

IPKey SEA - Promoting Innovation in Agriculture: UPOV and Plant Variety Rights Protection in Southeast Asia

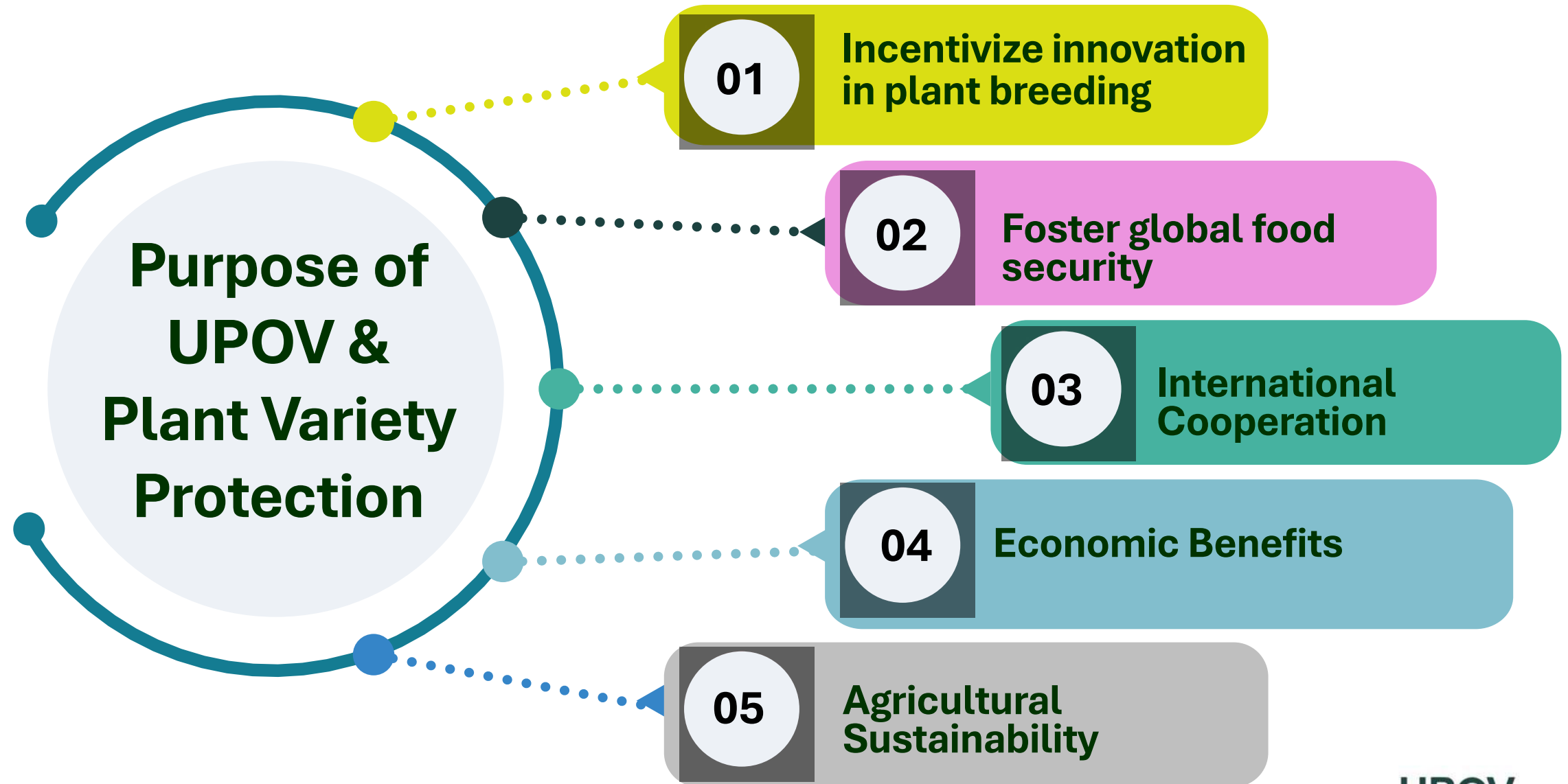
Benefits of UPOV system including digitalization and DUS cooperation

Mr. Yoshiro Nishimura,
Technical/Regional Officer (Asia)

September 1, 2025



UPOV





Incentivize innovation in plant breeding

**How to produce more and better with less
water, less land, less inputs**

Breeding plant varieties with improved yield, more efficient use of nutrients, resistance to plant pests and diseases, salt and drought tolerance and better adaptation to climatic stress

Fusarium oxysporum f.sp. *lycopersici* race 2

Symptom Assessment Scale



00
healthy



01
part of
plant wilted



02
half of plant
wilted



03
whole of
plant wilted



04
plant died

Disease resistance characterist in PVP Japan

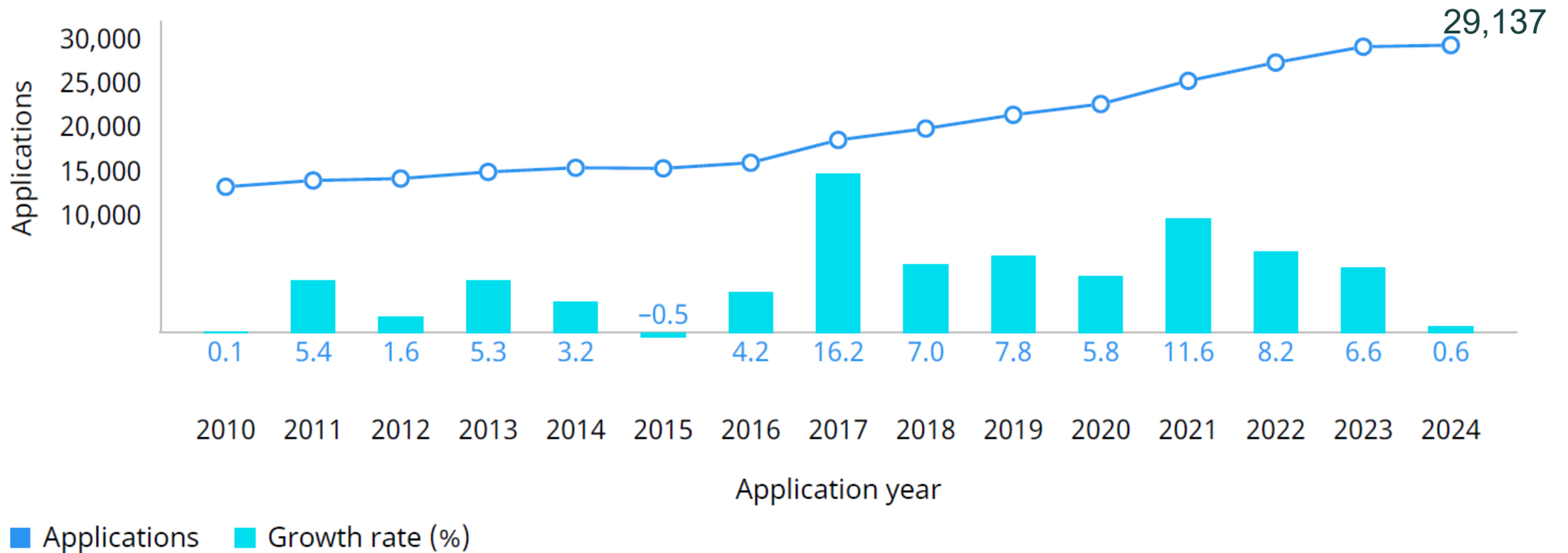
Yoshiyuki Ohno

Plant Variety Protection Office

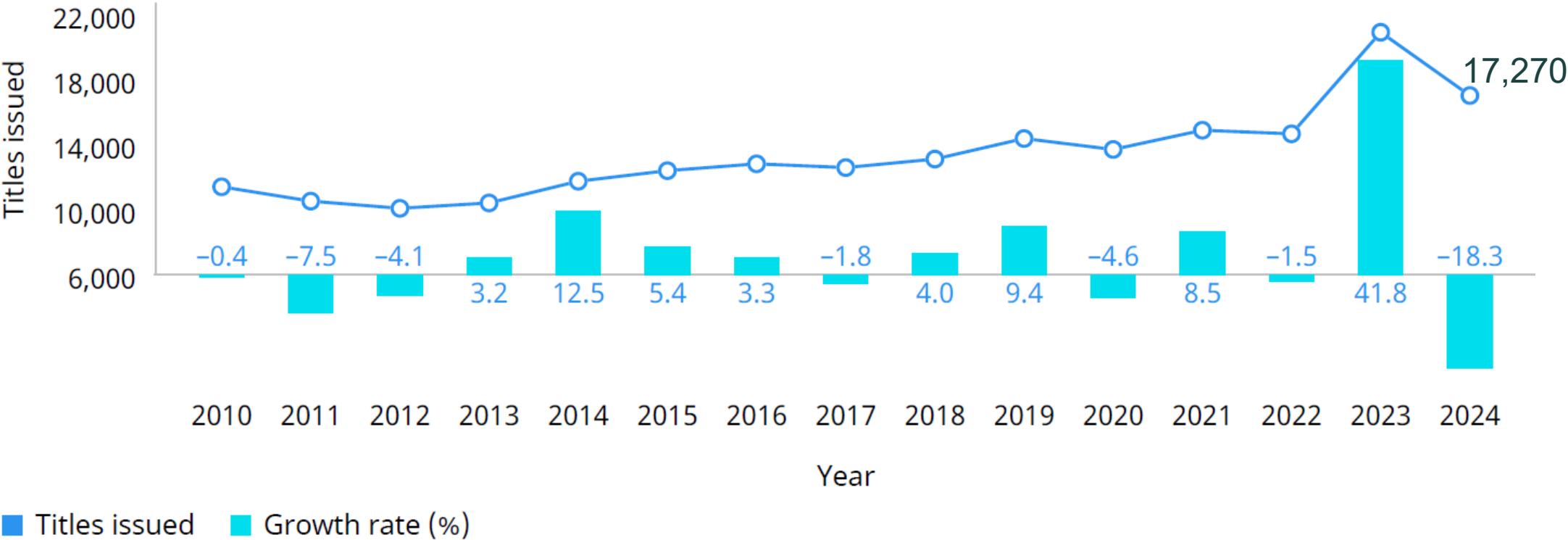


The UPOV Seminar in 2023 provided examples on the use of technologies such as “genome-sequencing”, “marker-assisted selection”, “induced mutation”, “gene-editing” and “double-haploids” in support of plant breeding

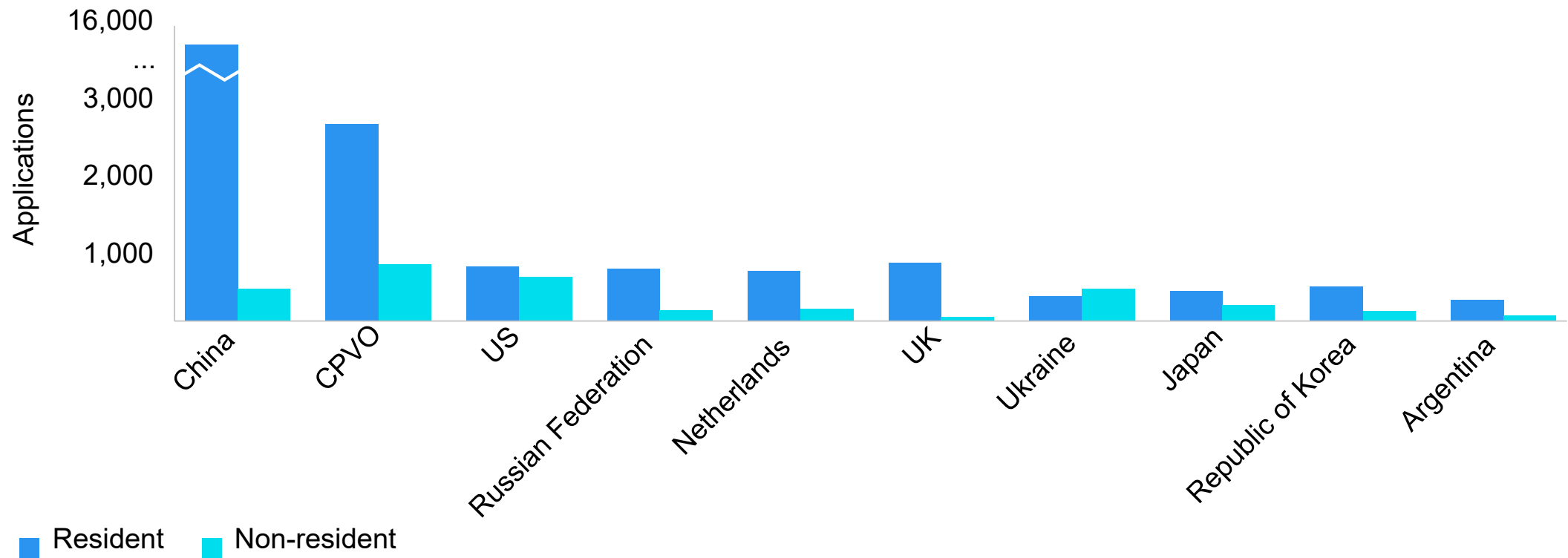
Trend in plant variety applications worldwide, 2010–2024



Trend in plant variety titles issued worldwide, 2010–2024



Plant variety applications for the top 10 offices, 2024

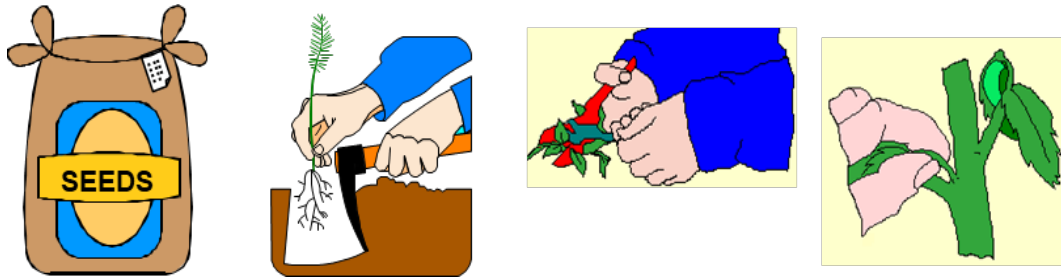


PVP System encourage innovation in plant breeding

- Plant breeding is long and expensive

BUT

- Plant varieties can be easily and quickly reproduced



❖ Breeders need effective protection and enforcement measures to recover an investment



Foster global food security

Expansion of UPOV membership:

Nigeria, joined UPOV in March.

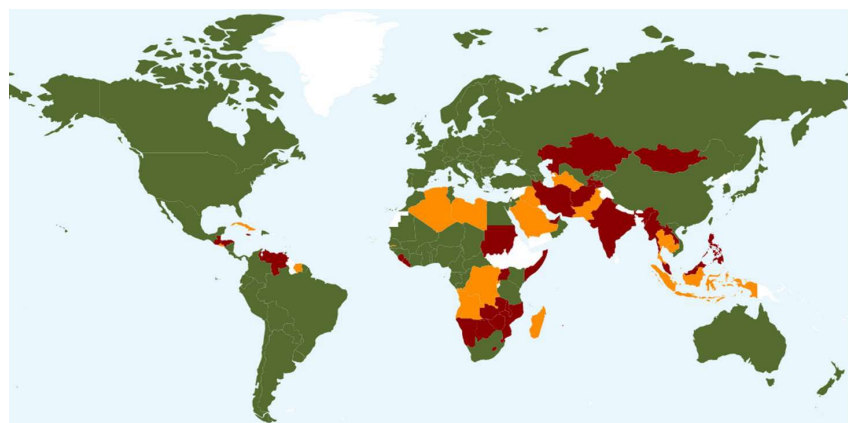
UPOV now has 80 members covering 99 States

By 2050, the global population is projected to reach 9.1 billion

As food demand rises, providing farmers with access to high-quality varieties is crucial to ensuring food security.

Dr. Folarin Sunday Okelola

Registrar, Nigerian Plant Variety Protection Office



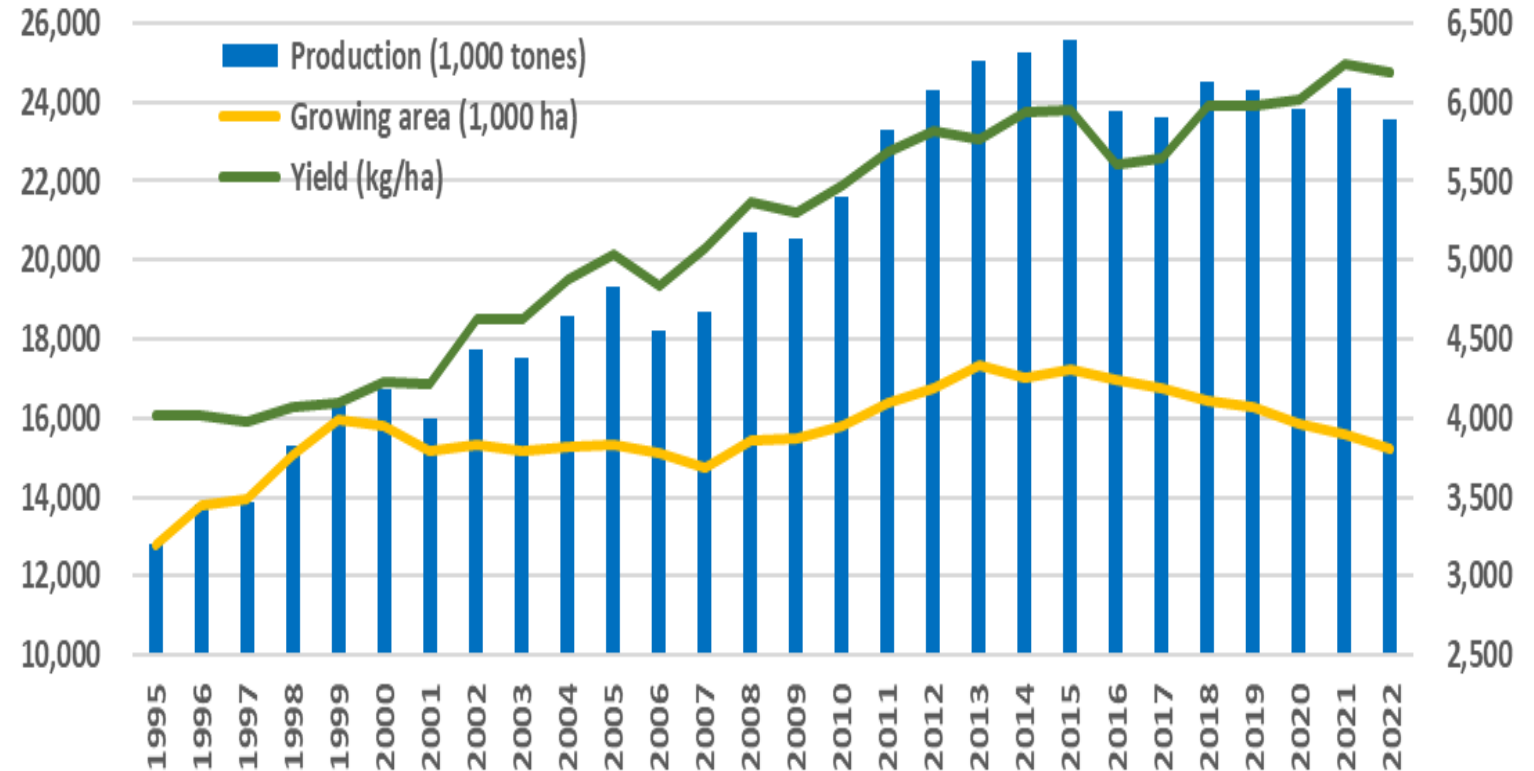
Rice Production in the Mekong Delta of Vietnam

Facts:

- Population: 17.5 M
- Rice land: 1.78 M ha
- Rice grow. area: 3.82 M ha
 - Winter –Spring Crop: 1.50 M ha
 - Summer- Autumn Crop: 1.60 M ha
 - Autumn- Winter Crop: 0.72 M ha

Production (1,000 tonnes)

Growing area (1,000 ha)/Yield (kg/ha)



- The Mekong Delta accounts for over 50% of Vietnam's total rice production and an impressive 90% of its rice exports.



International Cooperation

UPOV plays a key role in **setting the international standards** for plant variety protection in the legal, technical, digital and training areas

The shorter breeding time and commercial cycle of some new varieties encourage UPOV members to find faster, cost-effective ways to grant titles

UPOV Technical Working Parties in 2025

(Testing Methods and Techniques) April 28 - May 1

3rd Session of TWM Advances Tools for Smarter DUS Testing in Beijing



https://www.upov.int/meetings/en/details.jsp?meeting_id=85856

International Cooperation

UPOV will continue exploring the use of DNA-based information and phenotyping tools, such as image analysis, automation of collection of data/processes to assist in variety examination

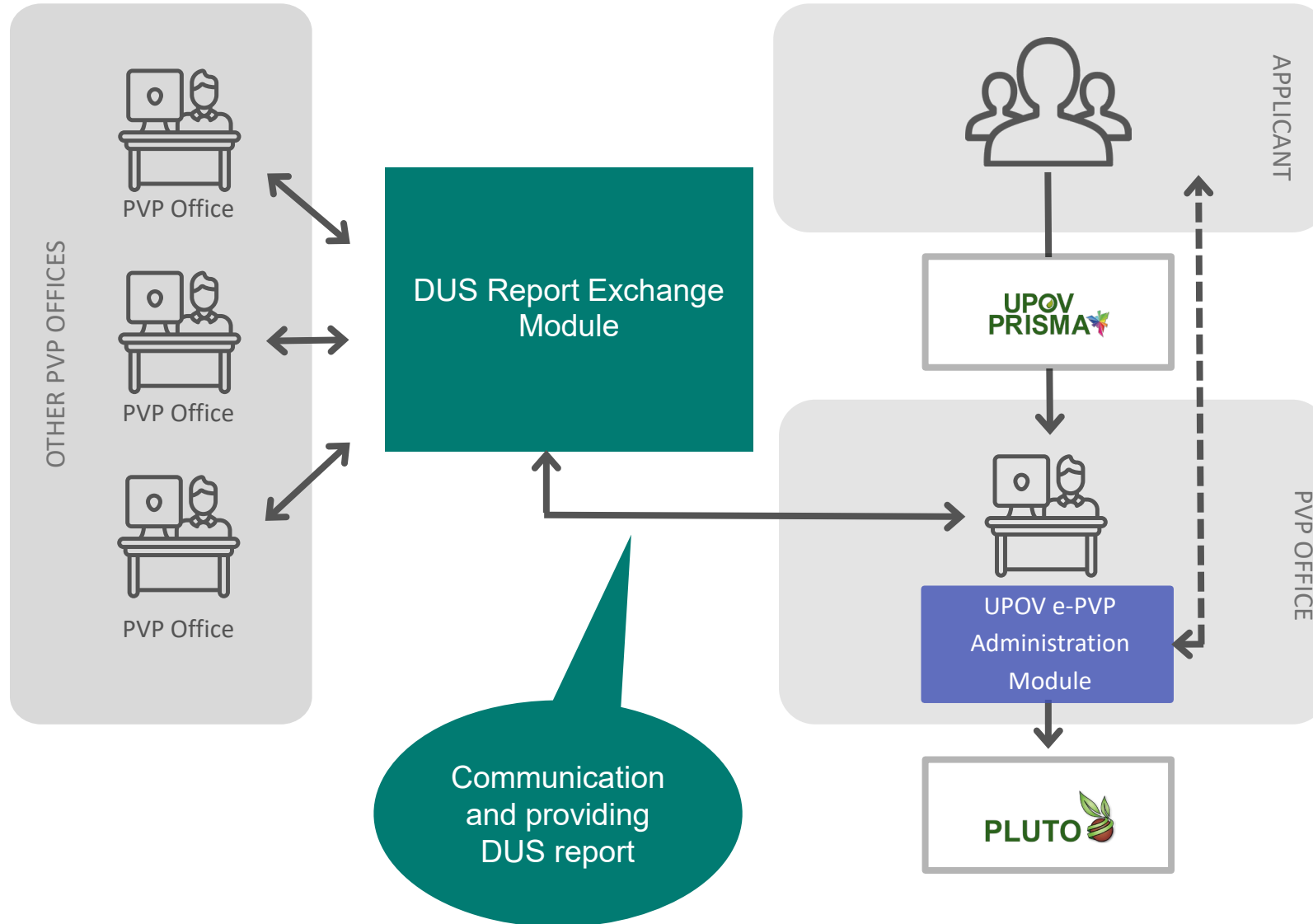
Utilize image analysis technology to improve the efficiency of maize phenotype data collection and analysis in China

Unmanned Aerial Vehicle-Based Field Phenotyping in the Agricultural DUS testing



UPOV e-PVP

Focus on digitalization services for UPOV members – leaving no one behind



Current Coverage



The boundaries shown on this map do not imply the expression of any opinion whatsoever on the part of UPOV concerning the legal status of any country or territory.

**37 UPOV
members**

**covering 76
countries***

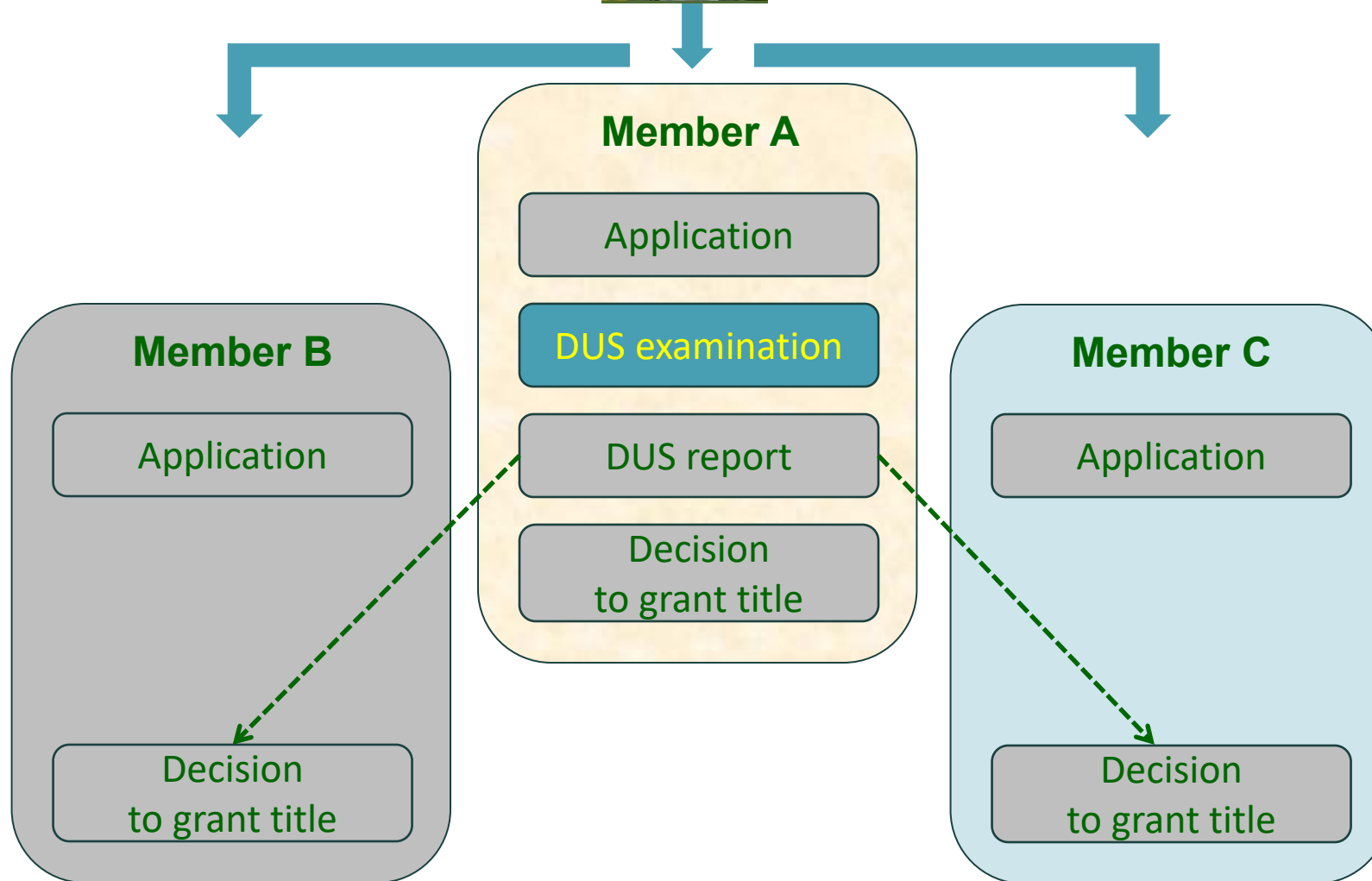
*including European Union (CPVO) and African Intellectual Property Organization (OAPI)

African Intellectual Property Organization (OAPI)
Argentina
Australia
Bolivia (Plurinational State of)
Canada
Chile
China
Colombia
Costa Rica
Dominican Republic
Ecuador
European Union (CPVO)
France
Georgia
Kenya
Mexico
Morocco
Netherlands
New Zealand
Norway
Paraguay
Peru
Republic of Moldova
Republic of Korea
Republic of Tanzania
Serbia
South Africa
Sweden
Switzerland
Trinidad and Tobago
Tunisia
Türkiye
United Kingdom
United States of America
Uruguay
Viet Nam

DUS Cooperation between Authorities

Cooperation between Authorities can involve:

- **use of DUS Test Reports** from other Authorities
- **bilateral arrangements** to remove the need for duplication of DUS Tests
- **centralized DUS testing** at regional or global level



UPOV Model administrative agreement
(TGP/5): 350 CHF (prior application)



DUS Cooperation between Authorities

Cooperation between Authorities is important for:

- **minimizing** the **time** for DUS examination
- **minimizing** the **cost** of DUS examination
- **optimizing examination of Distinctness** in growing trials
- **offering protection for all plant genera and species**

UPOV Launches New Report Exchange Module to Strengthen International Cooperation in the Examination of PVP Applications

UPOV e-PVP DUS Report Exchange Module

Product Features

- ✓ Make existing reports available through the tool. (option for bulk-uploading)
- ✓ Search for existing reports.
- ✓ Make a request for information on the possibility to obtain a report not yet made available.
- ✓ Track the history of each request.
- ✓ Communicate with the providing/receiving PVP office.
- ✓ Get notifications when a report is made available.
- ✓ Download available reports.

Economic Benefits: Kenya's Floriculture Industry

Access to new plant varieties from UPOV members promotes horticultural trade

- Kenya is a leading exporter in cut flowers
- **breeders of roses feel confident** to have their new varieties being protected and commercial exploited in Kenya
- the altitude is very important, you get larger rose heads, better quality flowers because the relevant locations in **Kenya are at 2400** meters above sea level.



Economic Benefits: Kenya's Floriculture Industry

Joining UPOV sends a clear message to breeders

- The floriculture sector in Kenya has had an impressive development
- Breeders invest important financial and other resources to **develop new varieties for roses** – the process may take between **five to seven years**, then the first **economical return will come after seven years**



Economic Benefits



<https://arandanosperu.pe/2021/06/17/peru-exporto-arandanos-por-us-1000-millones-y-fue-el-principal-exportador-del-mundo-por-segunda-vez/>

JUNIO 17, 2021

NORMA ROJAS MARROQUIN

Perú exportó arándanos por US\$ 1,000 millones y fue el principal exportador del mundo por segunda vez



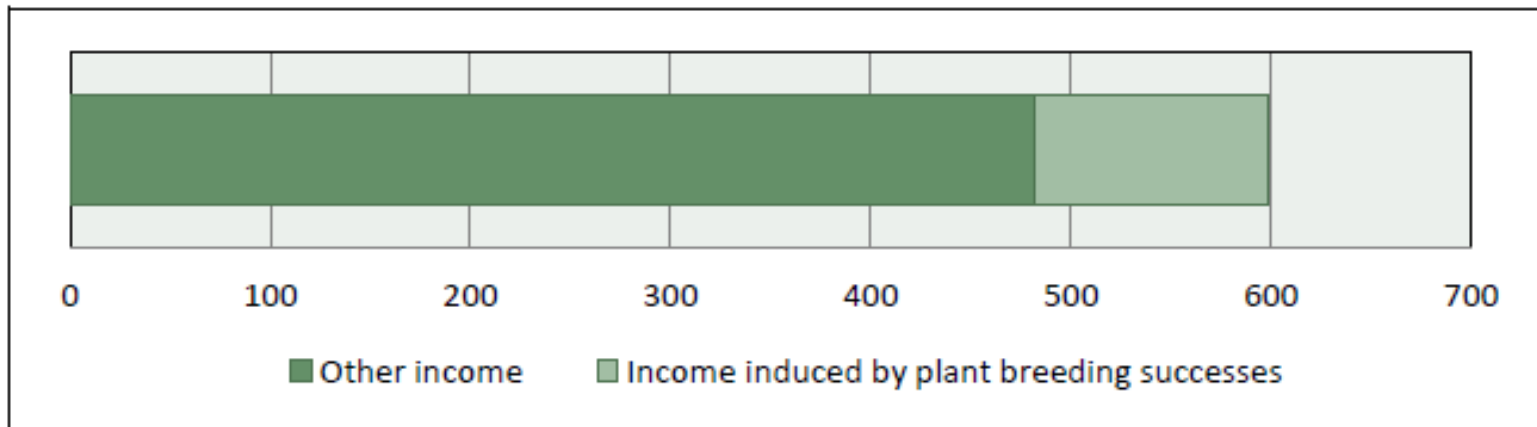
In 2021 Peru became the first world exporter of blueberries for the second time with more than 60 new varieties of blueberries protected since Peru became a UPOV member.

Study in Viet Nam

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

Photo: iStock / Rawpixel

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.

Economic benefits: impact study in Viet Nam*

A Study on the impact of plant variety protection in Viet Nam after its tenth anniversary of UPOV membership in 2017

provides that the Gross Domestic Product (GDP) added upstream and downstream (value chains) amounts to USD1.5 billion

total added value to the economy of Viet Nam amounts annually to USD5 billion (>2.5 percent GDP)

- **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 %
 - **Sweet potatoes** 3.1 %

- “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

HFFA Research GmbH

The socio-economic benefits
of UPOV membership in Viet Nam:

An ex-post assessment on plant
breeding and agricultural productivity
after ten years

Corresponding author: Steffen Noleppa

Agricultural Sustainability



Meet Dr. Mary Mgonja a Tanzanian plant breeder using the UPOV system as a force for good

In her words: “Plant variety protection helps me ensure that farmers I’m working with receive the authentic varieties they pay for, safeguarding them from counterfeit seeds. This protection not only preserves the integrity of my work but also guarantees that farmers benefit from the high-quality, resilient crops they rely on.”



[@International Union for the Protection of New Varieties of Plants](#)



[@UPOVint](#)

Using the UPOV System to benefit custodians of **native wild germplasm** in Argentina



A large part of the profits, basically, 50 per cent, that are generated from the commercialization return to those provinces.

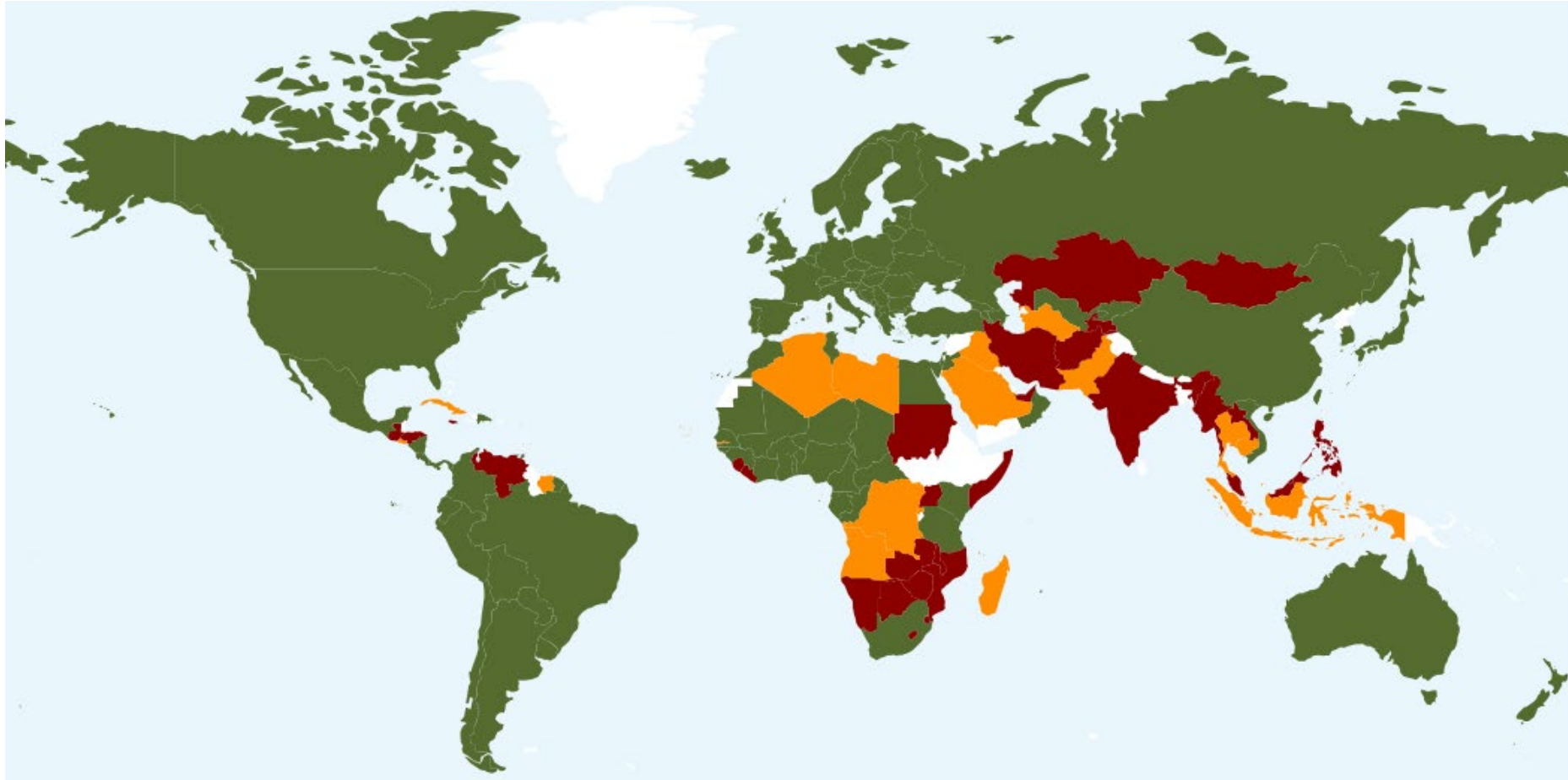
The royalties derived from commercialization of the variety are shared between the breeder and the provinces that contributed the native plant genetic resource.

The erosion/loss from their natural habitat is reduced and this is therefore our own contribution, working together with INTA, for the conservation of our native natural resources.



UPOV STATUS

on August 4, 2025



The boundaries shown on this map do not imply the expression of any opinion whatsoever on the part of UPOV concerning the legal status of any country or territory

- Members of UPOV (80) (covering 99 States)
- Initiating States (18) and Organization (1)
- States (28) and Organization (1) in contact with the UPOV Office

UPOV Status in ASEAN Member States (AMS)

UPOV Members in AMS (2)

Singapore, Viet Nam

AMS Initiating Procedure for Acceding to UPOV (5)

Brunei Darussalam, Lao PDR, Malaysia, Myanmar, Philippines

AMS in contact with the UPOV Office for Assistance in the Development of Laws (3)

Cambodia, Indonesia, Thailand

Becoming a UPOV Member – Process

- a) Policy decision to draft legislation in accordance with the 1991 Act of the UPOV Convention
- b) Ask Council of UPOV to advise on conformity of its law (Article 34(3) of the Convention)
- c) If the advice of the Council is positive: deposit the instrument of accession
- d) Becomes a UPOV member one month after depositing the instrument of accession

Communication strategy on UPOV/PVP benefits

UPOV International Union for the Protection of New Varieties of Pl...
6,495 followers
5d • Edited • 🌐

What is the Plant Breeders' Exemption?

Did you know breeders can use protected plant varieties to develop new ...more

UPOV International Union for the Protection of New Varieties of Pl...
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Myth 🗑️ or Fact 🍷?

There's a lot of misinformation about plant breeding and plant variety ...more

UPOV Plant Breeders' Exemption • 3 pages

What is the Plant Breeders' Exemption?

The plant breeder's exemption in the UPOV Convention is a rule that allows breeders to use protected plant varieties to create new varieties without needing permission from the breeder of a protected variety.

In simple terms, it promotes innovation by enabling plant diversity to be available for further breeding of new improved varieties as acts done for breeding other varieties are not subject to any restriction by the breeder.



🌐🌐🌐 Marlène Borlant and 74 others

11 reports

UPOV International Union for the Protection of New Varieties of Pl...
6,495 followers
1mo • 🌐

"I became a breeder because of the real life needs of my community. Most of the local farmers need a [#NewPlantVariety](#) that delivers high yields and supports the economic development of their families." ...more



Pham owns the **plant breeders' rights** to the new variety

🌐🌐🌐 You and 40 others

1 comment • 8 reposts

Plant Breeding Myths • 6 pages

Debunking Plant Breeding Myths

Separating Fact from Fiction



and 103 others

9 comments • 25 reports