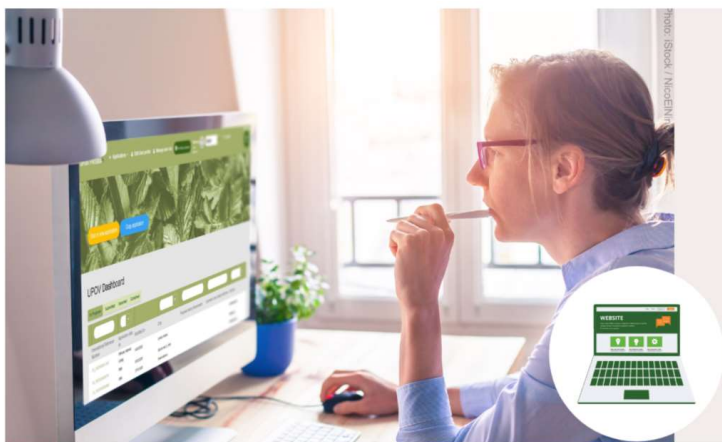


UPOV PRISMA

Online PBR Application Tool



A tool to facilitate submission of
Plant Breeders' Rights applications



UPOV PRISMA

UPOV PRISMA PBR Application Tool

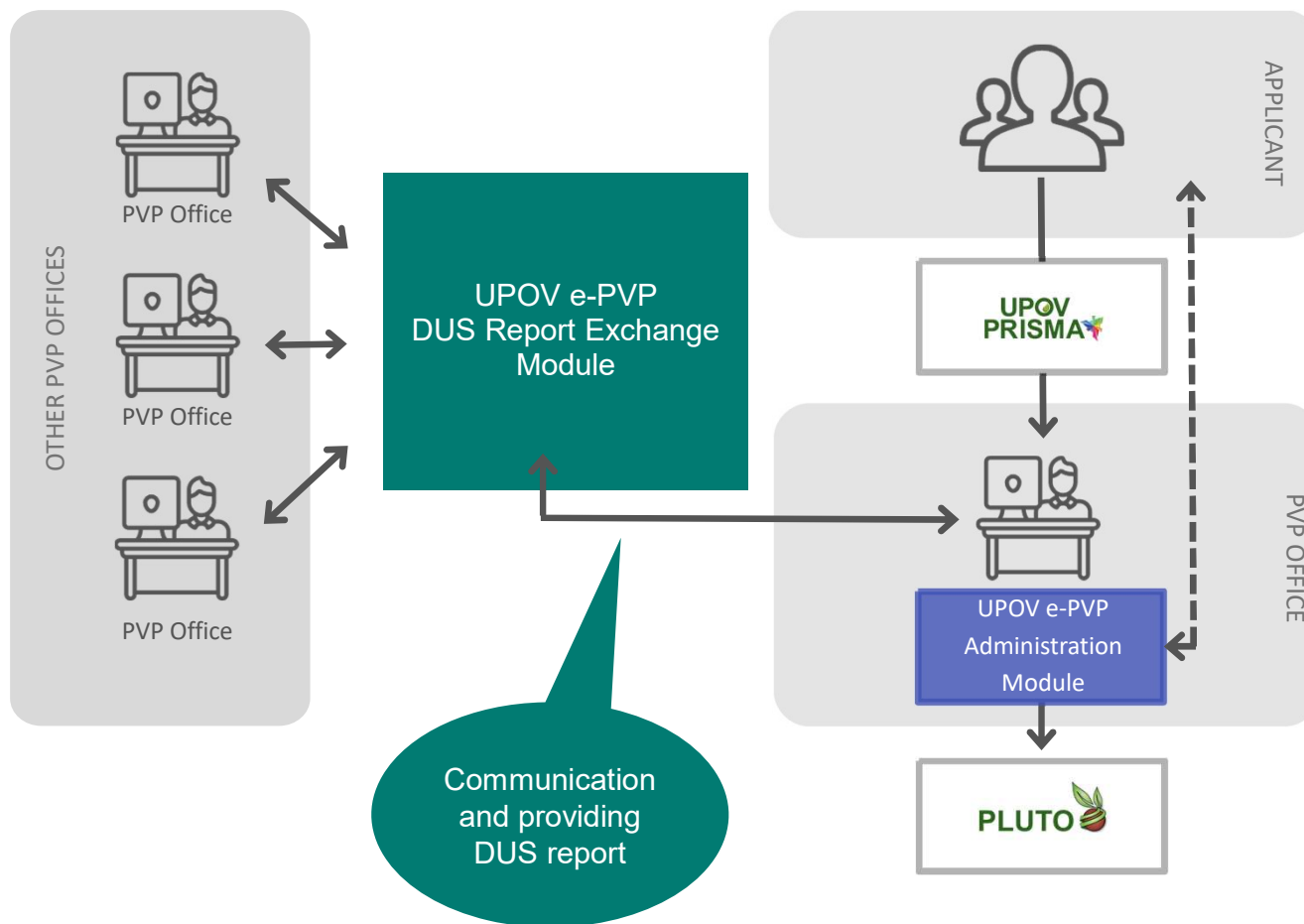
Quick and easy online tool for
transmission of application data
for Plant Breeders' Rights

www.upov.int/upovprisma

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UPOV e-PVP

Only for UPOV members



Launch of
UPOV e-PVP
September 28,
2023
Viet Nam

UPOV

Benefits of UPOV e-PVP for PVP offices

- All UPOV members can have an efficient PVP administrative system:
 - Online application tool (= UPOV PRISMA)
 - Electronic file/portfolio management system
 - Communication tool with applicants
 - Automated, electronic transfer of data to PLUTO database
 - DUS report exchange platform
- Secure environment to international standards
- Maintenance by UPOV Office
- Minimal costs: only costs to PVP Office are cloud data storage (if standard modules)

➤ **More applications for new varieties = more improved varieties for farmers**

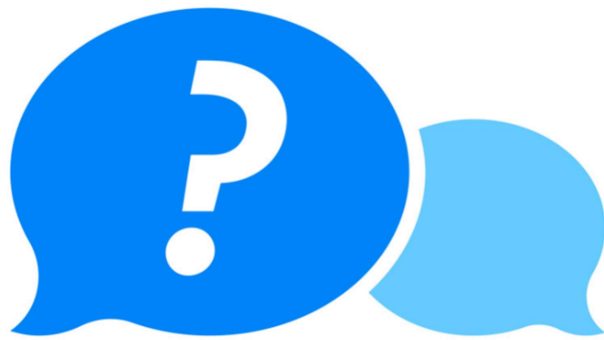


Image courtesy of iStockphoto

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