

*National Seminar on Opportunities/Challenges
in Commercialization of Plant Varieties*

**Introduction to UPOV/
Role of PVP in Technology Transfer
and the Commercialization of
New Plant Varieties**

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Technical/Regional Officer (Asia), UPOV

Ho Chi Minh City, Viet Nam, August 24, 2017



OVERVIEW

- What is UPOV, PVP and PBR?
- Role of PVP in technology transfer and commercialization of plant varieties
- Enforcement of PBR

UPOV: INDEPENDENT INTERGOVERNMENTAL ORGANIZATION

The International **Convention** for the Protection of New Varieties of Plants

established in 1961

The International **Union** for the Protection of New Varieties of Plants

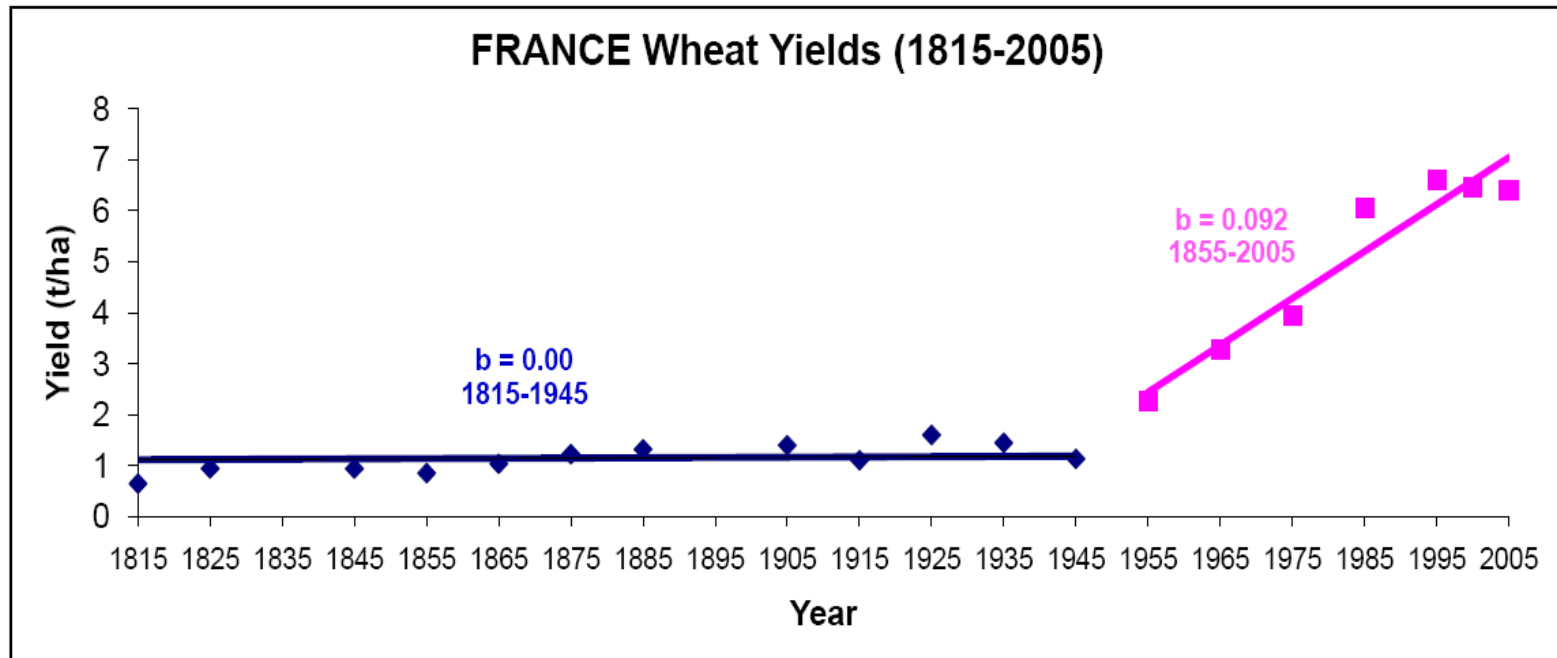
Union internationale pour la protection des **o**btentions **v**égétales



MISSION STATEMENT

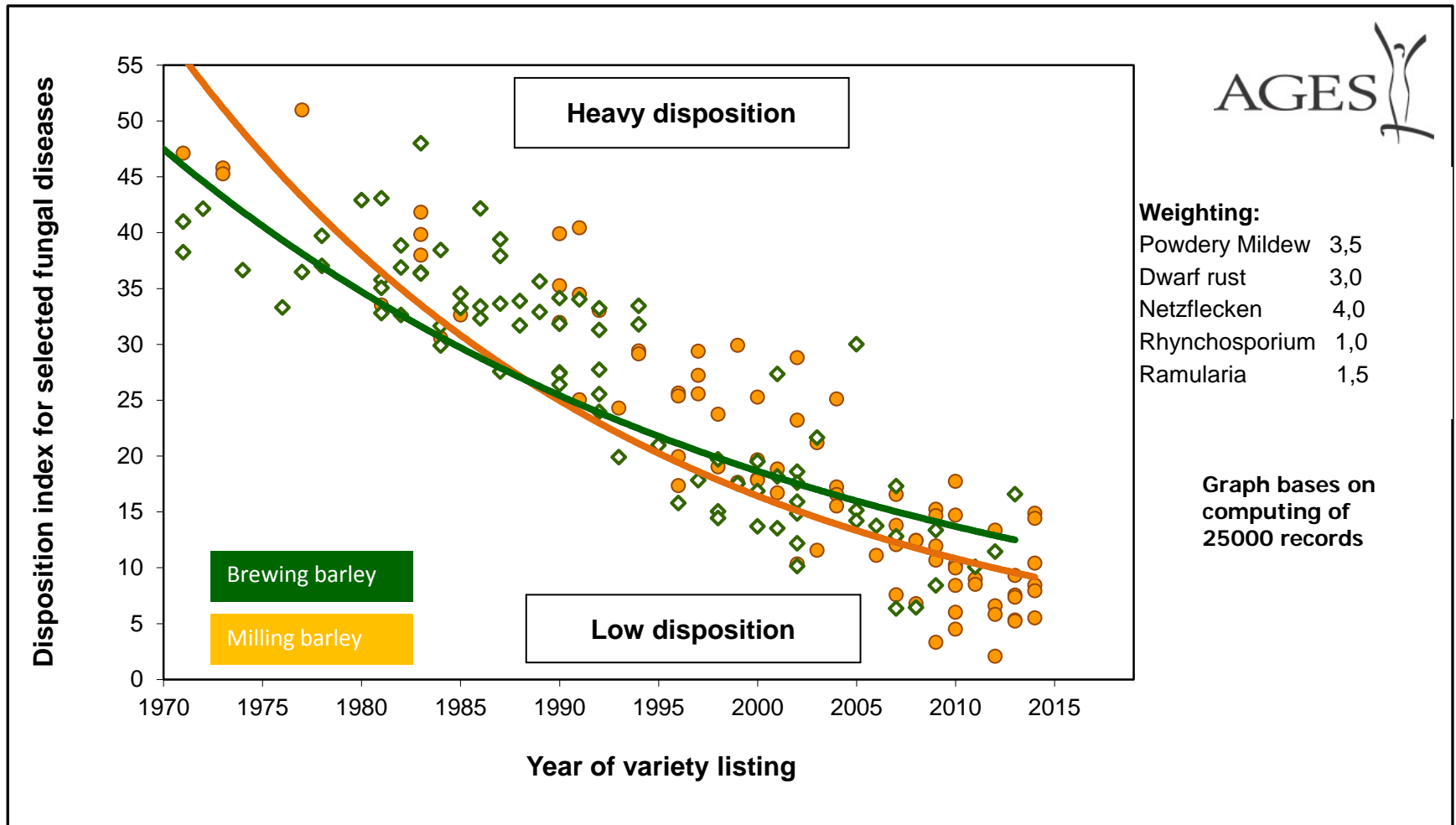
“To provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society”

Evolution of Wheat yield in France



Bernard Le Buanec,
Second World Seed Conference (Rome, September 2009)

Disposition for selected diseases on varieties on summer barley Pannonic (dry) climate zone of eastern Austria



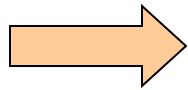
Source: Austrian Agency for Health and Food Safety, 2015: Austrian descriptive list of varieties of agricultural crop species, Issue 21/2015, ISSN 1560-635X.

Mr. Clemens Flamm

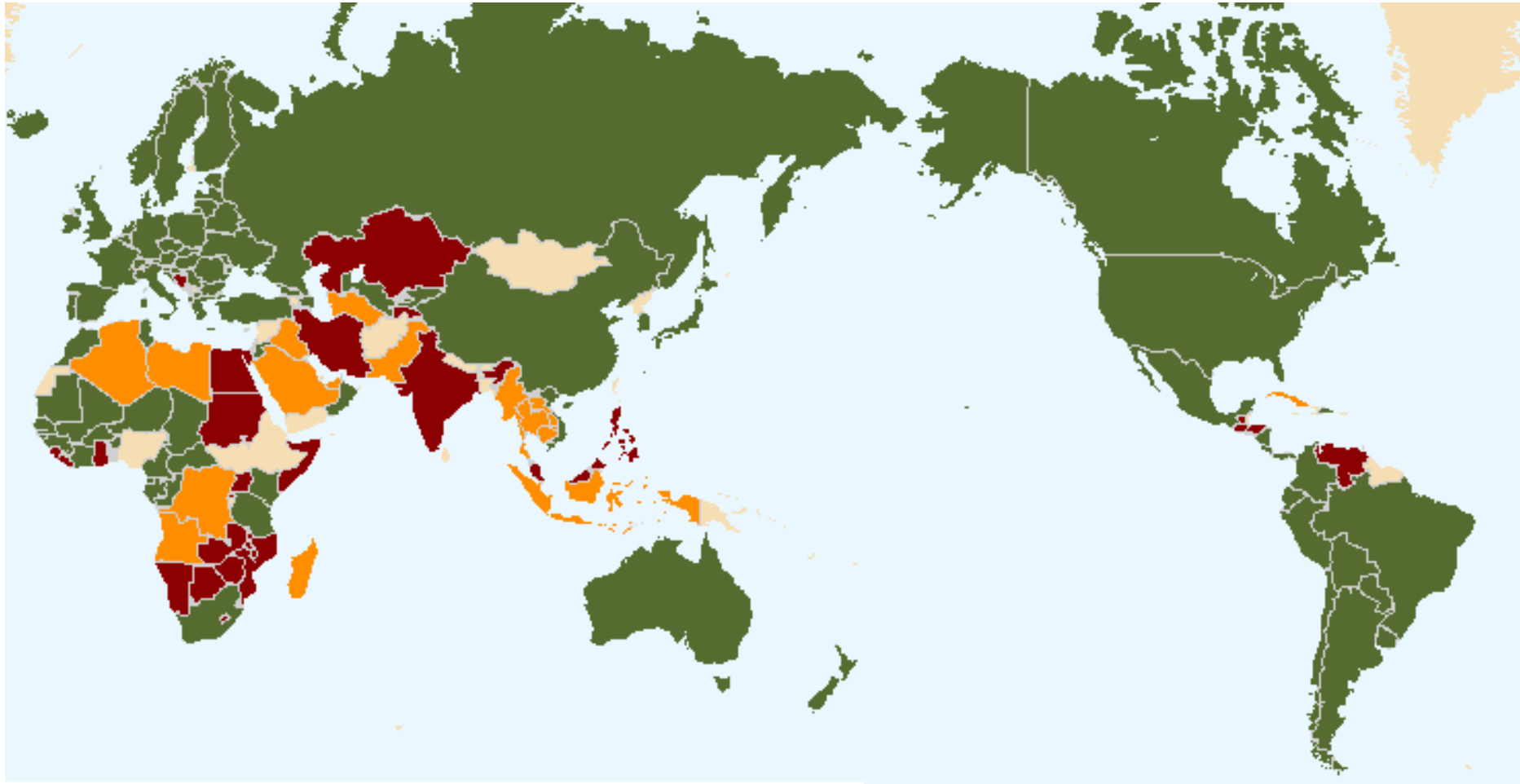


UPOV MISSION STATEMENT

“To provide and promote an **effective system of plant variety protection (PVP), [...]**”



UPOV status



Members of UPOV (74) covering 93 States

Initiating States (16) and Organization (1)

States (24) and Organization (1) in contact with the UPOV Office

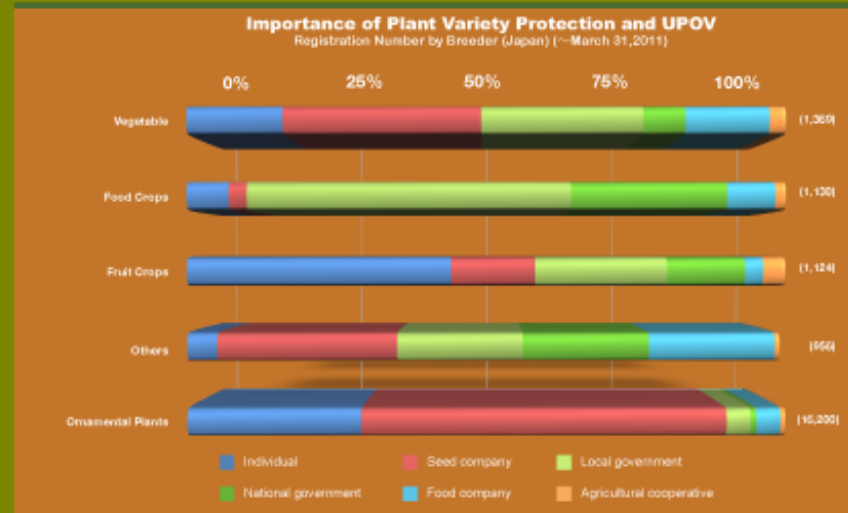
The boundaries shown on this map do not imply the expression of any opinion whatsoever on the part of UPOV concerning the legal status of any country or territory

OVERVIEW

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Who can protect a plant variety?

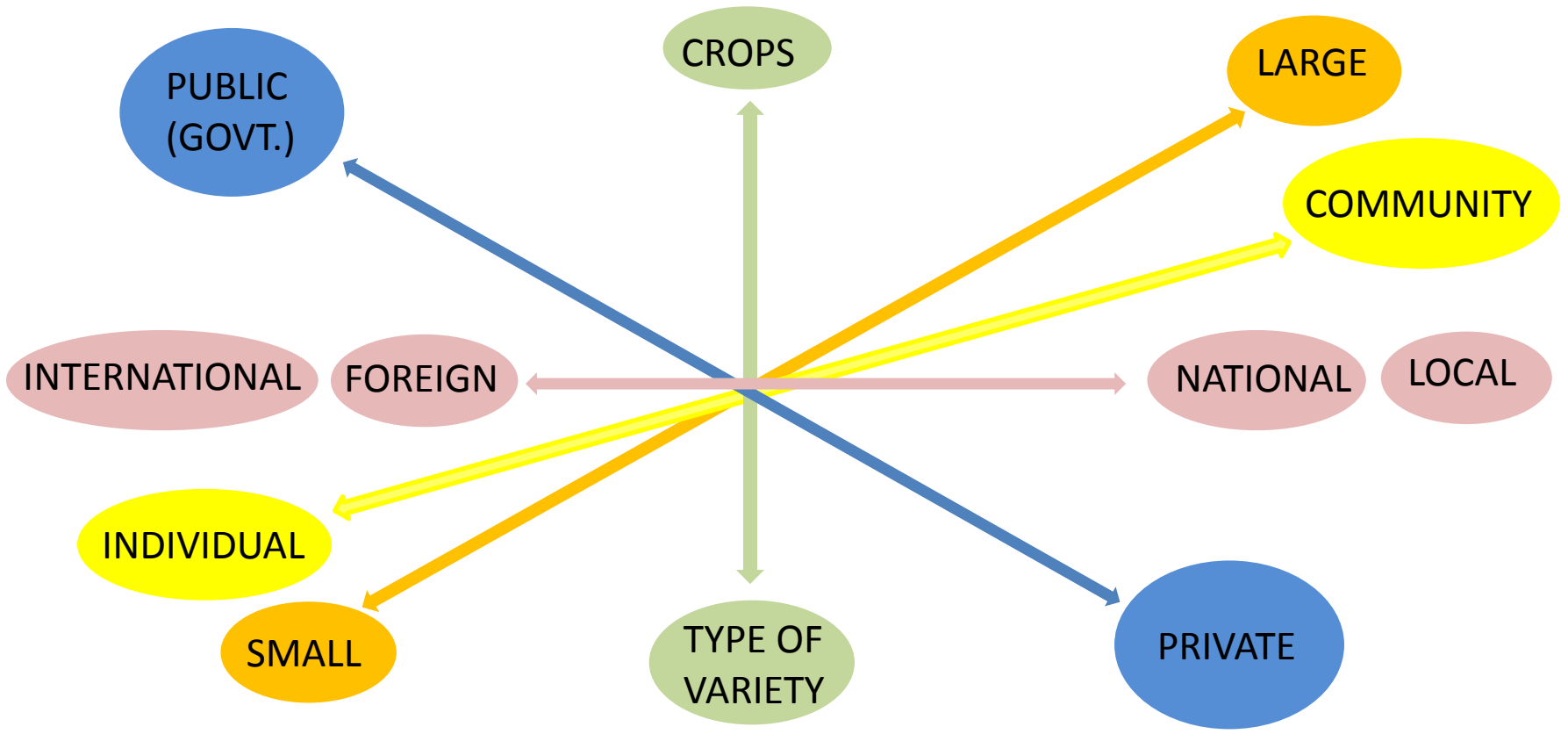
There are no restrictions on who can be considered to be a breeder under the UPOV system: a breeder might be an individual, a farmer, a researcher, a public institute, a private company etc.



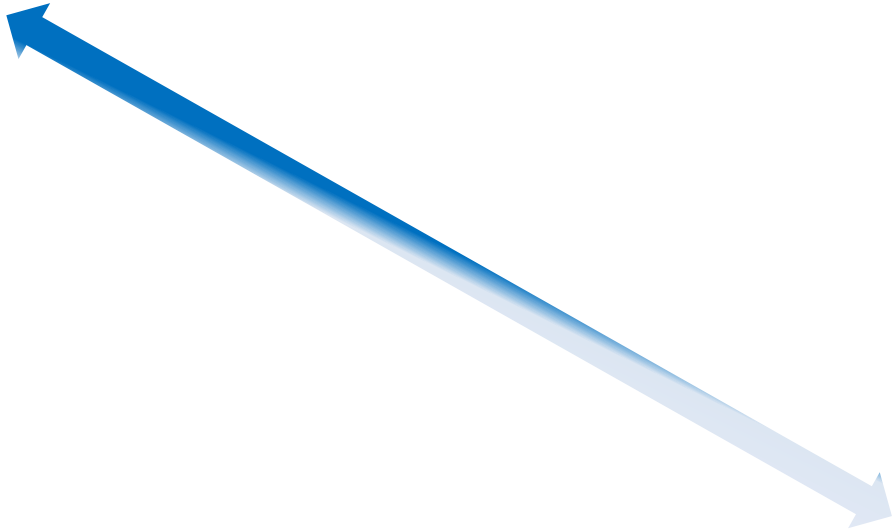
Japan Registration Case Study

(click to see full view)





PUBLIC
(GOVT.)



PRIVATE



What are the practical challenges for technology transfer and commercialization?

or...

How to:

- identify important variety performance characteristics for farmers
- breed varieties with those characteristics
- deliver good quality seed/propagating material in a timely way

What are the practical challenges for technology transfer and commercialization?

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or...

How to:

- identify important variety performance characteristics for farmers,
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PUBLIC SECTOR **PRIVATE SECTOR**

BREEDERS



PRODUCTION & DISTRIBUTION

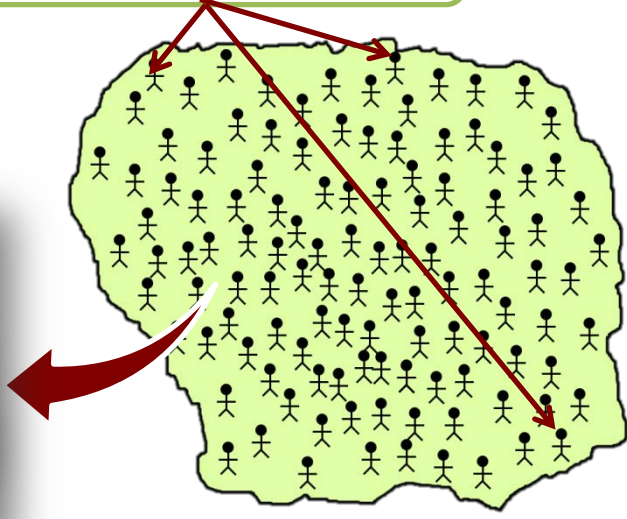
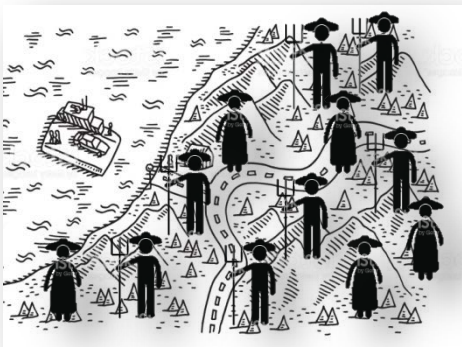
PBR LICENCES

SEED PRODUCERS / PLANT PROPAGATORS

DISTRIBUTORS

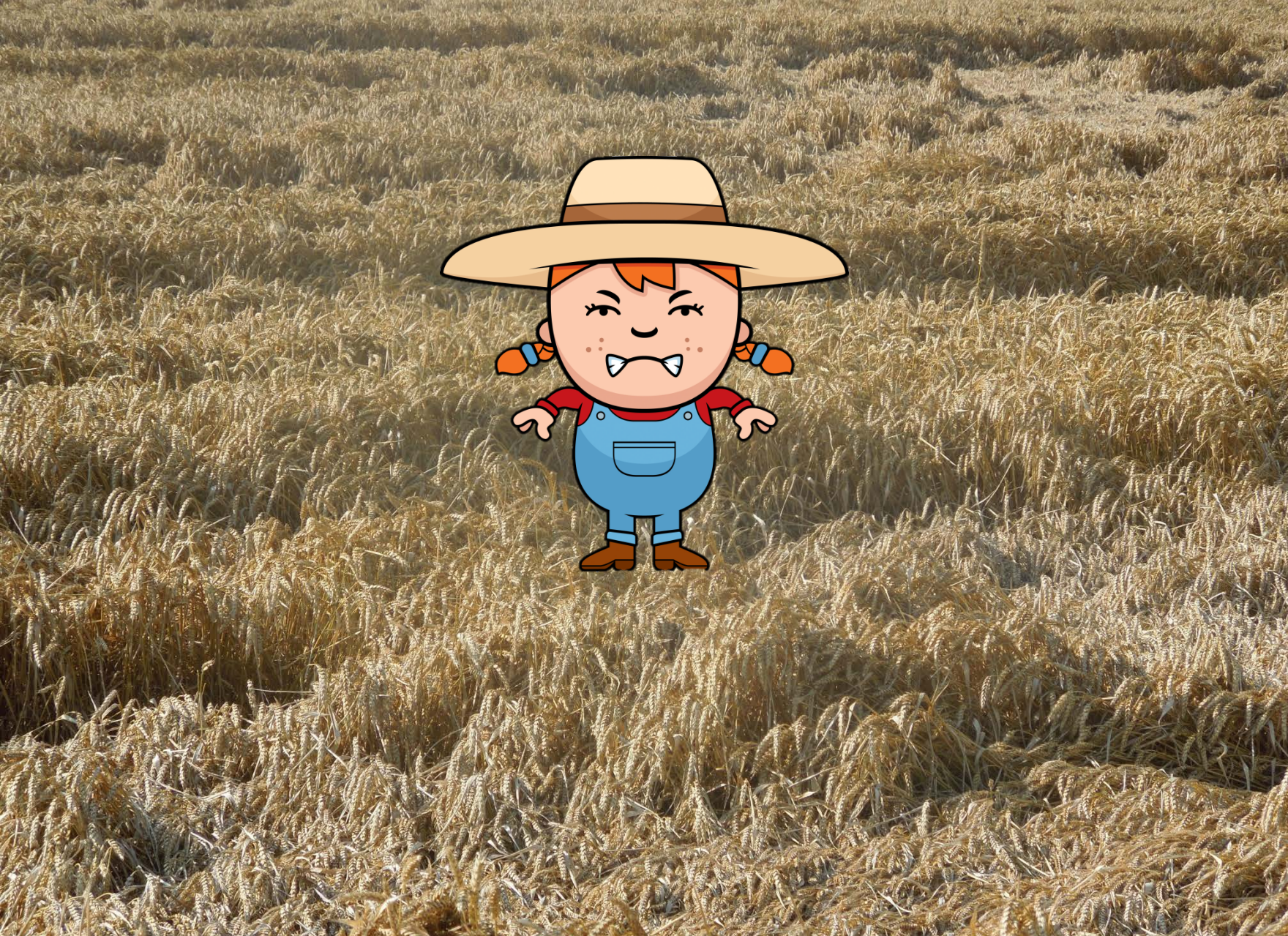


FARMERS



SEED

INFORMATION

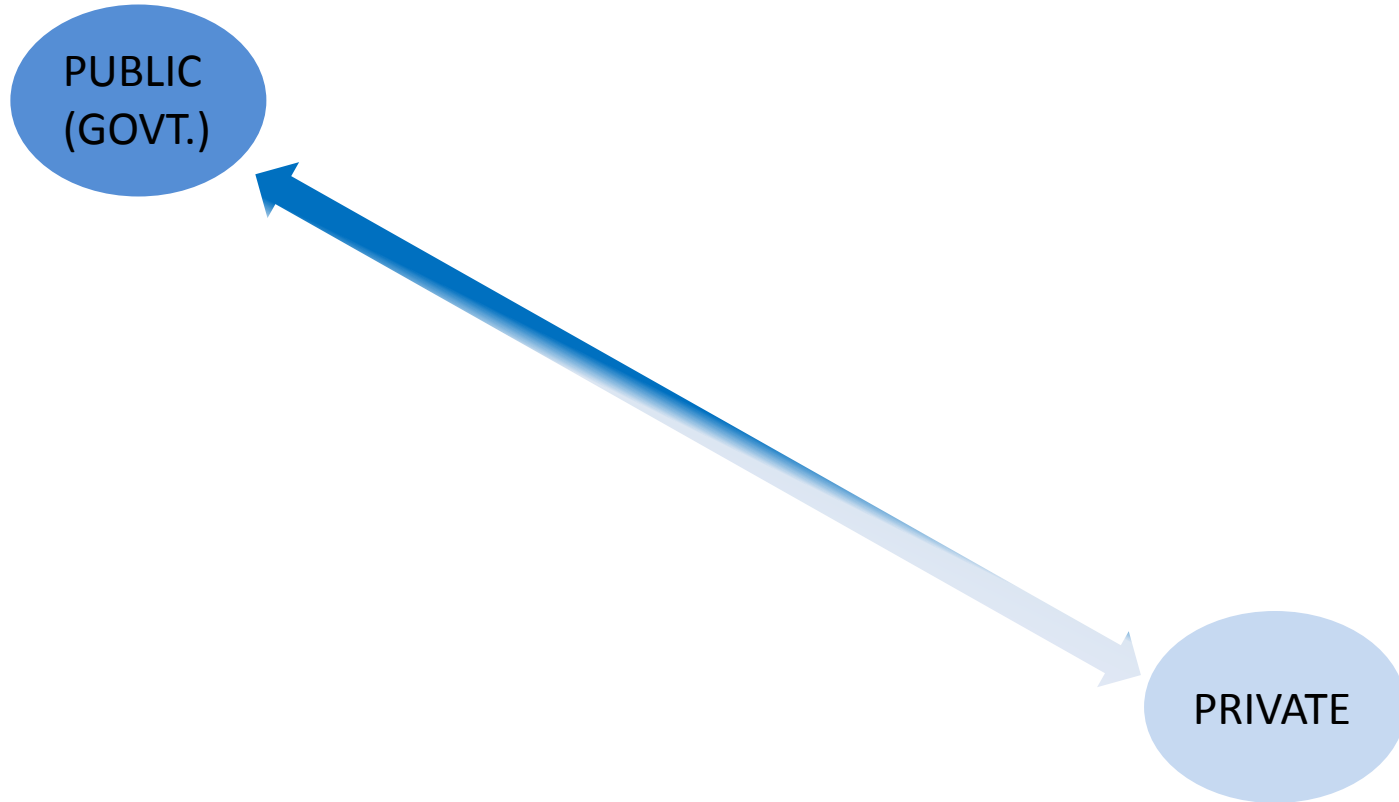




Breeder Performance Test Trials



How can PVP be used to achieve maximum “public good”?





Changing Licensing Models of Public Breeding Institutes: panel discussion

CIOPORA AGM Week – Toronto – April 27, 2017

Plant Variety Licensing at UC Davis

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



Connecting research to market

A UNIT OF THE OFFICE OF RESEARCH



Plant variety licensing at UC Davis

- » **Fair value for public asset**
- » **California advantage**
 - 1st access to new varieties
 - Preferential royalty rates
 - Preferential (broader) sales territories
- » **Transfer of know-how**
- » **Licensing - reactive to breeding outcomes**



ARC • LNR

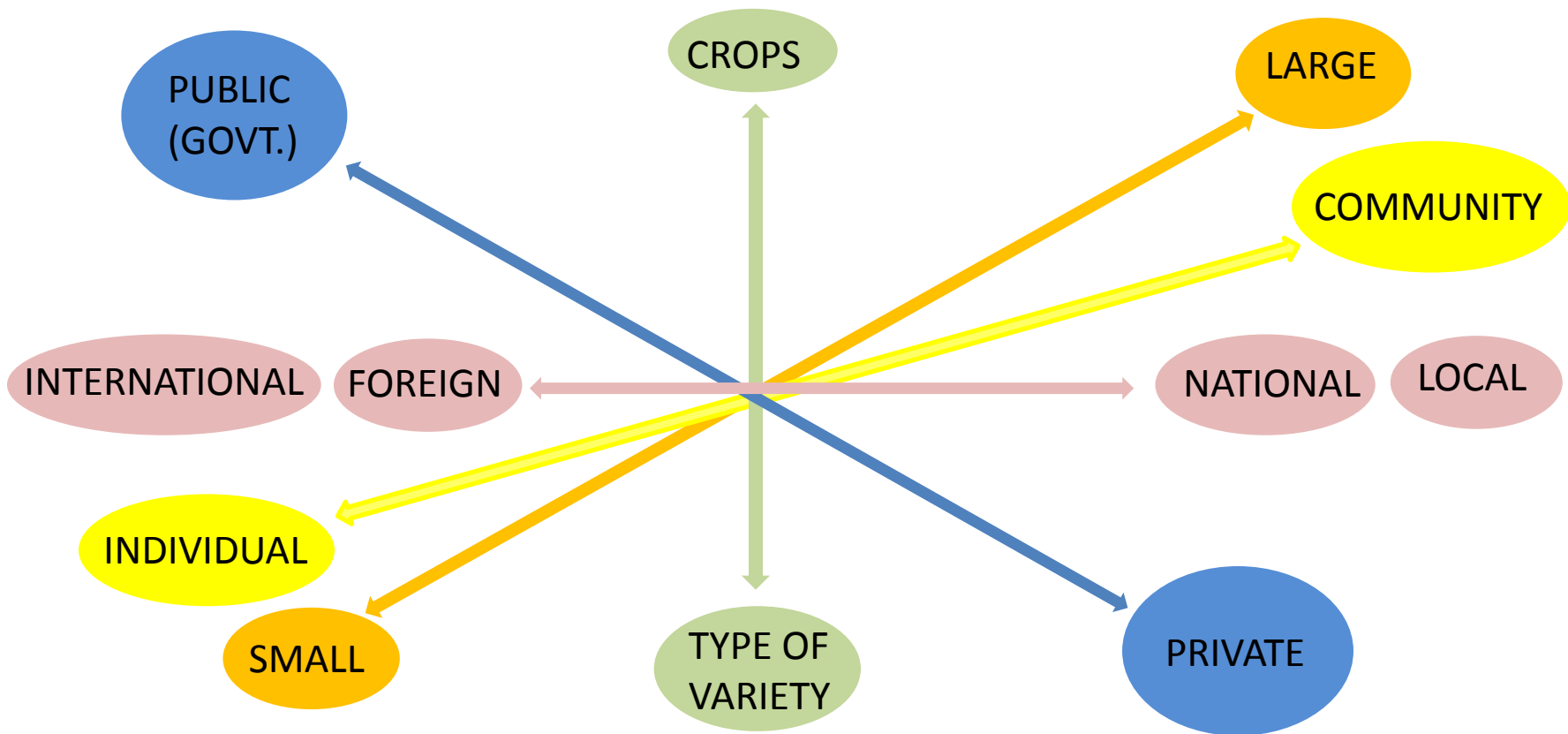
Excellence in Research and Development

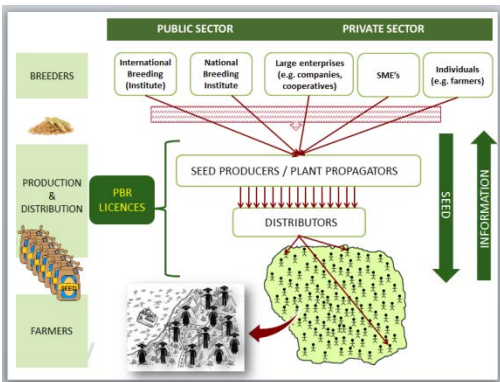
The role of the Agricultural Research Council in delivering high performance varieties to subsistence or smallholder farmers

Vuyisile Phehane

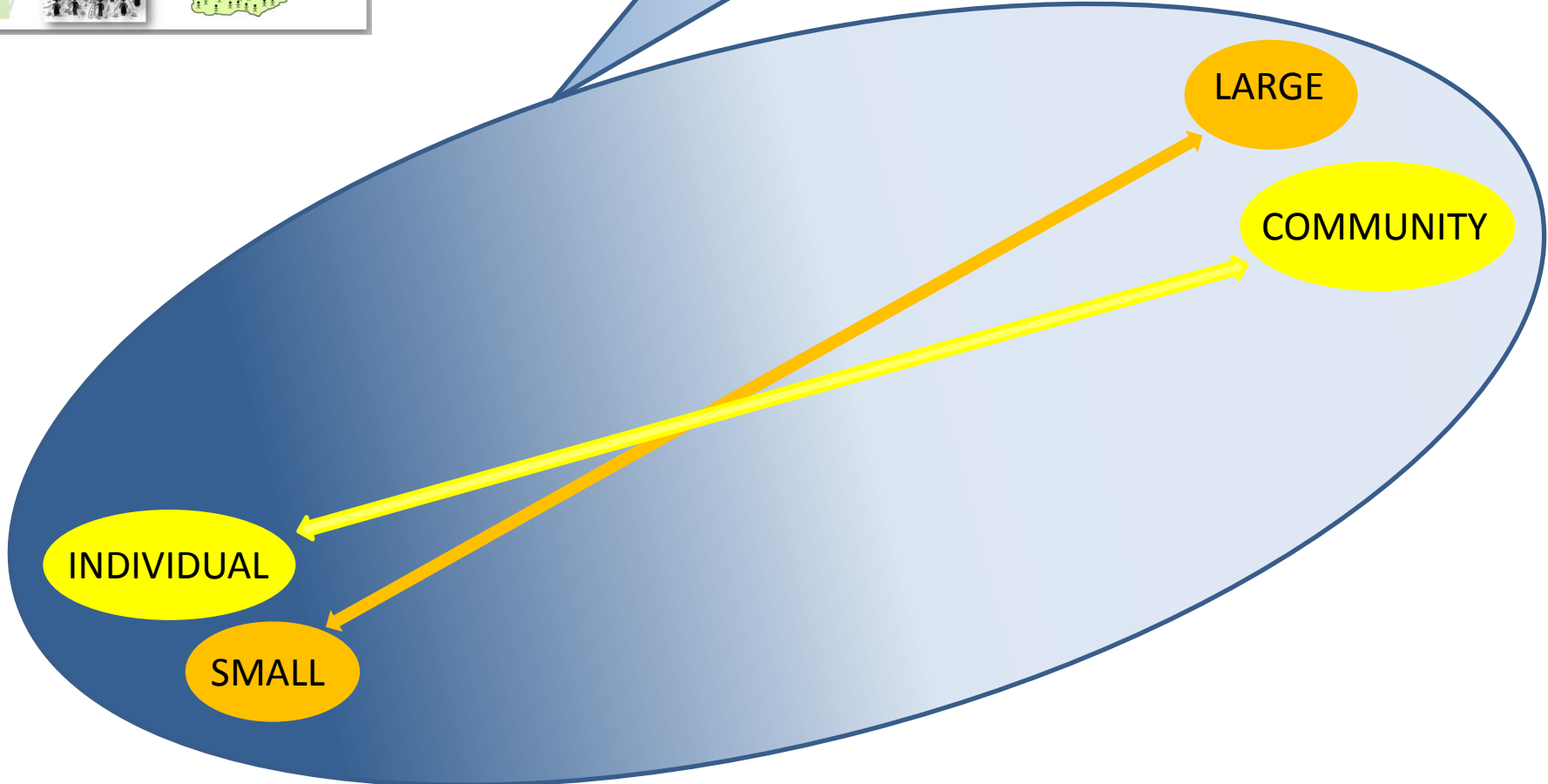


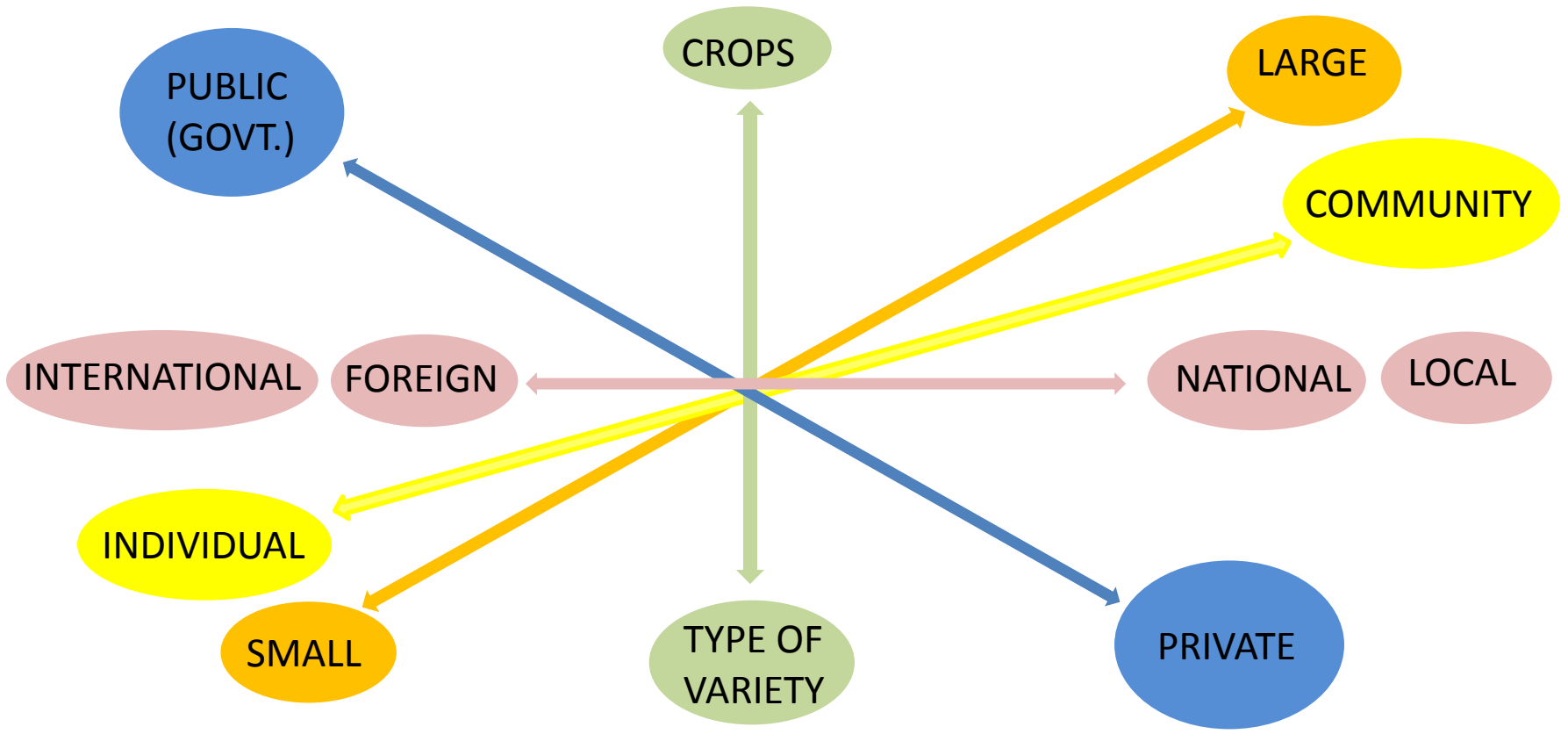
- Local licensing agreement with a South African company
 - for the commercialization of some of the ARC's citrus varieties.
 - A condition of the license: ensure the participation of smallholder citrus producers in the commercialization value-chain.
- Facilitated partnership with the Citrus Growers'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





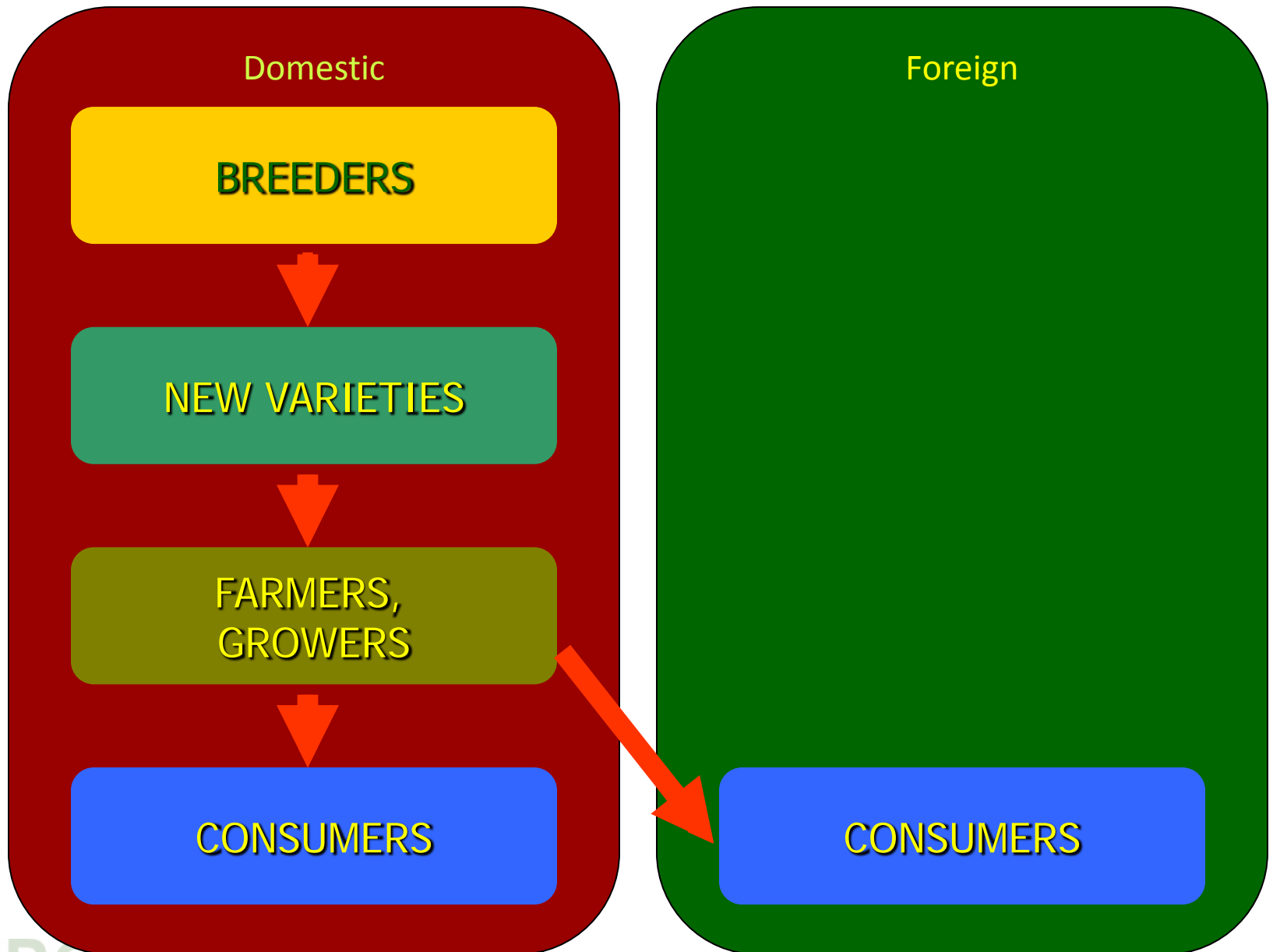
- Breeder organizations
- Service companies
- Cooperatives (farmers)







UPOV



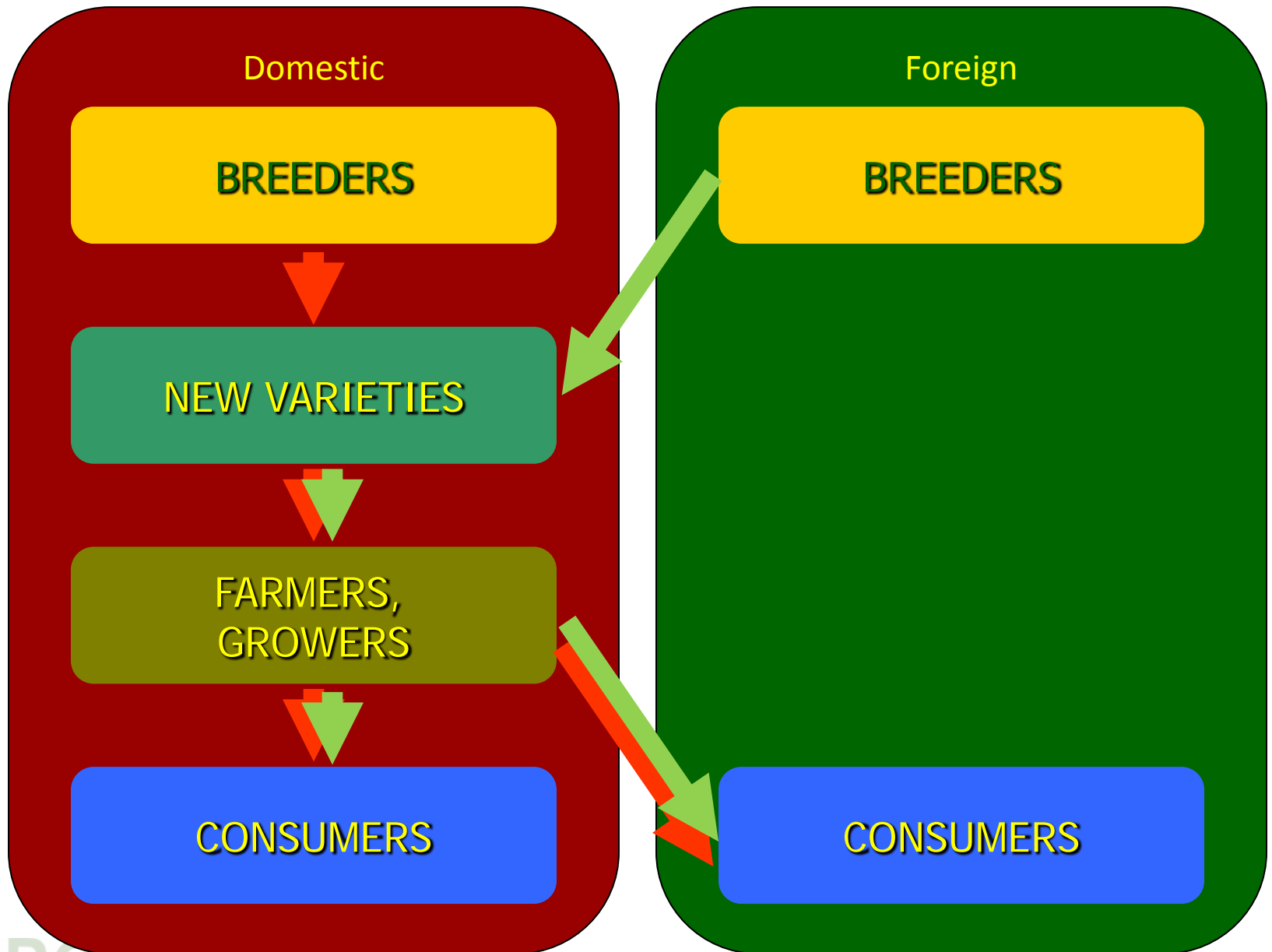


UPOV

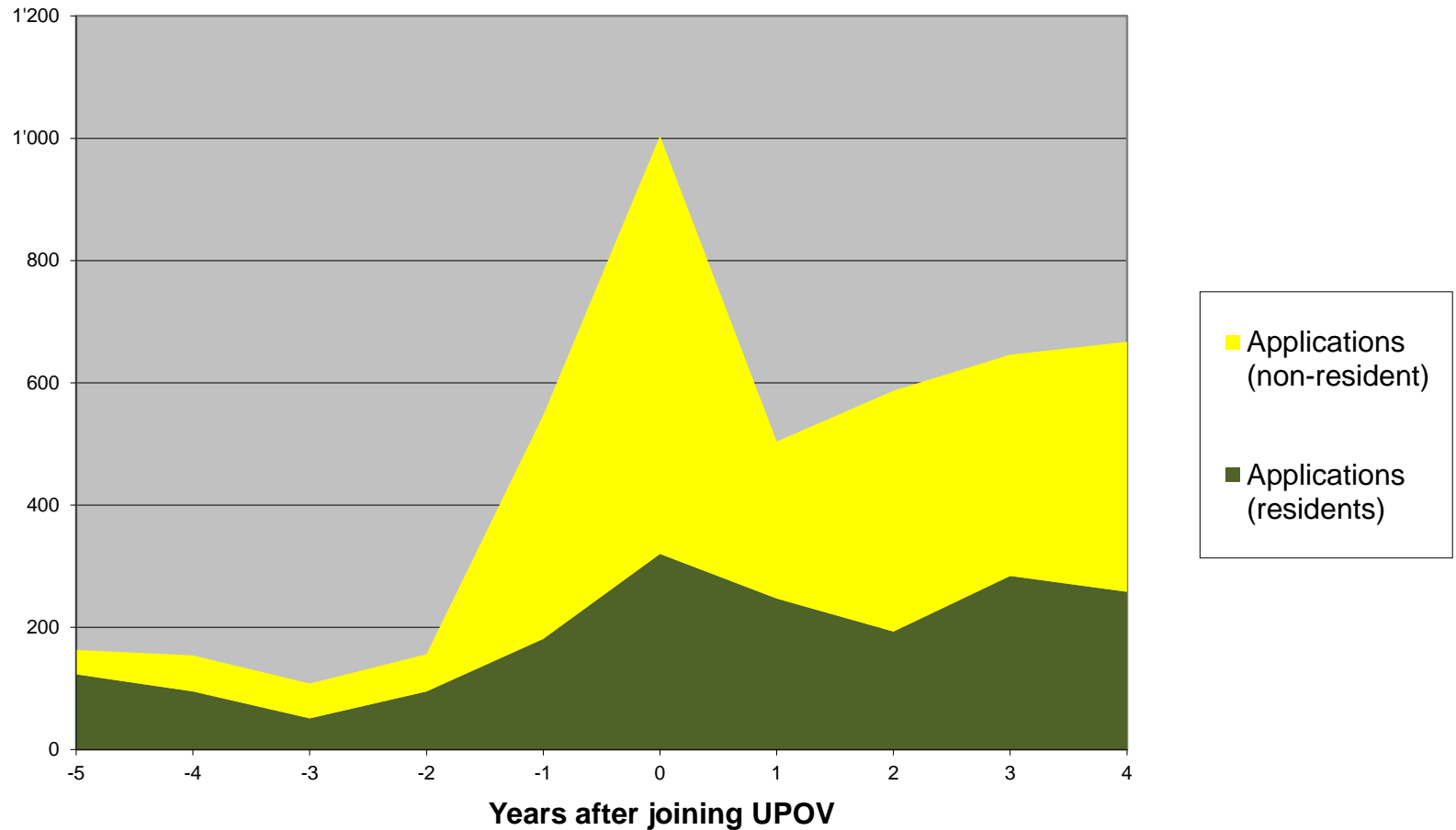
HOW TO BECOME A MEMBER OF UPOV

State/Intergovernmental Organization must:

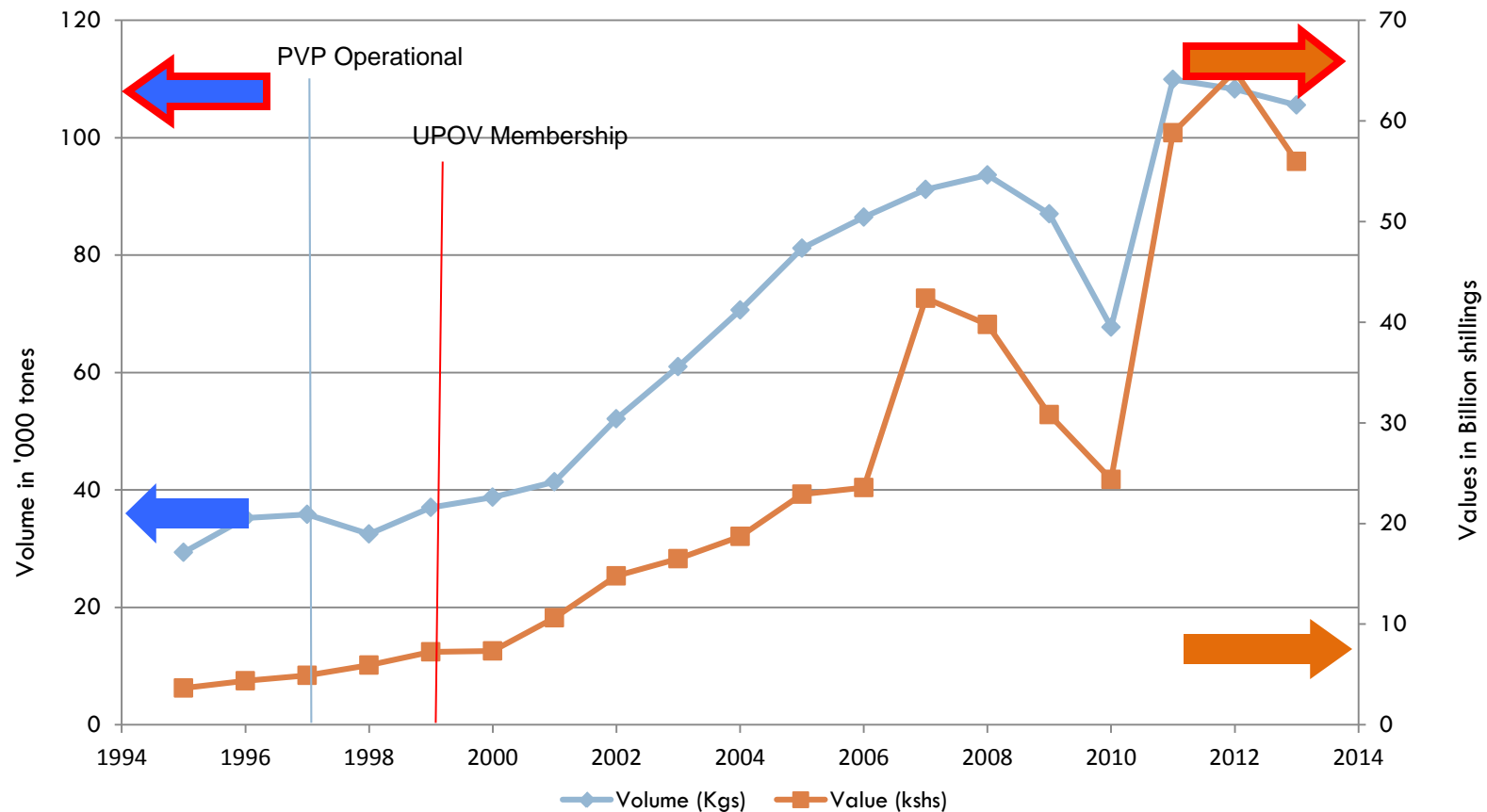
- **Have a law which conforms to the UPOV Convention**
- **Ask advice of the Council of UPOV**
- **If advice positive: deposit instrument of accession**



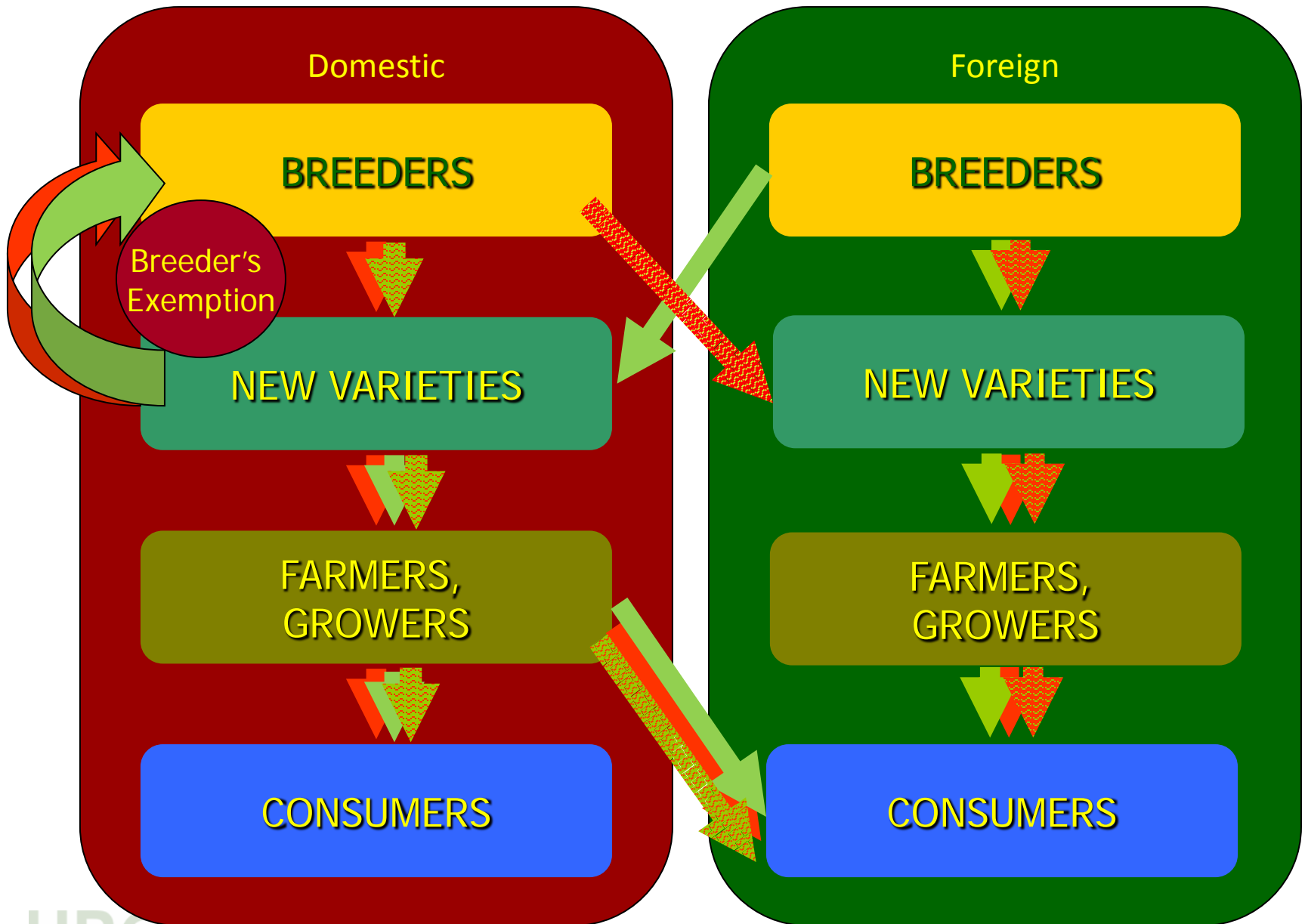
Latin America Countries acceding to UPOV between 1994 & 2000



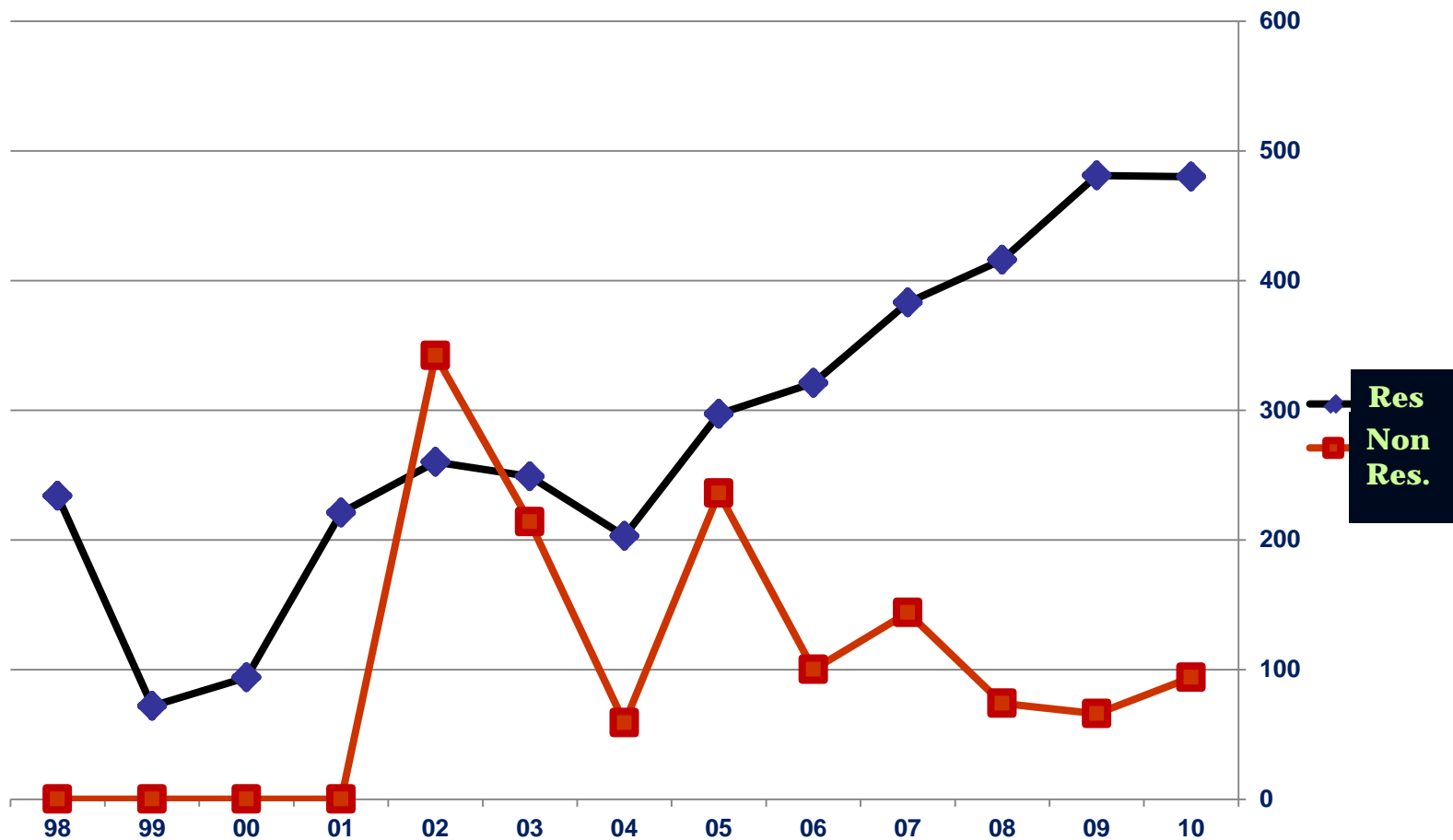
Impact of Plant Variety Protection in Kenya



CUT FLOWER EXPORTS 1995 - 2013



Application Ratio of Residents/Non Res.



Dr. CHO, Il Ho (Symposium on Plant Variety Protection - Future Strategy for Enhancing the Effectiveness of the PVP System, Seoul July 13, 2011)

KSVS Symposium on Plant Variety Protection Seoul, Republic of Korea (September 3, 2015)

Korean Rose Breeding Converts a Royalty Payer into a Receiver

Charlie Jeong/wonwoo trading

Becoming Royalty Receiver

1. Korean pay rose royalty abroad about 1,040,000 plants in year 2014
2. GARES rose varieties are sold about million in year 2014
3. Korea change from royalty payer to royalty receiver

OVERVIEW

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- Enforcement of PBR

**Seminar on the
Enforcement of Plant Breeders' Rights
under the UPOV Convention**

CONCLUDING REMARKS

Ms. Kitisri Sukhapinda
Attorney- Advisor, USPTO

Hanoi, Viet Nam - September 7 and 8, 2016

ENFORCEMENT OF BREEDERS' RIGHTS

Key findings

- **Recalled that:**
 - To obtain the full benefit of the UPOV PVP system it is necessary to have effective enforcement measures
 - It is primarily the responsibility of breeders to enforce their rights
 - UPOV members are required to provide for appropriate legal remedies for effective enforcement

Cont. Key findings

- **Impact of lack of, or insufficient, effective enforcement**
 - Agricultural productivity endangered
 - Livelihood of farmers and rural economies put at risk
 - Introduction of improved varieties and genetics delayed
 - Investment in breeding reduced
 - Disease problems increased
 - Reduced tax income

Cont. Key Findings

Noted that the list of enforcement measures in the Explanatory Notes on the Enforcement of Breeders' Rights under the UPOV Convention (UPOV/EXN/ENF/1 see at http://www.upov.int/upov_collection/en/) are still relevant for UPOV members and have proven to be useful in the development of laws of existing and future members

Enforcement of Breeders' Rights

Article 30(1)(i) Implementation of the Convention

(1) [*Measures of implementation*]

Each Contracting Party shall adopt all measures necessary for the implementation of this Convention; in particular, it shall:

(i) **provide for appropriate legal remedies for the effective enforcement of breeders' rights; [...]**

Enforcement of Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

UPOV Convention requires members of the Union to provide for appropriate legal remedies for the effective enforcement of breeders' rights

It is a matter for breeders to enforce their rights

Non exhaustive list of enforcement measures

OVERVIEW OF UPOV GUIDANCE

UPOV/EXN/ENF/1 List of enforcement measures:

(a) Civil measures

(b) Customs measures

(c) Administrative measures

(d) Criminal measures

(e) Measures resulting from alternative dispute
settlement mechanisms

(f) Specialized courts

Enforcement of Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

(a) Civil measures

- (i) provisional measures (e.g. collect samples of infringing material from greenhouses)
- (ii) measures to allow a civil action
- (iii) measures to provide damages

Enforcement of Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

(a) Cont. Civil measures

[...]

- (iv) destruction or disposal of infringing material
- (v) payment by the infringer of the expenses (e.g. attorney's fees);
- (vi) information on persons producing and distributing infringing material

Enforcement of Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

(b) Customs measures

Importation

(i) suspension of the release into free circulation, forfeiture, seizure or destruction of infringing material

Exportation

(ii) suspension of the release of the infringing material destined for exportation

Enforcement of Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

(c) Administrative measures

- (i) provisional measures
- (ii) measures to prohibit the committing, or continuation of the committing, of an infringement
- (iii) destruction or disposal of infringing material
- (iv) information on persons producing and distributing infringing material

Enforcement of Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

(c) Cont. Administrative measures

- (v) forfeiture, seizure of infringing material
- (vi) testing and certification authorities to provide information to the breeder regarding propagating material of his varieties
- (vii) sanctions or fines for non-compliance with provisions on, or misuse of, variety denominations

Enforcement of the Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

(d) Criminal measures

cases of [wilful] violation of the breeder's right [on a commercial scale]

Enforcement of the Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

(e) Measures resulting from alternative dispute settlement mechanisms

arbitration, mediation, etc...

Enforcement of Breeders' Rights

Explanatory notes UPOV/EXN/ENF/1

(f) Specialized courts

for matters concerning breeders' rights

Cont. Key Findings

Reinforced the importance of continuing the exchange of experiences and information through:

- Seminars, UPOV website, breeders' initiatives
- Information reported in the Working Group on Biochemical and Molecular Techniques, and DNA-Profiling in Particular (BMT). The BMT is a group open to DUS experts, biochemical and molecular specialists and plant breeders (see in BMT papers in “Breeders Day” concerning the use of molecular techniques in examining essential derivation and in variety identification at <http://www.upov.int/meetings/en/topic.jsp>)

Session 1- challenges and opportunities

Some examples of PBR infringements identified

- Propagation beyond authorized quantities
- Unauthorized exports/imports
- Packaging of harvested crop (e.g. grain, ware potatoes) for sale as propagating material (e.g. brown/white bagging)
- Use of farm-saved seed in a way that does not comply with relevant legislation
- Sale of a protected variety under another name
- Other companies selling propagating material of protected varieties as their own
- Unprotected inbred lines used to produce protected hybrids
- Protected inbred lines used to produce protected hybrids or hybrids that are not granted protection in their own right
- Unauthorized vegetative propagation of hybrid varieties
- Unauthorized propagation from “stubs” (i.e. plants with tops removed)

Cont. Session 1- challenges and opportunities

- **Challenges breeders are facing**
 - very easy to reproduce a variety. Cost of reproduction is low
 - hard to differentiate between illegitimate and legitimate propagating material and very difficult to obtain evidence of infringing material
- **Initiatives endorsed by breeders**
 - work with end users
 - work with relevant authorities (including certification agencies, phytosanitary services, customs, police, tax authorities, anti-fraud agencies, etc.)
 - invest in gaining understanding by farmers
 - organizations acting on behalf of breeders
 - Investigate possibilities for markers to be included in

Session 2 – Experiences of UPOV members demonstrated

- Benefits of including breeders' rights in other measures for intellectual property enforcement
- Role of relevant bodies and authorities in the provision of information to the breeder regarding propagating material of varieties
- DNA-Profiling has an important role to play (e.g. *prima facie* evidence, suspicion of possible infringement)



UPOV

World-wide support systems for breeders

UPOV

UPOV's PBR Application Tool

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

www.upov.int

UPOV

UPOV- PBR Application Tool (Electronic Application Form (EAF))

- Easy way to transfer and re-use your PBR application data, using an efficient multi-lingual e-system available online for all participating countries worldwide



UPOV EAF

- Home
- Go to EAF
- How to Access EAF
- Terms of Use
- Testimonials
- Tutorials
- User Guides
- PVP-XML
- Payment of fees
- Web Services
- Contact Us

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PBR Application Tool (EAF)

What are the features of the EAF? [\[more details\]](#)

- An **online PBR application tool** that can be used to provide application data to all p system to system communication)
- Application forms can be displayed in a **range of languages** (note: answers must be
- **Information can be automatically re-used in subsequent application data**
- Different **user roles can be specified** (e.g. drafter, signatory, translator, agent, proc
- **Controlled access to all PBR application data**
- Secure and confidential

UPOV members and crops currently covered by EAF

AUTHORITY	APPLE FRUIT VARIETIES				
Argentina	✓				
Australia	✓				
Chile	✓				
China		✓		✓	
Colombia				✓	
France	✓	✓	✓	✓	✓
Kenya	✓	✓	✓	✓	✓
Netherlands	✓	✓	✓	✓	✓
New Zealand	✓	✓	✓	✓	
...	✓	✓	✓	✓	✓

English
French
German
Spanish
Chinese
...?