

Activity 5

UPOV 1991: Promoting Sustainability and Economic Development

The Role of UPOV and its Impact on Promoting Plant Variety Protection for Development

Yolanda Huerta, Vice Secretary-General, UPOV

August 19, 2024 (Bangkok, Thailand)



Preview

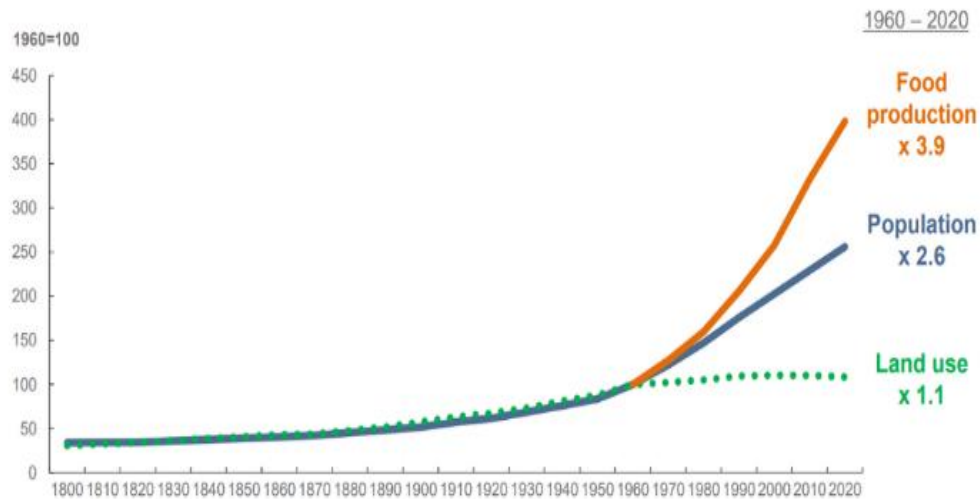
1. How to encourage the development of new improved varieties
2. Examples of benefits in UPOV members for agriculture development
3. Services for UPOV members and users of the UPOV system

**How to encourage the
development of new
improved varieties**





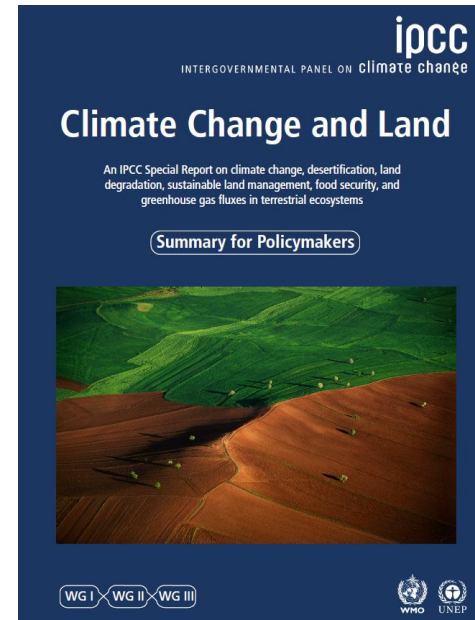
Historically, greater food production meant greater land use; but there has been a “decoupling” since about 1960



Source: Population data from Maddison's historical statistics for 1820-1940, UN Population Division for 1950-2020; 1800 and 1810 extrapolated from Maddison. Agricultural (crops and pasture) land data for 1800-2010 from the History Database of the Global Environment (HYDE 3.2), Klein Goldewitz et al. (2017). Global agricultural production data for 1960-2010 from FAOSTAT (Net Agricultural Production Index). 2020 value from the OECD/FAO Agricultural Outlook.

www.oecd.org/food-systems

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

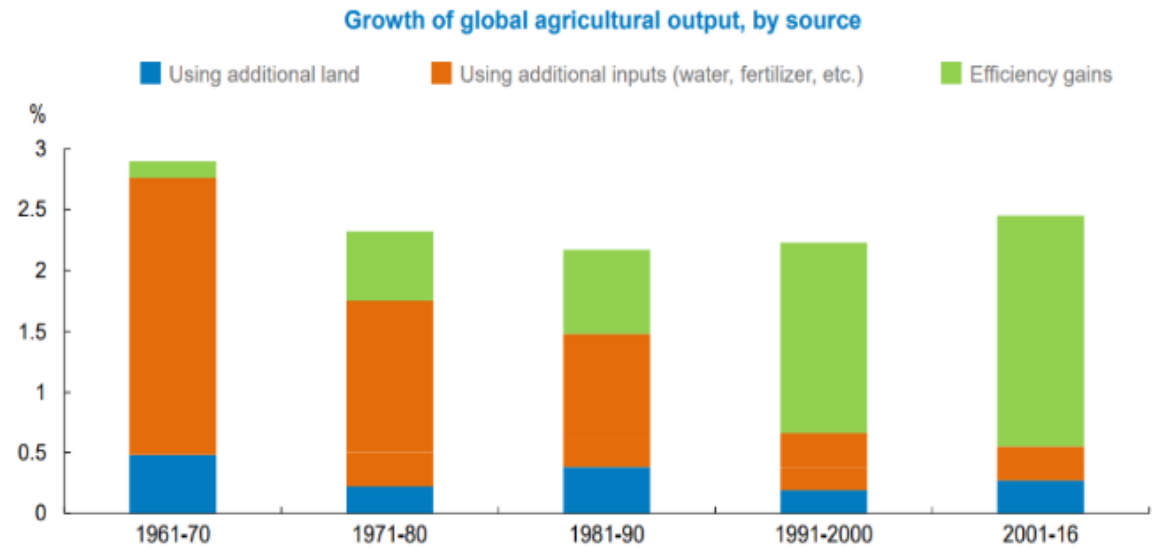


Importance of increased food productivity



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

How to produce more and better with less



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

What are the challenges in encouraging investment in plant breeding?

- **identify** important variety characteristics
- **secure resources to breed new** varieties with those characteristics
- **deliver** those new varieties **to all size of farmers and growers**

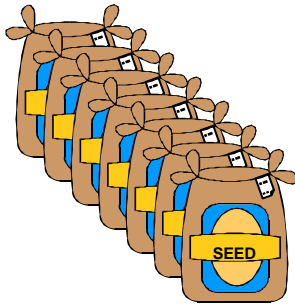
UPOV's role: Creating the space for policy dialogues for harmonization, enhancing cooperation, developing tools, services, training, guidance on the UPOV Convention and its implementation, including the legal framework to encourage investment in plant breeding by **providing effective protection and enforcement**

UPOV's contribution: international effective PVP system to encourage investment in plant breeding to develop and distribute new plant varieties

DIVERSITY OF BREEDERS



PRODUCTION & DISTRIBUTION



MARKET ACCESS



UPOV Plant Variety Protection and Contracts

PUBLIC SECTOR **PRIVATE SECTOR**

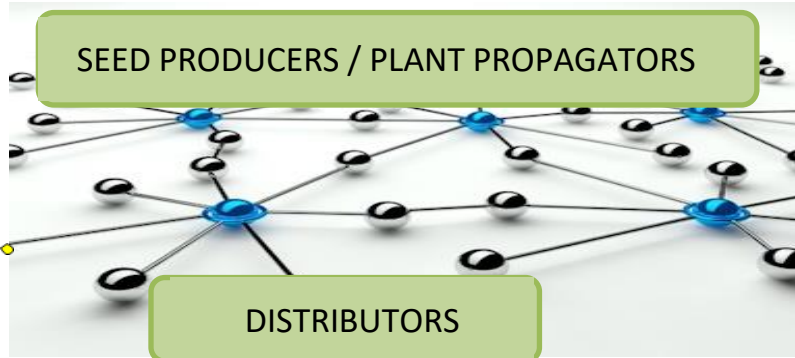
International Breeding (Institute)

National Breeding Institute

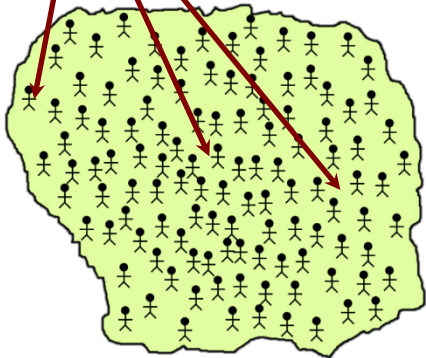
Large enterprises (e.g. companies, cooperatives)

SME's

Individuals (e.g. farmers)

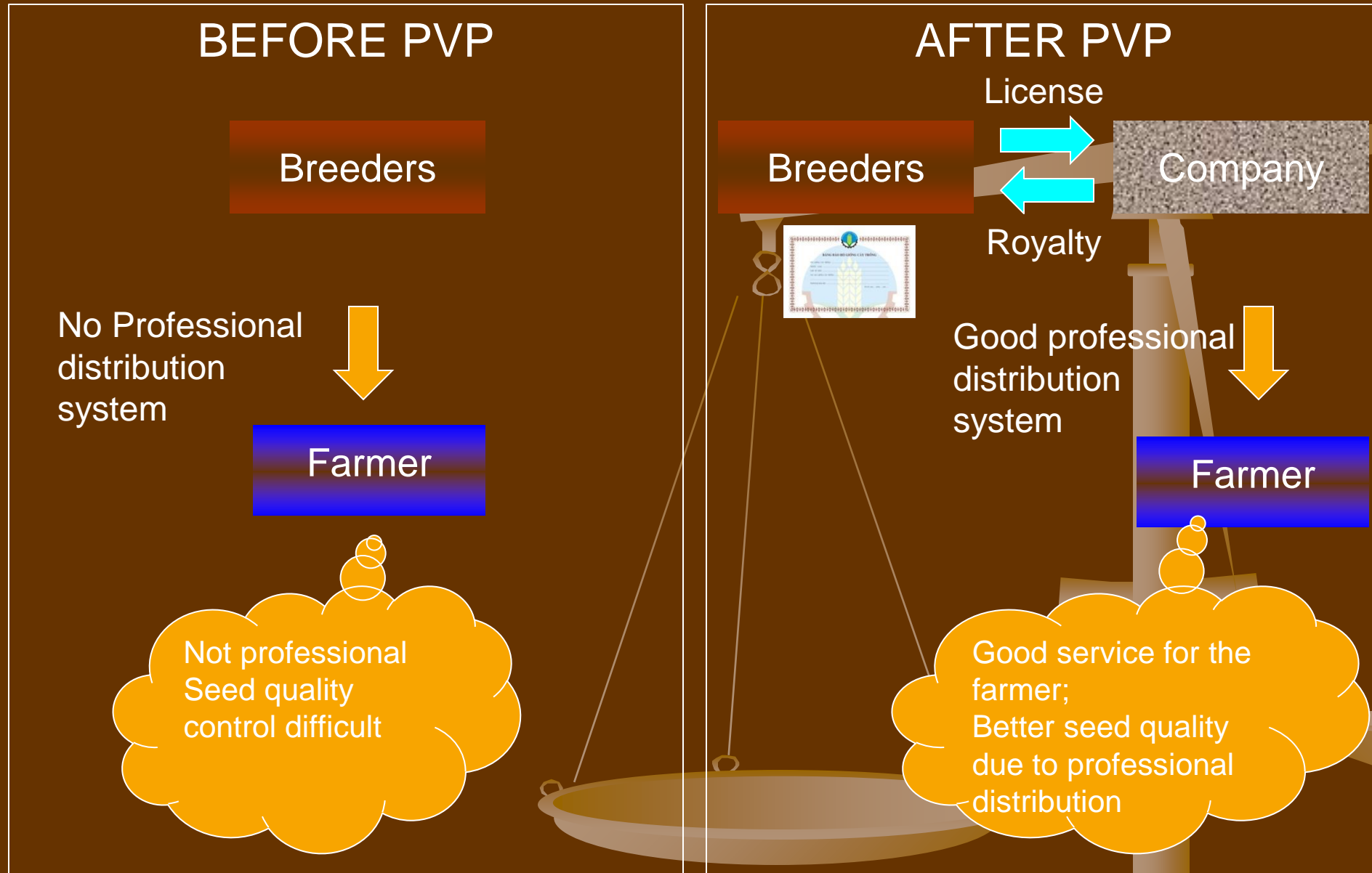


FARMERS

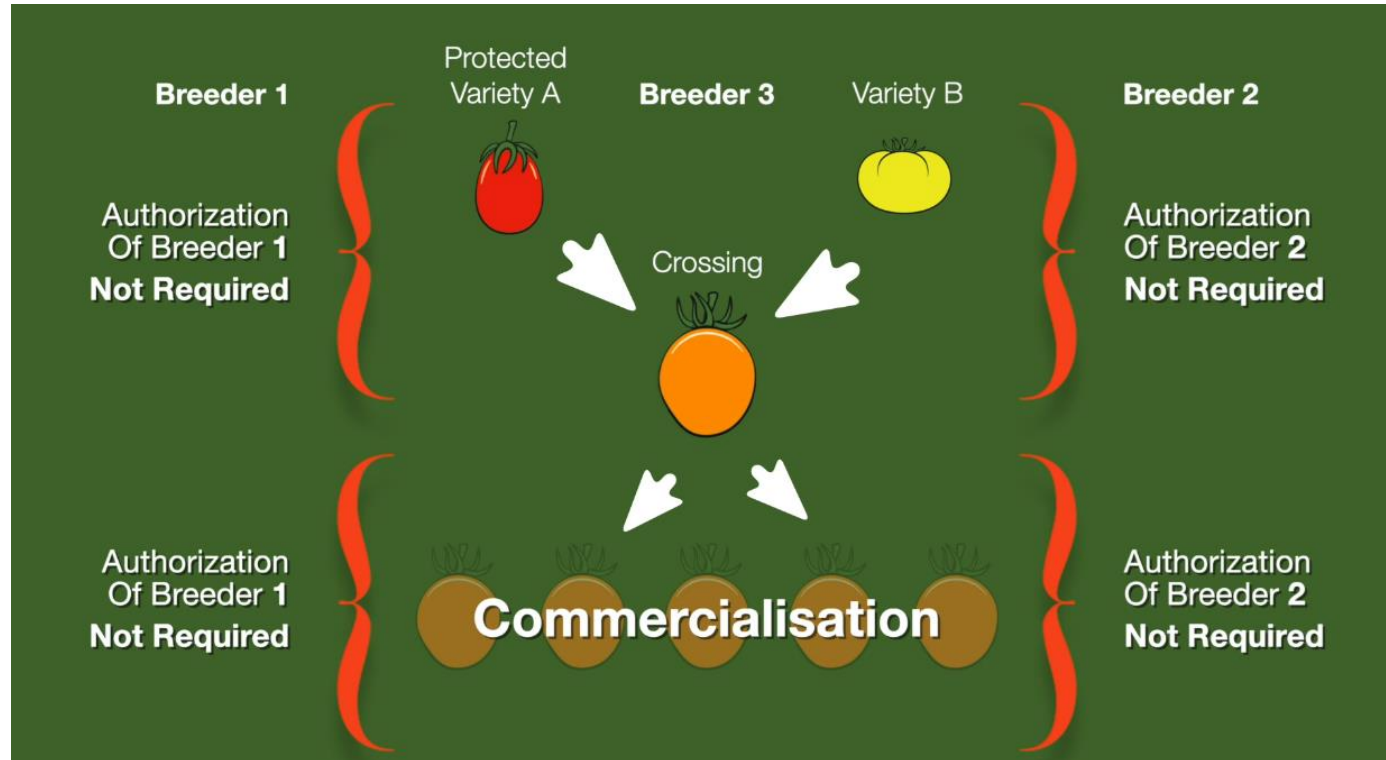


Change the mode on the agriculture production (Viet Nam (Minh 2017))

Seed distribution system of new varieties



Advantages of the breeder's exemption under the UPOV Convention



- Variety improvement is enhanced: there is continuous progress in breeding
- Genetic basis for plant improvement is broadened and is actively conserved



Vuyisile Phehane



- Delivering high performance varieties to subsistence/smallholder farmers

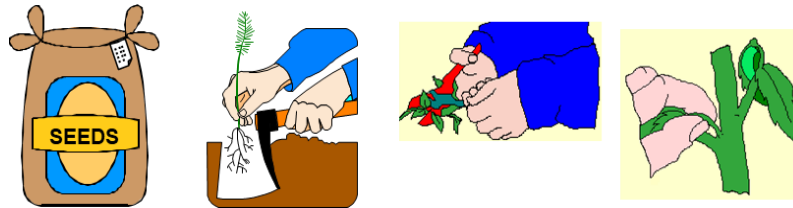
- Local licensing agreement with a South African company
 - for the commercialization of some of the ARC's citrus varieties.
 - A condition of the license: ensure the participation of smallholder citrus producers in the commercialization value-chain.
- Facilitated partnership with the Citrus Growers' Association to access ARC

There is effective plant variety protection when there is effective enforcement

- Plant breeding is long and expensive

BUT

- Plant varieties can be easily and quickly reproduced



- Breeders, farmers and growers need effective protection and enforcement measures to recover investment –in developing, growing and commercializing those varieties
- increased role of use of biochemical and molecular techniques for variety identification and breeders' rights enforcement
- there was not a single case in UPOV members of a smallholder farmer having been prosecuted for any activities concerning a protected new plant variety

WHY UPOV

UPOV's Mission 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

UPOV STATUS – 79th member: Armenia March 2, 2024

States that requested comments on [Draft] Laws (2020-2024)

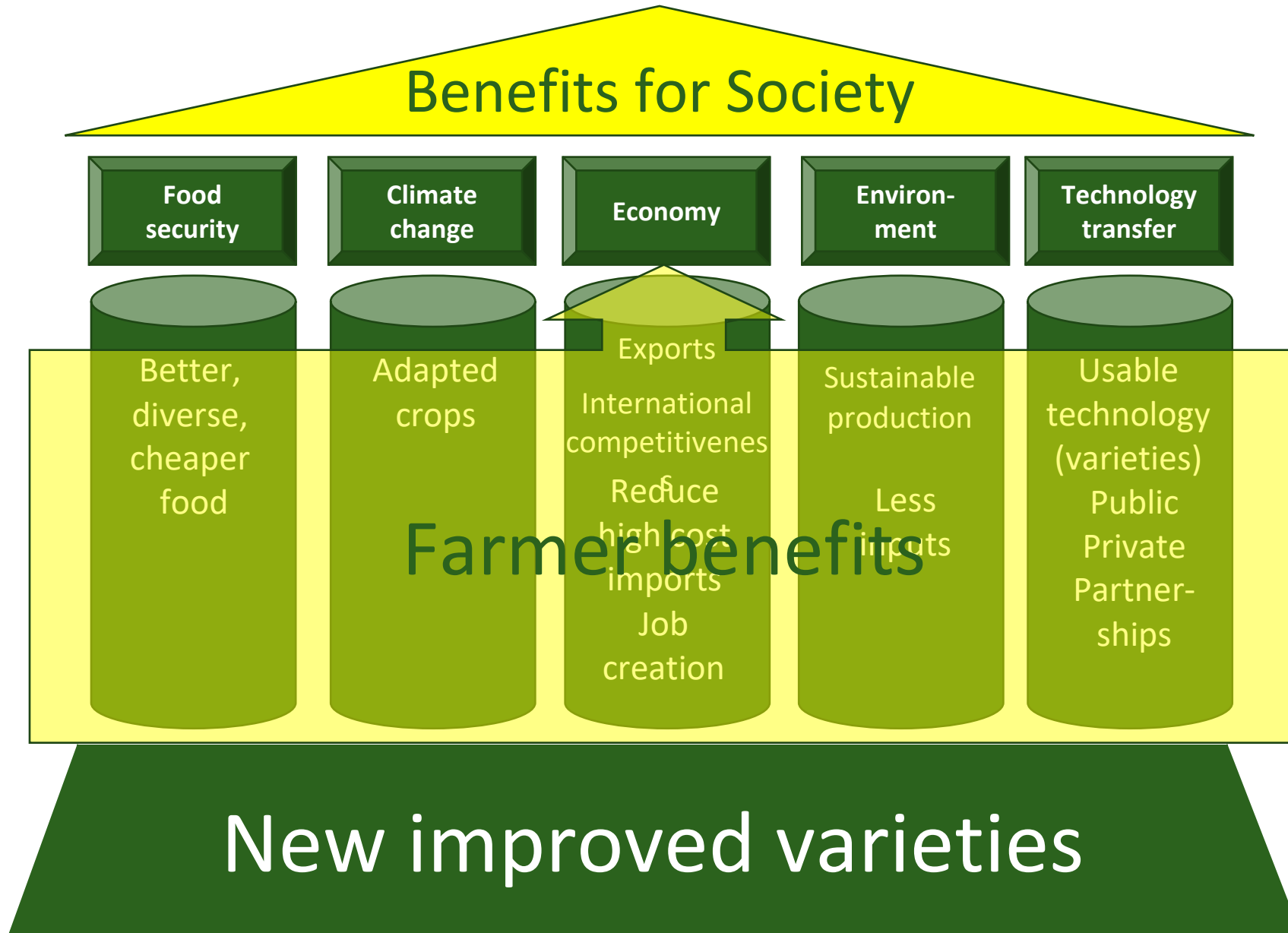


- Members of UPOV (79) (covering 98 States)
- Initiating States (19) and Organization (1)
- States (27) and Organization (1) in contact with the UPOV Office

**Examples of benefits in UPOV
members for agriculture
development**



Benefits of the UPOV Plant Variety Protection System



Improved Varieties –example Republic of Korea

Hot pepper

Development of disease resistant variety



- **Dok-Ya-Cheong-Cheong**
Resistant to phytophthora blight/virus

Phytophthora blight (Fungal disease):
- above : **Resistant variety**
- below: **Susceptible variety**

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

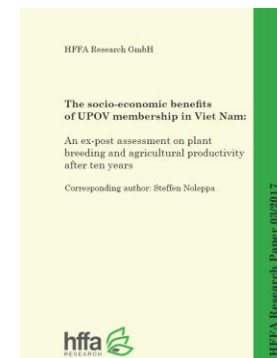
- Rice 1.7 %
- Corn 2.1 %

- “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

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)



UPOV

China's flower industry

China's flower industry employs over 5 million people becoming a significant sector for achieving socio-economic development goals.





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

A UNIT OF THE OFFICE OF RESEARCH

The World

\$16.50/1000 plants royalty¹

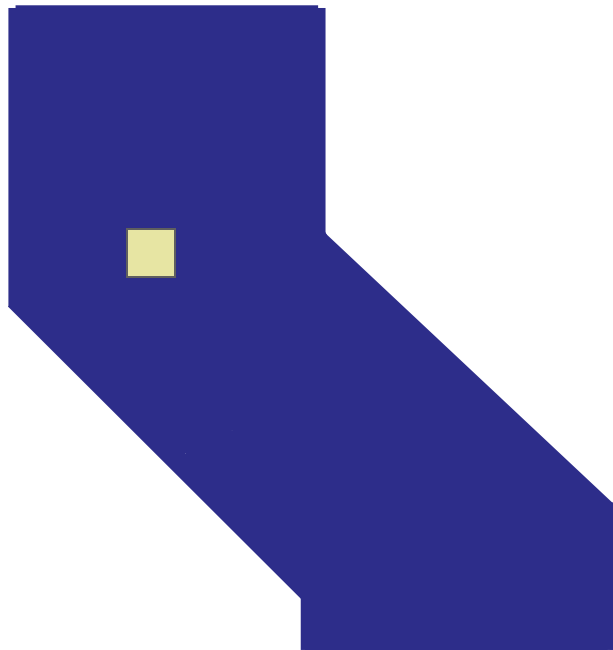
¹royalty shared between UC and master licensees

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



COMMUNICATION call for UPOV's role and impact to be clearly known and understood inside and outside the UPOV community

Video 1 Farmer-Breeders



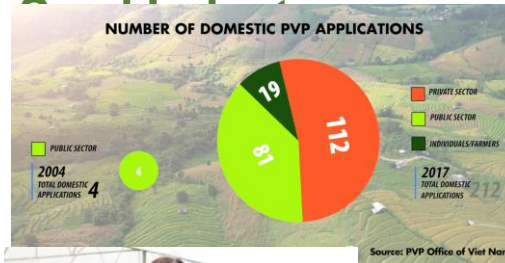
How farmers can benefit from using PVP to protect their own new varieties

Video 2 Flower Industry



How Da Lat has become the center of the horticultural sector

Video 3 Transformation of



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

A decorative graphic on the right side of the slide featuring several overlapping, semi-transparent slices of kiwi fruit. The slices are arranged in a descending, slightly curved pattern from the top right towards the bottom right. The kiwi slices show the characteristic green flesh and black seeds. Additionally, there are three solid green circles of varying sizes positioned below the kiwi slices, also following a descending trend.

**Services for UPOV
members and users of
the UPOV system**

Benefits of using UPOV PRISMA



Online service for PVP applications



70+ countries covered



Language choice to read forms



Translation of predefined responses



Copy data to other applications



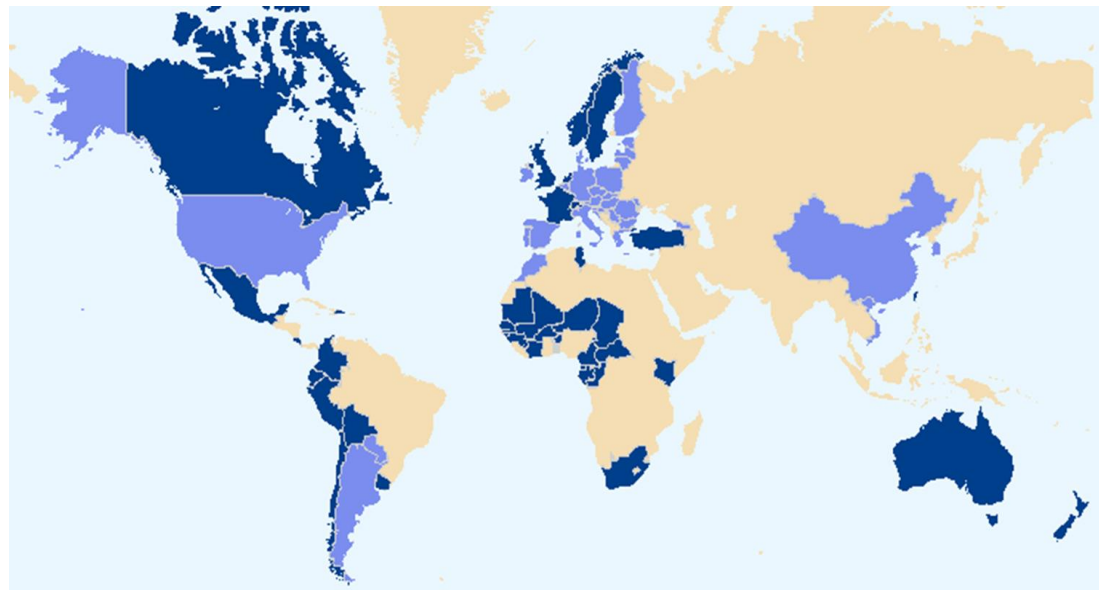
Reminders for Novelty & Priority



Find all PVP Office procedures

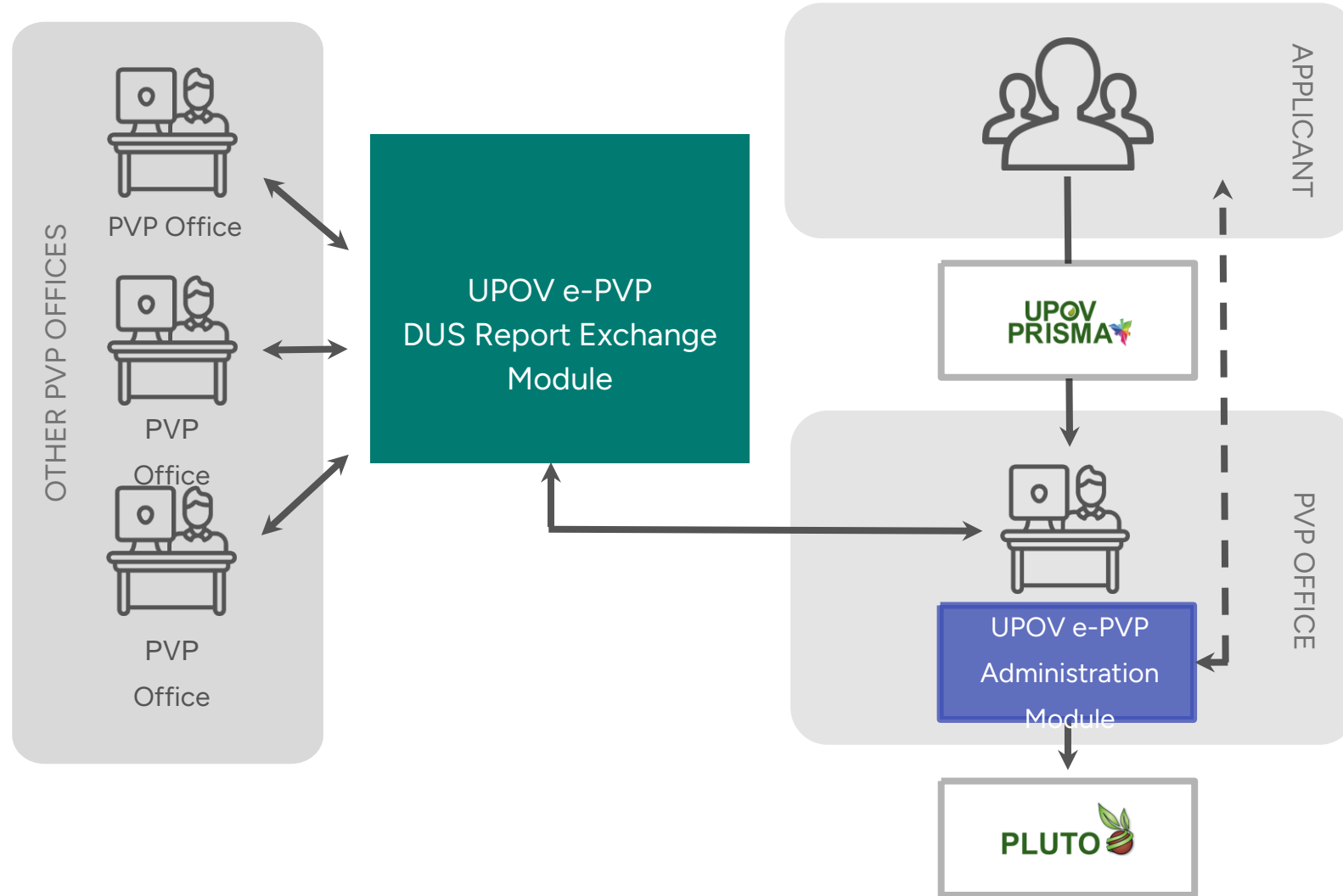


Overview of all submissions



UPOV e-PVP

focus on digitalization services for UPOV members – not leaving anyone behind



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

In October 2023, the UPOV Council welcomed the expressions of commitment from **Ghana** to join **UPOV e-PVP** and from **Canada**, Community Plant Variety Office (CPVO) of the **European Union** and **Netherlands** (Kingdom of the) to join the **UPOV e-PVP DUS Report Exchange Module**



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 meet international standards
 - Maintenance and upgrades 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**

2022 UPOV Seminar on the role of plant breeding and plant variety protection in enabling agriculture to mitigate and adapt to climate change

- Climate change is increasingly affecting everyone around the world: farmers, breeders and consumers. Effects are biotic (new pests and diseases) and abiotic (heat, drought, rain, seasonal changes).
- A range of strategies is needed to respond to the challenges. Plant breeding has a vital role to play in these strategies; farmers need new plant varieties to adapt to climate change but also to sustainably increase productivity in order to minimize climate change.
- Plant breeding is a long-term process that requires long-term investment from public institutions and from private companies. Plant breeders need a regulatory environment that promotes innovation and supports the conservation and utilization of genetic resources.
- **The UPOV system enables plant breeders to provide farmers with the varieties they will need to feed the world in the face of climate**

Concluding remarks

Mr. Marien Valstar, President of the Council, UPOV

https://www.upov.int/meetings/en/details.jsp?meeting_id=71391

SEMINAR ON THE ROLE OF PLANT BREEDING AND PLANT VARIETY PROTECTION IN ENABLING AGRICULTURE TO MITIGATE AND ADAPT TO CLIMATE CHANGE

SEMINAIRE POUR ETUDIER L'IMPORTANCE DE LA SÉLECTION VÉGÉTALE ET DE LA PROTECTION DES VARIÉTÉS VÉGÉTALES POUR PERMETTRE À L'AGRICULTURE DE S'ADAPTER AU CHANGEMENT CLIMATIQUE ET D'EN ATTÉNUER LES EFFETS

SEMINAR: ZUR BELEUCHTUNG DER ROLLE DER PFLANZENZUCHT UND DES SORTENSCHUTZES BEI DER ANPASSUNG DER LANDWIRTSCHAFT AN DEN KLIMAWANDEL UND DESSEN ABSCHWÄCHUNG

SEMINARIO PARA EXPLORAR EL PAPEL DEL FITOMEJORAMIENTO Y LA PROTECCIÓN DE LAS OBTENCIONES VEGETALES EN LA ADAPTACIÓN DE LA AGRICULTURA AL CAMBIO CLIMÁTICO Y EN SU MITIGACIÓN

October 11, 2022

