



Consortium

CGIAR is a global research partnership for a food secure future

The management of Intellectual Assets in the CGIAR

*Elise Perset, CGIAR Consortium General Counsel
UPOV, Geneva, 6 May 2015*



A strategic partnership dedicated to advancing science to address the central development challenges of our time:

- **Reducing rural poverty**
- **Improving food security**
- **Improving nutrition and health**
- **Sustainably managing natural resources**

CGIAR Consortium: Who and where we are

Consortium of 15 International Agricultural Research Centers that operate in over **150 locations world wide**

Formed in 2010 as part of reform of the CGIAR

Headquarters established in **Montpellier, France** in March 2011

IFPRI
CIMMYT
CIAT
CIP
Africa Rice
IITA
ILRI
CIFOR



World Agro-
Forestry
Bioversity
ICARDA
ICRISAT
IWMI
World Fish
IRRI

CGIAR is a global research partnership for a food secure future



Some facts about global hunger

- About 1 billion people go hungry
- About 75 % of the world's hungry are involved in agriculture
- Increasing demand for food due to population growth & land scarcity



CGIAR is a global research partnership for a food secure future



**“In the next 50 years
we will need to produce
as much food as has
been consumed over
our entire human
history.”**

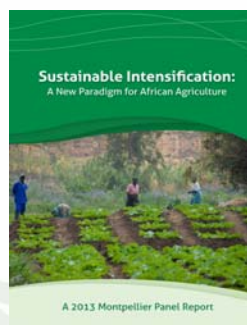
Megan Clark, CEO of the
Commonwealth Scientific and
Industrial Research Organization
(CSIRO), Australia



CGIAR is a global research partnership for a food secure future



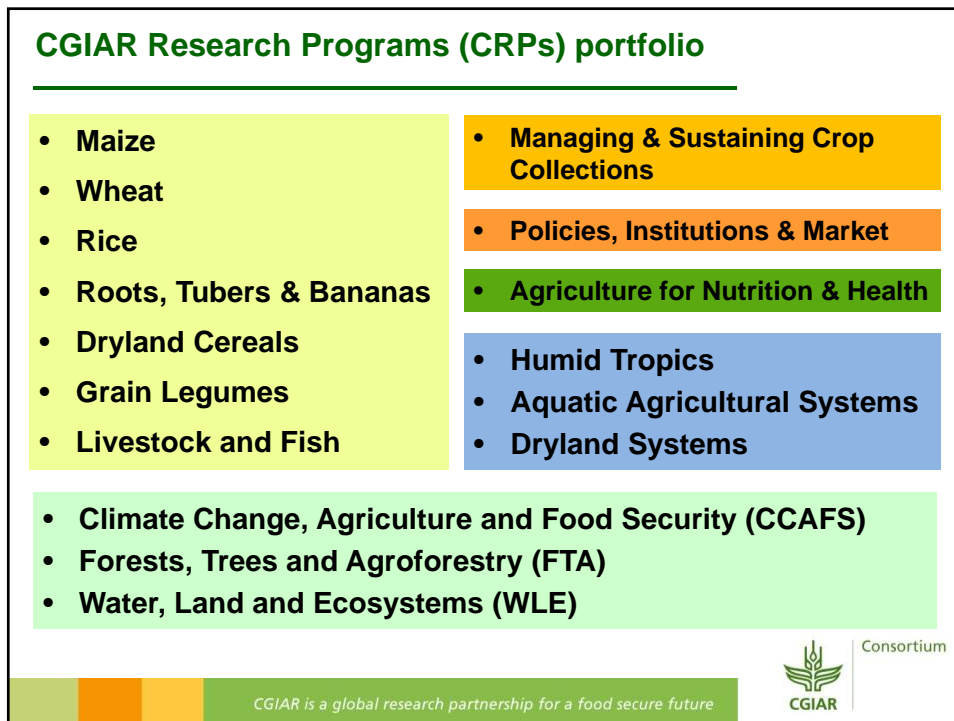
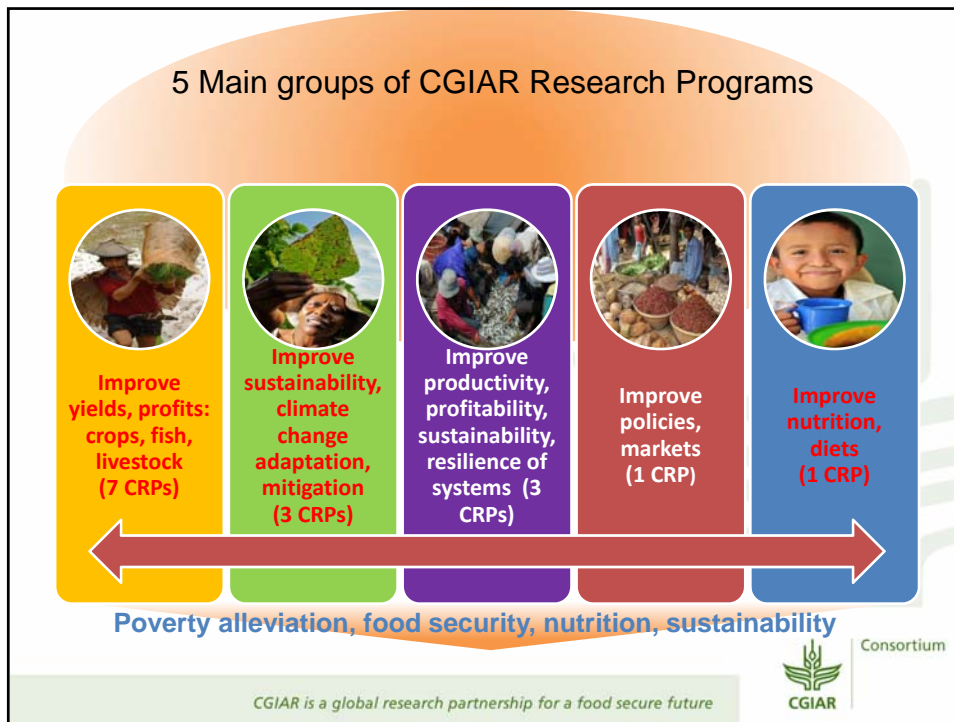
CGIAR Research Programs



- **Results-oriented**
- Directed toward **significant and compelling challenges**
- **Built on 3 core principles:**
 - **Impact** on the CGIAR's main objectives
 - **Integration** across the CGIAR core competencies
 - **Appropriate partnerships** at all stages of R&D

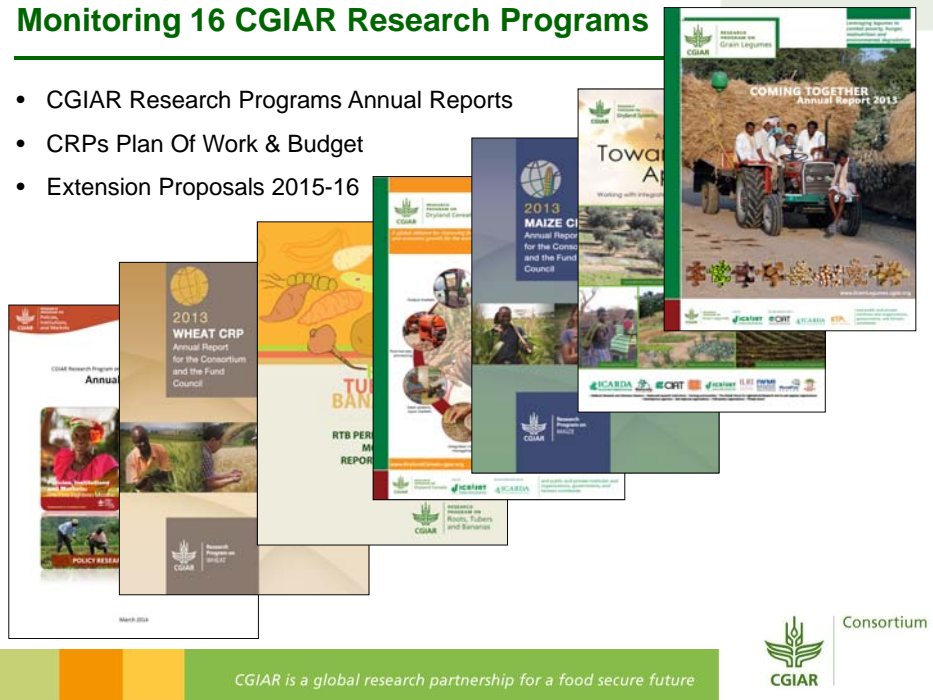
CGIAR is a global research partnership for a food secure future





Monitoring 16 CGIAR Research Programs

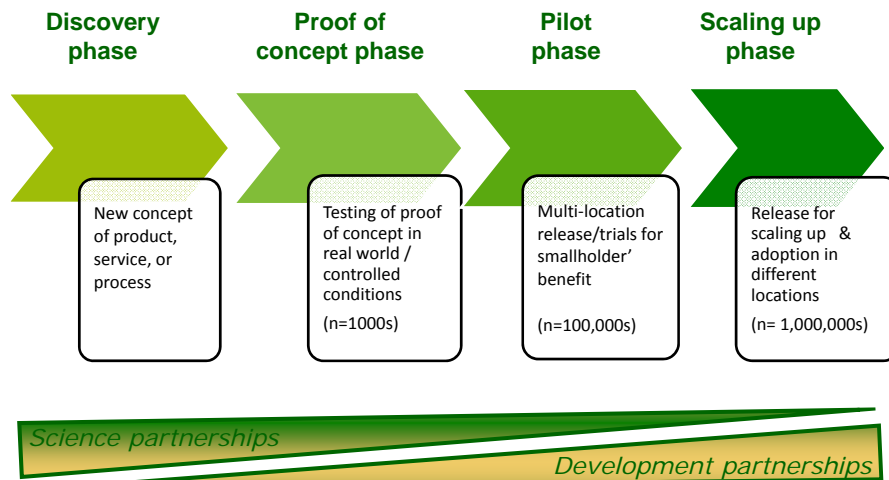
- CGIAR Research Programs Annual Reports
- CRPs Plan Of Work & Budget
- Extension Proposals 2015-16



CGIAR is a global research partnership for a food secure future



Pipeline approach & impact



CGIAR is a global research partnership for a food secure future



“CGIAR Principles on the Management of Intellectual Assets”



- Effective since **March 2012**
- **Agreed with donors and all Centers**
- Significant milestone for the CGIAR
- Renewed importance with increasing partnerships;
- **Implementation Guidelines (2013)**
- **CGIAR Open Access Policy & Guidelines (2013)** for information products

<http://www.cgiar.org/cgiar-consortium/consortium-office/legal-counsel-and-intellectual-property/>

CGIAR is a global research partnership for a food secure future



CGIAR IA Principles cover **all** types of Intellectual Assets

- **All results or products of our scientists’ R&D activities – whatever their nature and whether or not protected by IP Rights**
- This is an **all inclusive** definition of everything Centers produce



CGIAR is a global research partnership for a food secure future



Intellectual Assets



Source: CIP

CGIAR is a global research partnership for a food secure future



Consortium

1. General principle: Global accessibility to achieve impact



- CGIAR is committed to the **widespread diffusion and use** of our research results **to achieve the maximum possible access, scale and scope of impact and sharing of benefits to advantage the poor**, especially farmers in developing countries

CGIAR is a global research partnership for a food secure future



Consortium

2. Critical Role of Partnerships



- **Partnerships are critical to fulfill the CGIAR Vision**
 - to ensure **access to the best knowledge and innov.**
 - harness **efficiencies in product development**
 - and achieve maximum impact through **effective delivery and deployment** of research outputs to target beneficiaries
- May require **incentives** that must be innovatively designed, carefully managed and diligently monitored

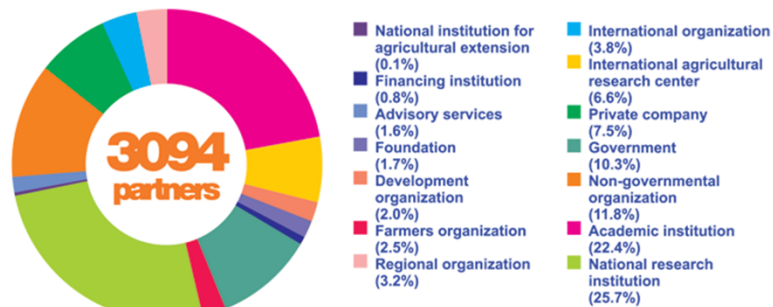
CGIAR is a global research partnership for a food secure future



Partnership strategy



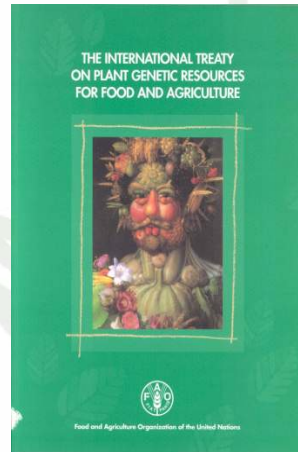
Number of Partners



Consortium

3. Farmers' rights and FAO International Treaty

- **We support farmers' rights (as envisaged by the Treaty) and the effective conservation and widespread use of all GRFA**
- **Compatible with 1991 UPOV Act?**



CGIAR is a global research partnership for a food secure future



- **We support the Multilateral System which includes:**



1. **64 crops and forage species** (Annex 1) that are 'under the management and control of Contracting Parties and in public domain'
2. PGRFA that is voluntarily included by entities
3. **Centers' PGRFA** (both Annex 1 and non-Annex 1) that is:
 - **held 'in trust' by Centers in gene-banks** and placed within the purview of the Treaty under agreements of 2006 signed by the hosting Centers and the GB
 - **received by a Center under the SMTA;** and
 - **breeding lines, genetic stocks and other materials developed/improved by a Center that incorporate mat. described above** - may be identified as "PGRFA under development" in which case Centers may impose additional conditions to those of the SMTA if consistent with CGIAR IA Principles

CGIAR is a global research partnership for a food secure future



Multilateral system

- SMTA requires that :
 - **no IPRs can be taken out on mat ‘as received’**
 - and recipient must make material it develops **available for research or breeding in accordance with the principle of fair and equitable benefit sharing**

(if commercializes a finished breeding lines and these are not available to others for research or breeding, must pay a % of any generated income to a central fund to be reinvested towards the maintenance of germplasm collections)



CGIAR is a global research partnership for a food secure future

Managing & Sustaining Crop Collections

The screenshot shows the CGIAR website page for 'Managing Genebanks'. The page features a navigation bar with links like 'WHO WE ARE', 'WHAT WE DO', 'WHY IT MATTERS', 'EMPLOYMENT', and 'DONATE'. Below the navigation, there are sections for 'PRIORITY CROPS', 'IDENTIFYING NEEDS', 'SAVING', 'USING', 'SVALBARD GLOBAL SEED VAULT', and 'CONSERVING FOREVER'. The main content area is titled 'Managing Genebanks' and includes a sub-header 'RESEARCH PROGRAM FOR Managing and Sustaining Crop Collections'. A large image shows a person in a blue coat working in a seed vault. Text on the page states: 'Conservation and availability of plant genetic resources is an absolutely prerequisite for achieving such higher order goals such as food security and poverty alleviation. The objectives of this program is to ensure the foundation of crop improvement, that is crop diversity, is safeguarded forever.' Below the image, it says: 'While many think that the work of genebanks simply involves putting seeds in cold storage, the reality is much more complex.' At the bottom of the page, it reads 'CGIAR Research Program for Managing and Sustaining Crop Collections'.

Source: <http://www.croptrust.org/content/managing-genebanks/>



CGIAR is a global research partnership for a food secure future

Managing & Sustaining Crop Collections

		Accessions
AfricaRice	Rice	20,000
Bioversity	Banana, Plantain	1,298
CIAT	Beans, Cassava, Tropical forages	65,635
CIMMYT	Maize, Wheat	155,129
CIP	Potato, Sweet potato, Andean Roots & Tubers	16,495
ICARDA	Grain legumes, Wheat, Barley, Forage & range crops	135,406
ICRAF	Trees	5,144
ICRISAT	Dryland cereals, Grain cereals	156,313
IITA	Banana, Plantain, Maize, Cowpea, Cassava, Yam	28,286
ILRI	Tropical forages	18,291
IRRI	Rice	116,817
Total		712,568

CGIAR is a global research partnership for a food secure future



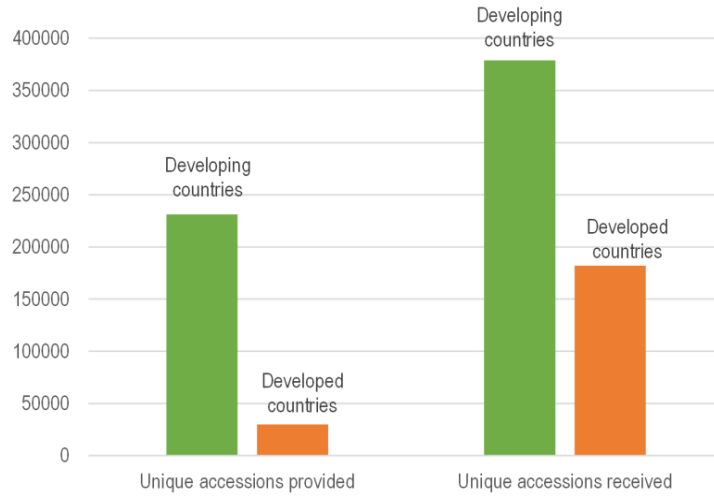
- From 1979 to 2009, over **1 122 106 samples** of **273 876 unique accessions belonging to 1 370 different plant species** were distributed from CGIAR international genebanks
- Virtually all countries in the world have been involved in the exchanges: the above materials were originally **collected in or provided by at least 191 countries** and **distributed to at least 187 countries**
- CGIAR Centers have also been distributing a lot of germplasm through their breeding programs

Source: Thirty years of international exchanges of plant genetic resources facilitated by the CGIAR Genebanks: a case study on interdependence (Bioversity International)

CGIAR is a global research partnership for a food secure future



Number of unique accessions provided and received via the CGIAR genebanks by developing or transition countries, and developed countries



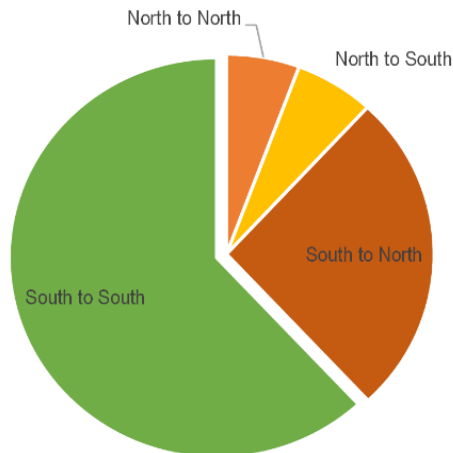
Source: Thirty years of international exchanges of plant genetic resources facilitated by the CGIAR Genebanks: a case study on interdependence (Bioversity International)

CGIAR is a global research partnership for a food secure future



Consortium

Number of unique accessions exchanged between developed (“North”) and developing or transition countries (“South”).



Source: Thirty years of international exchanges of plant genetic resources facilitated by the CGIAR Genebanks: a case study on interdependence (Bioversity International)

CGIAR is a global research partnership for a food secure future



Consortium

‘Can a genebank collect, conserve, and distribute samples of plant varieties protected by PBRs, without the right holder’s consent, using the SMTA, in the jurisdiction where the PBR applies and in other jurisdictions?’

Under the SMTA, recipients undertake to use PGRFA “only for the **purposes of research, breeding and training** for food and agriculture.” and the material must be made available “**free of charge**” or ‘at a **minimal cost**”.

The acts requiring permission from the PVP holder in UPOV 1991 include some that seem to go to the heart of a genebank’s day-to-day activities: **production and reproduction, exporting and stocking for any of these purposes**. Does regenerating & saving seed, and sending it outside the country require PVP holders’ permission in the country where they are operating (assuming that is the jurisdiction where the right applies)?

Exemption for ‘**experimental purposes**’ or for the ‘**purpose of breeding other varieties**’: does it apply to ‘upstream’ genebanks who supply germplasm to 3rd parties who will use it for the exempted purposes?

CGIAR is a global research partnership for a food secure future



4. IA management to maximize impact

- **Manage IAs in a manner that maximizes the impact of the work that we do**
- **Public goods are a means, not an end.** The end goal is always the optimal impact on global poverty
- **IA management needs to be adapted to each context-specific project** and to its specific end goal: **flexibility is key**



CGIAR is a global research partnership for a food secure future



Maximizing impact

Global accessibility & prompt dissemination of research results

- **CGIAR support open and non-exclusive access as a general principle**
- Free accessibility \neq widespread dissemination or use
- Many new varieties are developed, but varying degrees of uptake by farmers and companies



CGIAR is a global research partnership for a food secure future



Maximizing impact

- Reaching intended beneficiaries sometimes requires Centers to:
 - take out **IP protection**,
 - grant **exclusive licenses**
 - and/or access third party IAs that have **downstream restrictions**
- **now possible under certain conditions**



CGIAR is a global research partnership for a food secure future



maximizing impact
Patent - PVP

- CGIAR is committed to prudent & strategic use of IP
- **Centers can apply – or can authorize third parties to apply - for IP Rights (patents, PVP, etc.)** if they are necessary for further improvements of IAs or to enhance the impact on target beneficiaries
- IP possible only on products of CGIAR Centers' research - not on germplasm held in trust



VS



CGIAR is a global research partnership for a food secure future



Consortium

Very limited use of IPRs: 2012-2014 (3 years)

- 1 Center applied for patents
- 3 authorizations to partners take out PVP
- About 10 TM registrations



CGIAR is a global research partnership for a food secure future



Consortium

Maximizing impact
Limited exclusivity

Centers can grant exclusive licenses for the commercialization of IAs:



- if **exclusivity is necessary and is as limited as possible**, in duration, territory and/or field of use
- and if the IAs are **available in all countries**:
 - for **research** by public organizations in furtherance of the CGIAR Vision
 - and in the event of a **national or regional food security emergency** (any deviations from these later requirements must be first approved by Consortium)

CGIAR is a global research partnership for a food secure future



Maximizing impact
Limited exclusivity

Important if the crops are important food staples (for ex. rice or wheat) in developing countries

How do we limit exclusivity? Through **time limitations and/or market segmentation**

We try to establish **clear boundaries** between the commercial sphere and the uses that directly impact a country's poor population

Goal: to **provide effective access to proprietary technology to our target beneficiaries**, while safeguarding commercial rights for the technology owner.



CGIAR is a global research partnership for a food secure future



Maximizing impact
Limited exclusivity

Example: exclusivity with geographic segmentation

A Center identifies a **biopesticide** but does not have the resources (or mandate) to develop it. No other organization will take over development on a non-exclusive basis.



Company A is willing to further develop biopesticide into a product suitable for use by farmers if it has **exclusive rights to market it in developed countries**.

Company A is content that product can be commercialized by others in developing countries and that the IA remains available for research by public organizations in support of the CGIAR Vision.

CGIAR is a global research partnership for a food secure future



Maximizing impact
Limited exclusivity

Example: time-limited exclusivity

A Center develops a promising **crop variety**, but does not have the resources to **disseminate it to farmers in developing Country A**.

Country A's national public research and extension agencies inform the Center that they too lack the means to get the variety out to farmers.

A few small seed companies are interested in marketing the variety in Country A if they are granted an **exclusive license for a certain period of time**.



Very few (18) Limited Exclusivity Agreements from 2012-2014

CGIAR is a global research partnership for a food secure future



Example: 5-year collaboration on Wheat between CIMMYT & a European private sector company

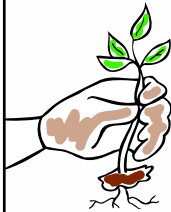
- **CIMMYT provides yearly advanced lines** of wheat to the company to carry out trials in a specific country
- After several growing/testing cycles, **the company provides to CIMMYT the research results from the trials and seed of the materials finally selected** by the company and destined for commercialization in the country in question. The company also provides yearly funds to CIMMYT.
- The company has **exclusivity to commercialize** the selected materials in the country for less than 6 years, and is entitled, in such country only, to protect the selected materials through **PVP**.
- The trials by the company allow CIMMYT:
 - (1) **to gain valuable info.** on the adaptability and productivity of its materials,
 - (2) **to obtain the selected materials** which it is free to incorporate in its improvement programs to target environments with similar characteristics, thereby enlarging scope and scale of potential beneficiaries.
- CIMMYT can use or make the intellectual assets available for use by public sector organizations for noncommercial **research purposes** and can use the intellectual assets to fulfill the **food emergency requirement** anywhere in the world.

CGIAR is a global research partnership for a food secure future



Maximizing impact Downstream restrictions

- **Centers can acquire third party IAs with downstream restrictions** if the resulting products further the CGIAR Vision and the Centers cannot acquire the IAs elsewhere with less restrictions



Example: disseminate variety in only some developing countries

A Center obtained a license from Company A to use an intermediate technology to select a crop variety to be released by the Center in the smaller and poorer developing countries in a region, but not the larger developing countries in the same region, not even for research purposes.

CGIAR is a global research partnership for a food secure future



Maximizing impact Downstream restrictions

The Center is in the best position to breed the new variety as it has many germplasm options available to test different crosses.

→ If the technology both:

- contributes to food security in the limited number of developing countries where it can be made available by the Center, and
- is not available from an alternative source under no or less restrictive conditions,

then OK for a Center to enter into such an agreement

CGIAR is a global research partnership for a food secure future



Maximizing impact Downstream restrictions

Example: IRRI's golden Rice Project

<http://www.goldenrice.org/>



IRRI acquired third party inputs (gene constructs, other proprietary materials and methods) to incorporate into IRRI products (rice germplasm) – with downstream restrictions, i.e. limiting distribution to « humanitarian use »

IRRI could only obtain this technology – which is patented - from Syngenta

CGIAR is a global research partnership for a food secure future



“humanitarian use” includes:

- **use in developing countries** (low-income, food-deficit countries as defined by FAO);
- **resource-poor farmer use** (earning less than US\$10,000 per year from farming);
- technology must be introduced into **public germplasm** (seed) only;
- **no surcharge** may be charged for the technology (i.e. the seed may cost only as much as a seed without the trait);
- **national sales are allowed by such farmers** (in this way urban needs can also be covered); and
- **reuse of harvested seed in the following planting season is allowed** (the farmer is the owner of his seeds)

Maximizing impact
Downstream restrictions



Very few (12) Restricted Use Agreements from 2012-2014

CGIAR is a global research partnership for a food secure future



5. Fees

- **CGIAR Centers can charge reasonable fees** for providing access to their IAs **provided that**:
 - **this does not divert them from the fulfillment of the CGIAR Vision**
(does not apply to PGRFA held in-trust by Centers and placed within purview of FAO Treaty), and
 - **any revenue generated is used to support CGIAR Vision**



CGIAR is a global research partnership for a food secure future





CGIAR

Reducing poverty and hunger, improving human health and nutrition, and enhancing ecosystem resilience through high-quality international agricultural research, partnership and leadership.

Thank You

CGIAR is a global research partnership for a food secure future



Consortium

Photo: CGIAR