

# Benefits of the UPOV system of Plant Variety Protection for agriculture development

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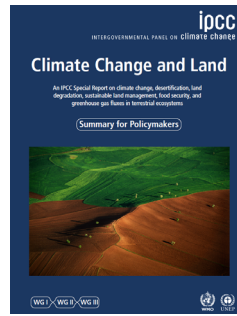
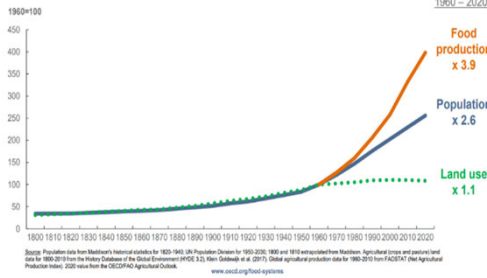
*August 3, 2023  
Vientiane, Lao PDR*



## Preview

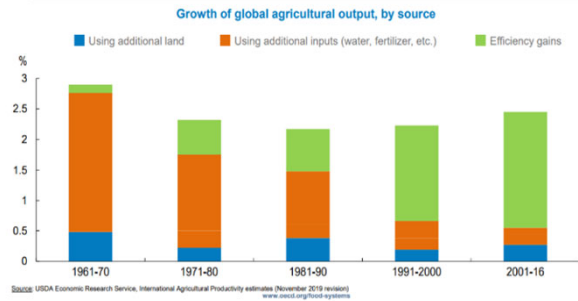
1. How to encourage the development of new improved varieties
2. Example of benefits in UPOV system for agriculture development (for society)
3. Services for UPOV members and users of the UPOV system

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



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



# UPOV

## 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**



## Why is UPOV membership important?

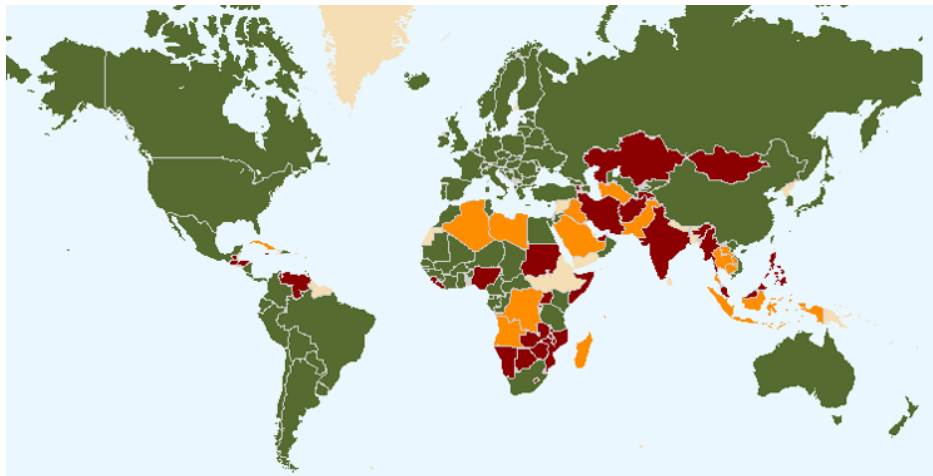


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### UPOV STATUS

on May 23, 2023



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 (78) (covering 97 States)
- Initiating States (19) and Organization (1)
- States (25) and Organization (1) in contact with the UPOV Office

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## 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**

## Preview

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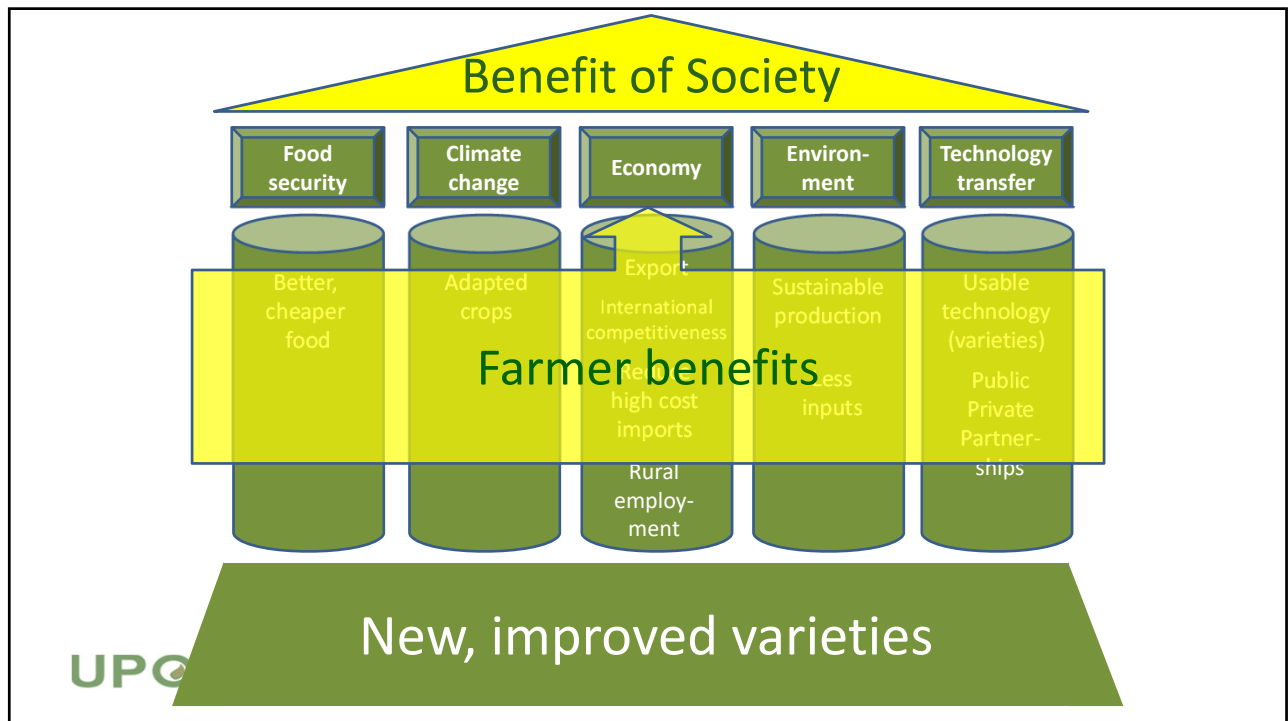


What **benefits** do you think **plant breeding** can provide for **society** (agriculture development)

?

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## 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 %

**Annual value added:**

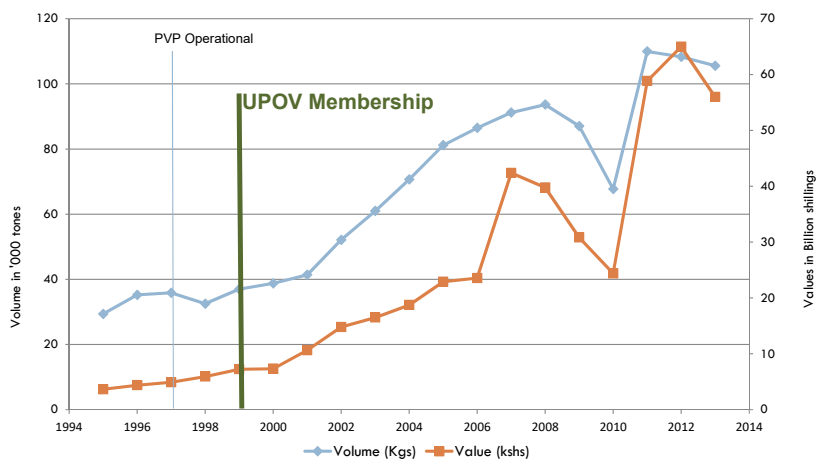
- Arable farming \$2.3 billion
- Horticulture \$1.0 billion
- Floriculture \$ 0.2 billion
- GDP added upstream/downstream (value chains) \$1.5 billion

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

- “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](https://www.upov.int/about/en/benefits_upov_system.html)



## 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.



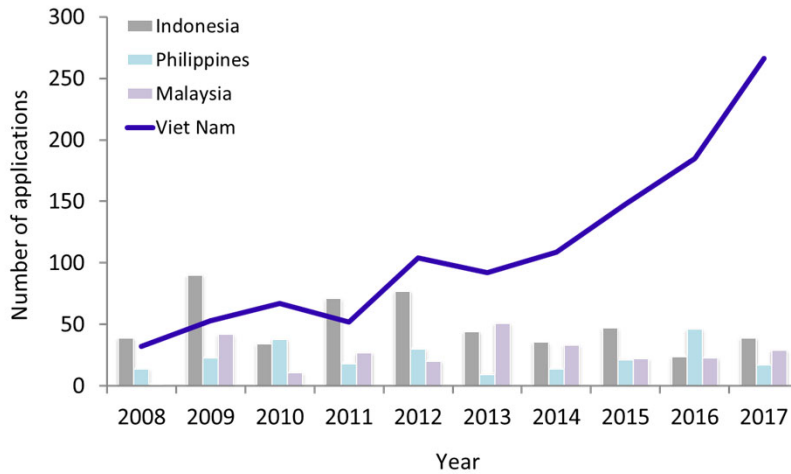
## Impact of PVP in Kenya

### 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

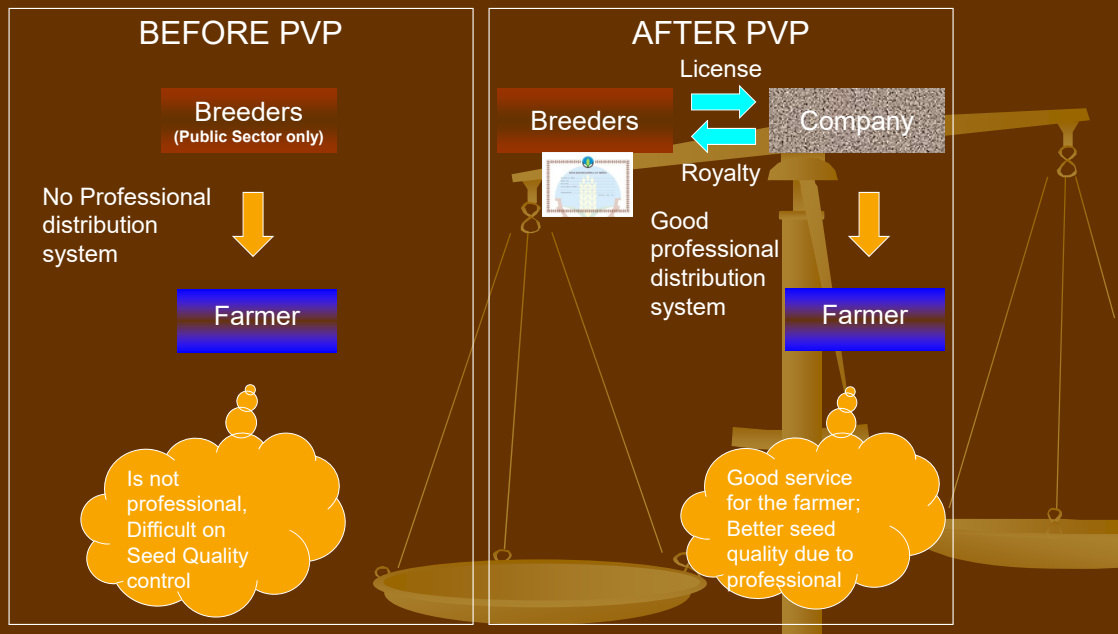


## Applications for Plant Breeders' Rights

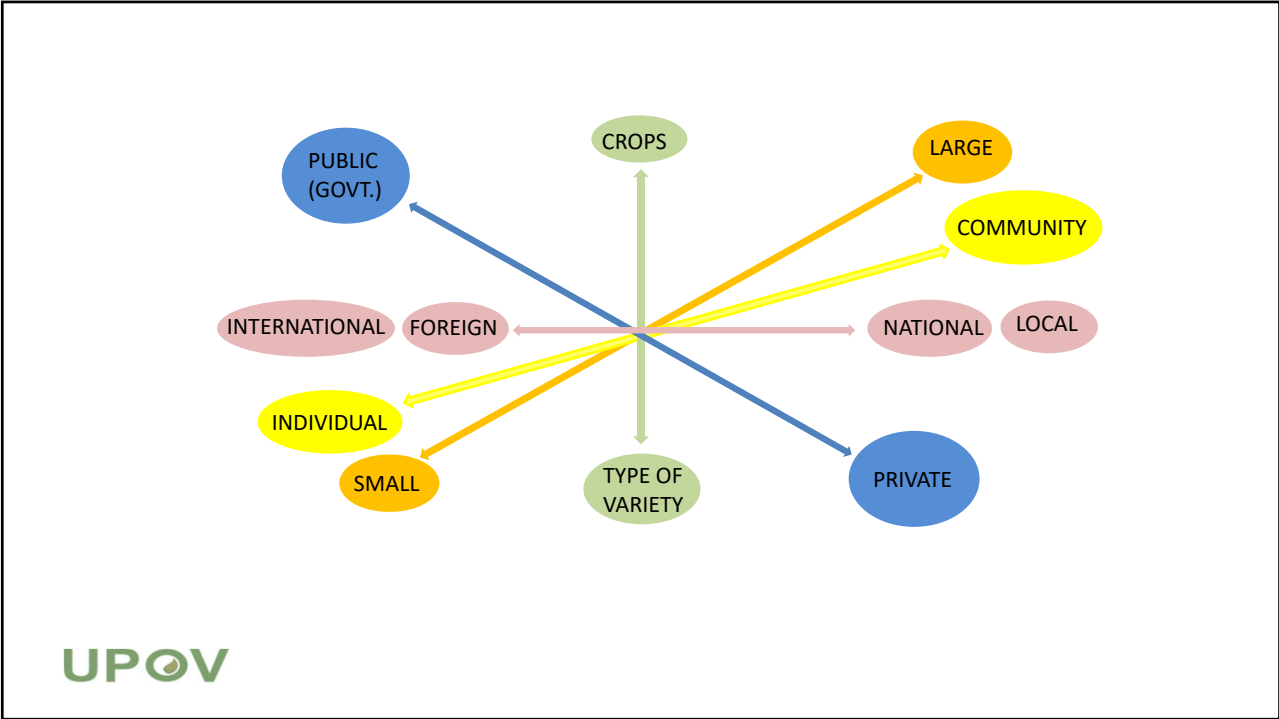


1. Erizal Jamal, Director, Center for Plant Variety Protection & Agriculture Permits, Indonesia. 10<sup>th</sup> East Asia Plant Variety Protection Forum Meeting
2. Dr. Mary Ann P. Sayoc, President, Philippine Seed Industry Association. National Seminar on Benefit of The Plant Variety Protection System,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

## Seed Quality and Service is improved by a new system







How can PVP be used to achieve maximum "public good"?

The slide features a vertical strip on the left with images of a windmill, a water tap, a field of crops, and a hand holding a plant. The main content is a question: "How can PVP be used to achieve maximum 'public good'?" Below the question, a blue arrow points from a grey circle labeled 'PRIVATE' to a grey circle labeled 'PUBLIC (GOVT.)'. The background has a light blue abstract pattern.



# 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



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### The World

\$16.50/1000 plants royalty<sup>1</sup>

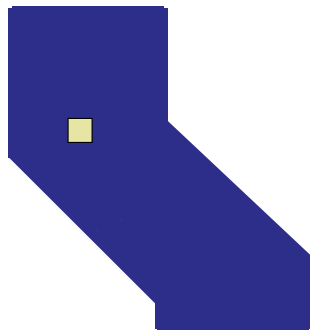
### United States

\$9.00/1000 plants royalty

<sup>1</sup>royalty shared between UC and master licensees

### California

\$8.00/1000 plants royalty



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### 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

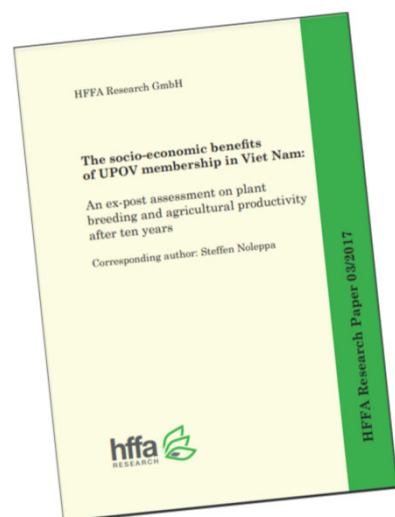
Items	Protected Varieties	Non protected varieties
Price of Seed (rice, USD/1 kg)	<del>1.39</del>	0.64
Price of commercial grain is sold by farmer (rice, USD/Ton)	<del>292</del>	236
Average income in 1 ha for farmer (rice); USD	<del>1897</del>	1298
Benefits from seed of protected varieties	<ul style="list-style-type: none"> <li>✓ Better quality, productivity</li> <li>✓ Better tolerance in bad climate and diseases, insect</li> </ul>	<ul style="list-style-type: none"> <li>?</li> <li>?</li> </ul>
* Source: VINA Seed Corporation (report on Nov. 2020)	for production	?



# UPOV = more choice for farmers...

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## Benefits of the UPOV System: publications



## 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

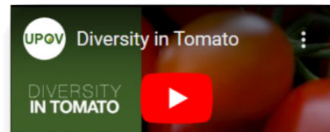


### China



### Netherlands

How UPOV helps a family plant breeding business to operate globally



### Diversity in Tomato

How plant breeding has increased diversity in tomato



## 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

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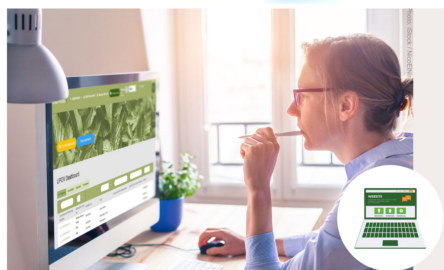
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## UPOV PRISMA

*Online PBR Application Tool*



A tool to facilitate submission of  
**Plant Breeders' Rights** applications



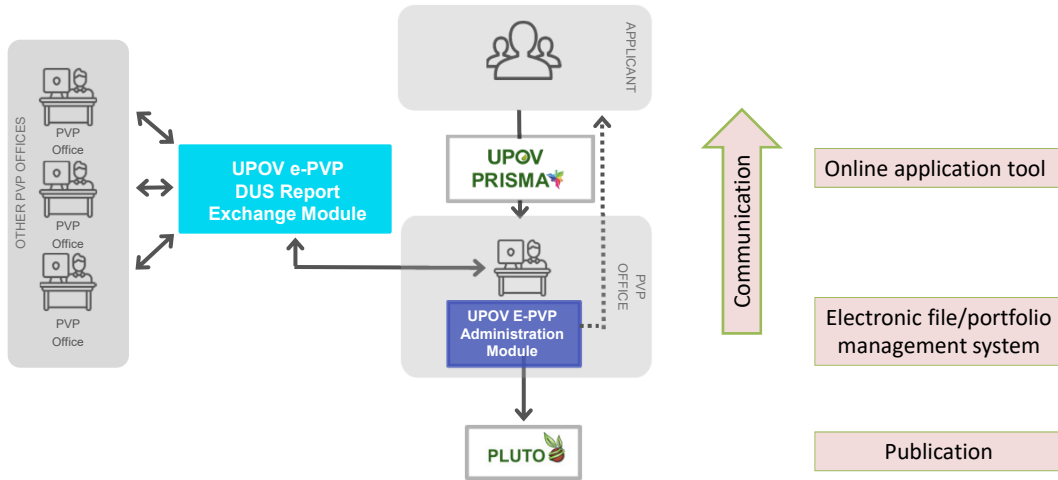
## UPOV PRISMA

### UPOV PRISMA PBR Application Tool

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

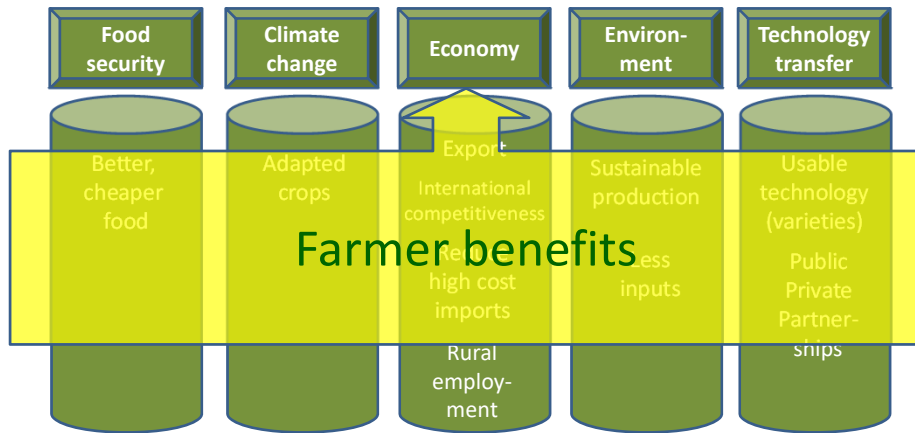
[www.upov.int/upovprisma](http://www.upov.int/upovprisma)

## UPOV e-PVP : Only for UPOV members



UPOV

## Benefit of Society



New, improved varieties

UPOV