Development, transfer and dissemination of agriculture related technologies

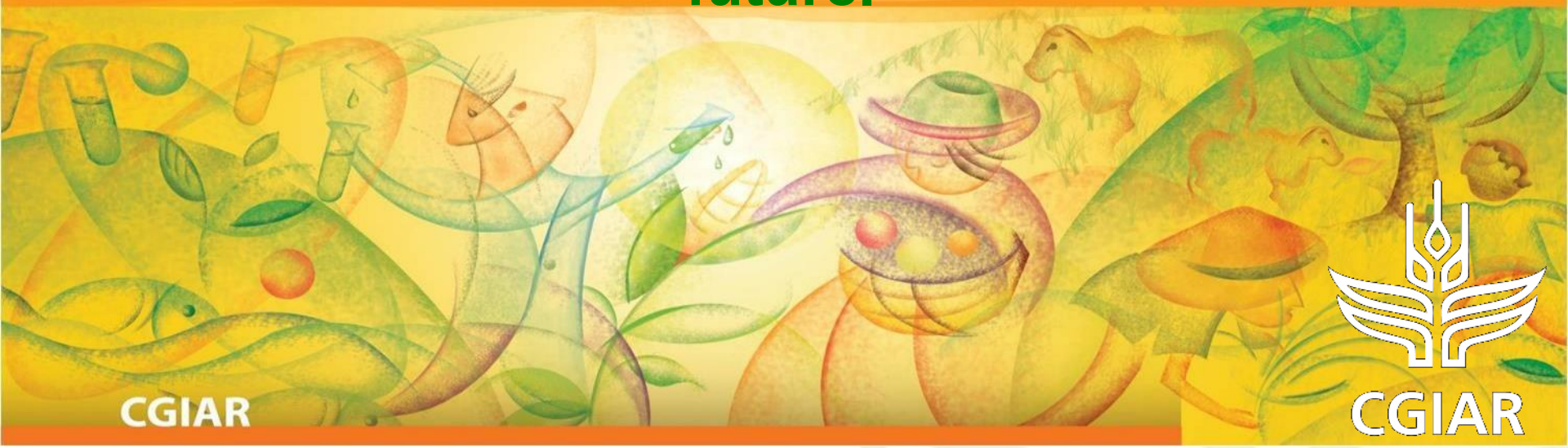
CGIAR is a global research partnership for a food secure future

Frank Rijsberman, CEO CGIAR Consortium

UN General Assembly Structured Dialogues

29 April 2014

CGIAR: the world's leading agricultural research partnership, working towards a food secure future.

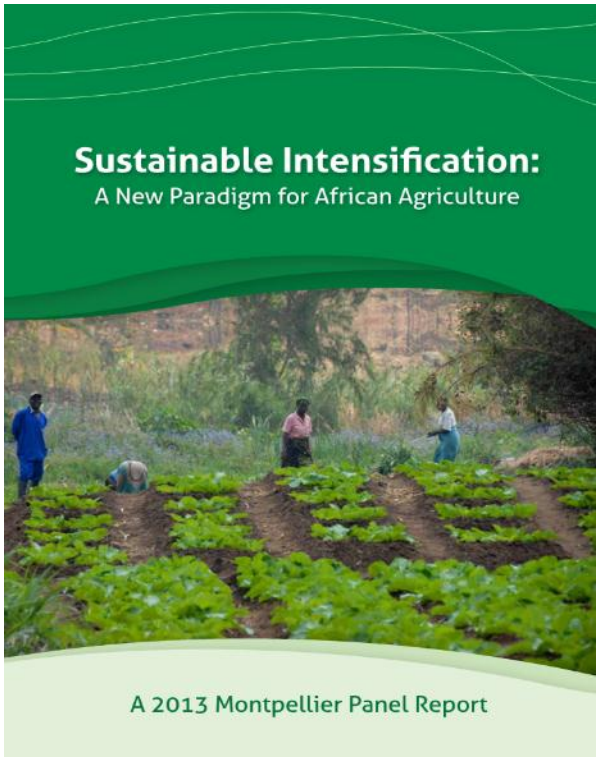


A strategic partnership dedicated to advancing science to address the central development challenges of our time:

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

Its research is carried out by 15 International Agricultural Research Centers, working in close collaboration with hundreds of partners worldwide.

Connect needs, scientific excellence, impact



CGIAR's global research Centers

Number of CGIAR Research Centers **15**

CGIAR Consortium

CGIAR is a global research partnership for a food secure future

CGIAR Research Programs (CRPs) portfolio

- Maize
- Wheat
- Rice
- Roots, Tubers & Bananas
- Dryland Cereals
- Grain Legumes
- Livestock and Fish

- CRP for Managing & Sustaining Crop Collections

- Policies, Institutions & Market

- Agriculture for Nutrition & Health

- Humid Tropics
- Aquatic Agricultural Systems
- Dryland Systems

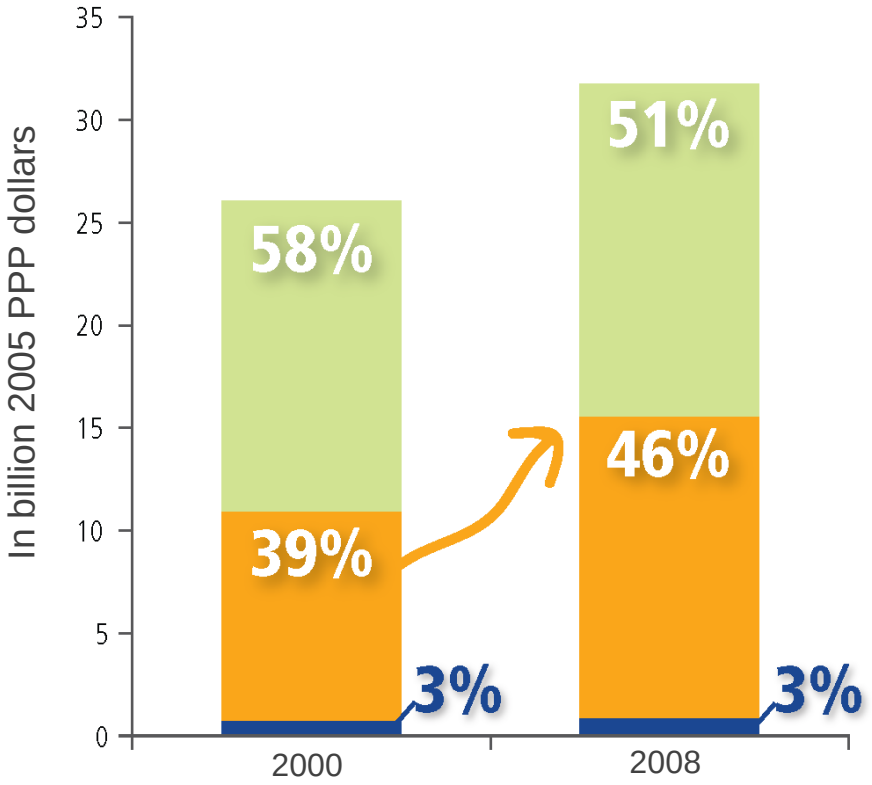
- Climate Change, Agriculture and Food Security (CCAFS)
- Forests, Trees and Agroforestry (FTA)
- Water, Land and Ecosystems (WLE)

Agriculture Research for Development: the engine that drives technology development & adoption

Following a period of decline, public agricultural R&D spending increased globally by 22% from 2000-2008

Source: ASTI program led by IFPRI

Developing countries drive public spending growth

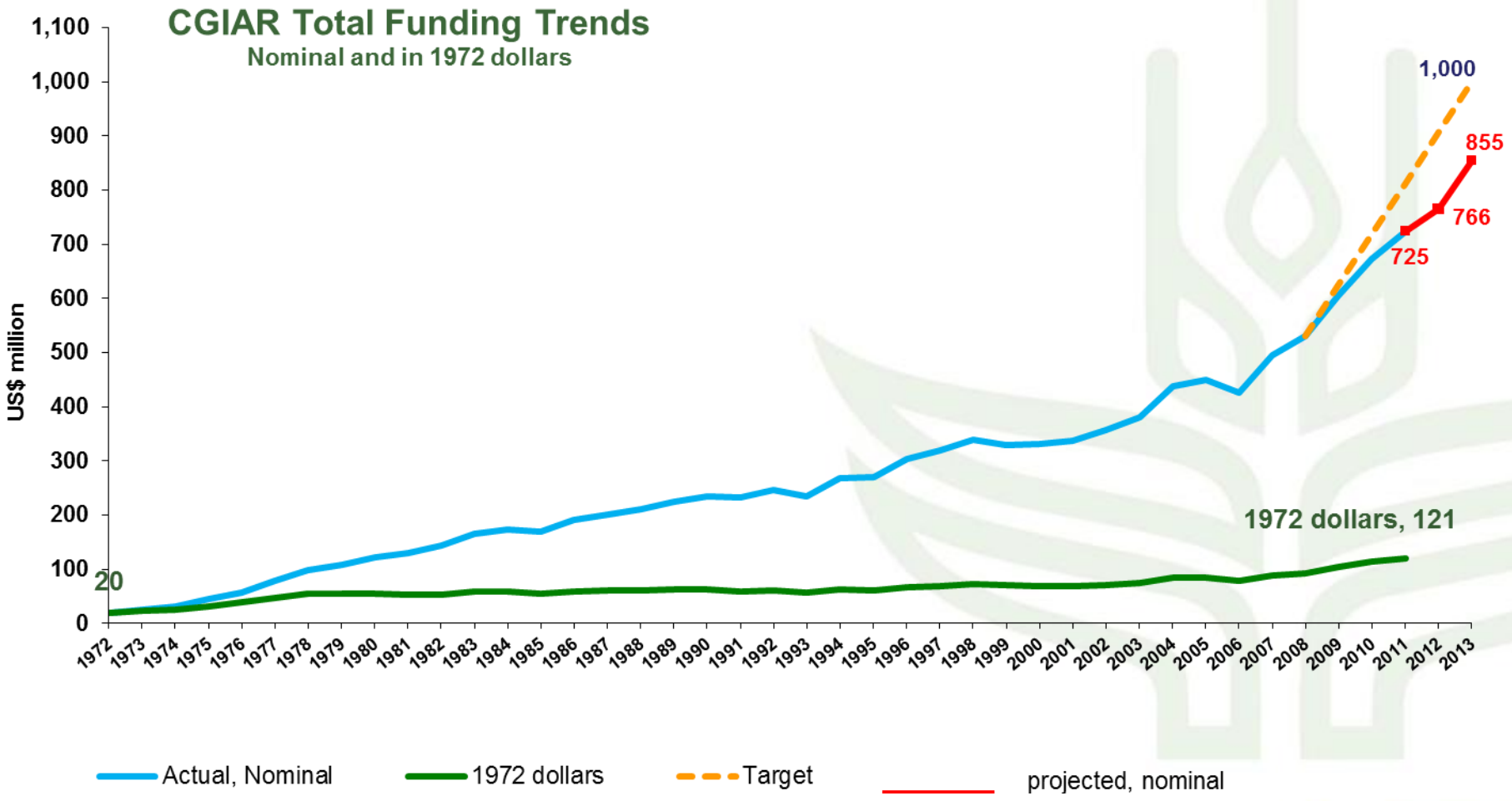


Main drivers of $5.6 billion growth (2005 PPP $)

$2.1 billion	China
$0.6 billion	India
$0.5 billion	United States
+/- $0.2 billion each	Brazil, Argentina, Iran, Japan, Nigeria, Russia

High-income countries
Middle-income countries
Low-income countries

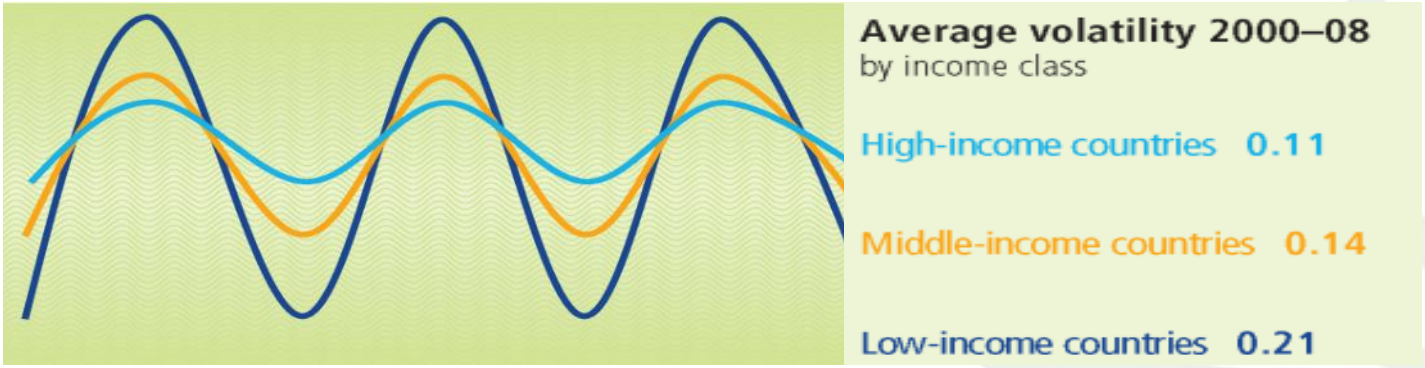
Increased and Sustained Investment:
Doubling of CGIAR funding in five years (2008-2013) to $1 billion in 2013

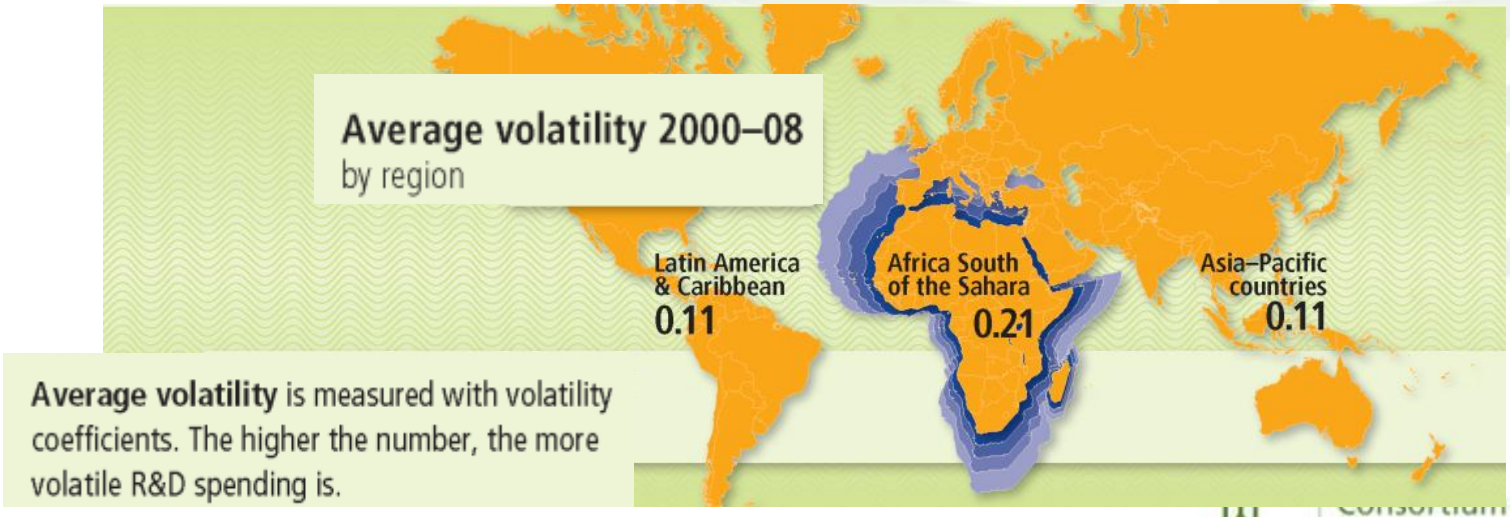


But world's poorest countries lag behind

Source: ASTI program led by IFPRI

More attention should be given to the poorest countries that have low, often declining or stagnating investment levels that are highly volatile



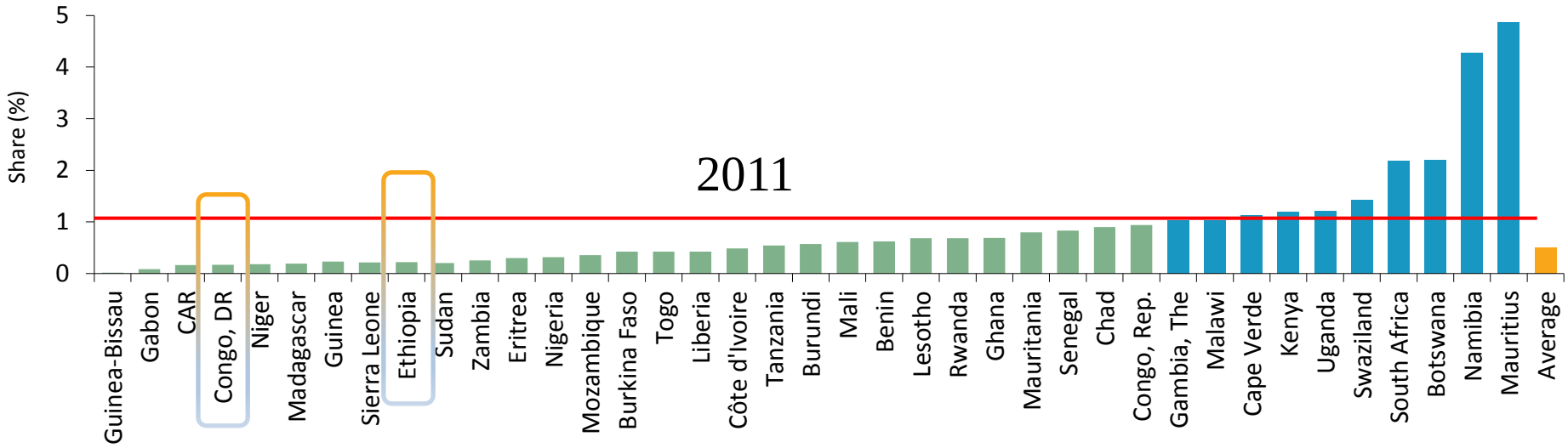


Most African countries fail to meet investment targets

Source: ASTI program led by IFPRI

Target (UN/NEPAD): Allocation of at least 1% of AgGDP to R&D

- On average, 0.51% of AgGDP in SSA was spent on public agricultural R&D in 2011
- SSA's intensity ratio has declined since 2008 due to relatively stronger growth in AgGDP than in agricultural R&D spending



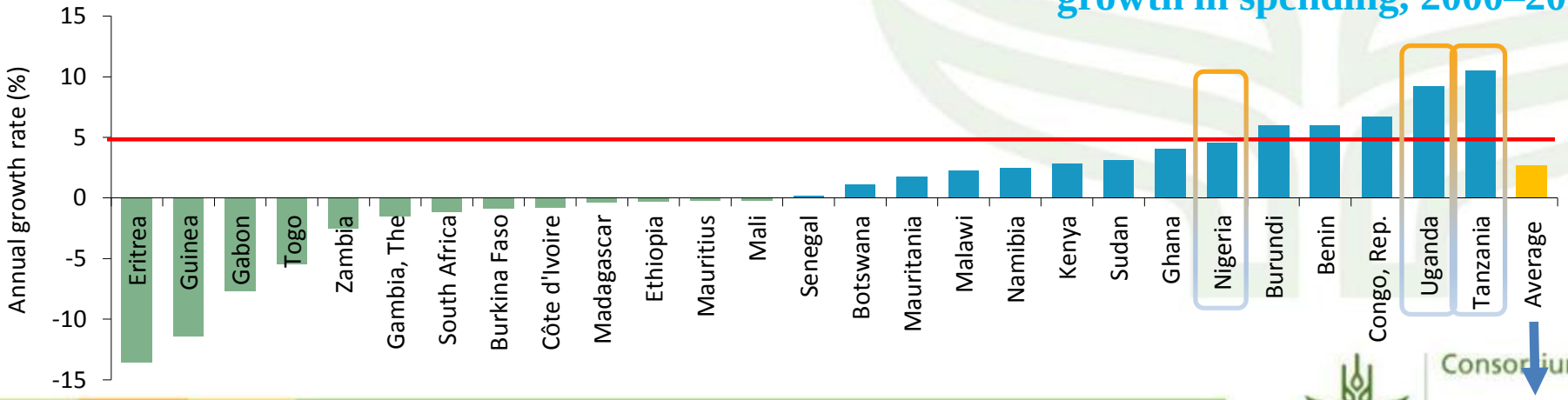
Spending growth: not everywhere and not fast enough

Source: ASTI program led by IFPRI

Target (UN expert group): 5% annual spending growth over the next decade

- 2000–2011 marked by spending decline or stagnation in about half of the 30 countries with time series data
- Since 2008, however, more and more countries have experienced positive growth.

Main drivers of region-wide growth in spending, 2000–2011



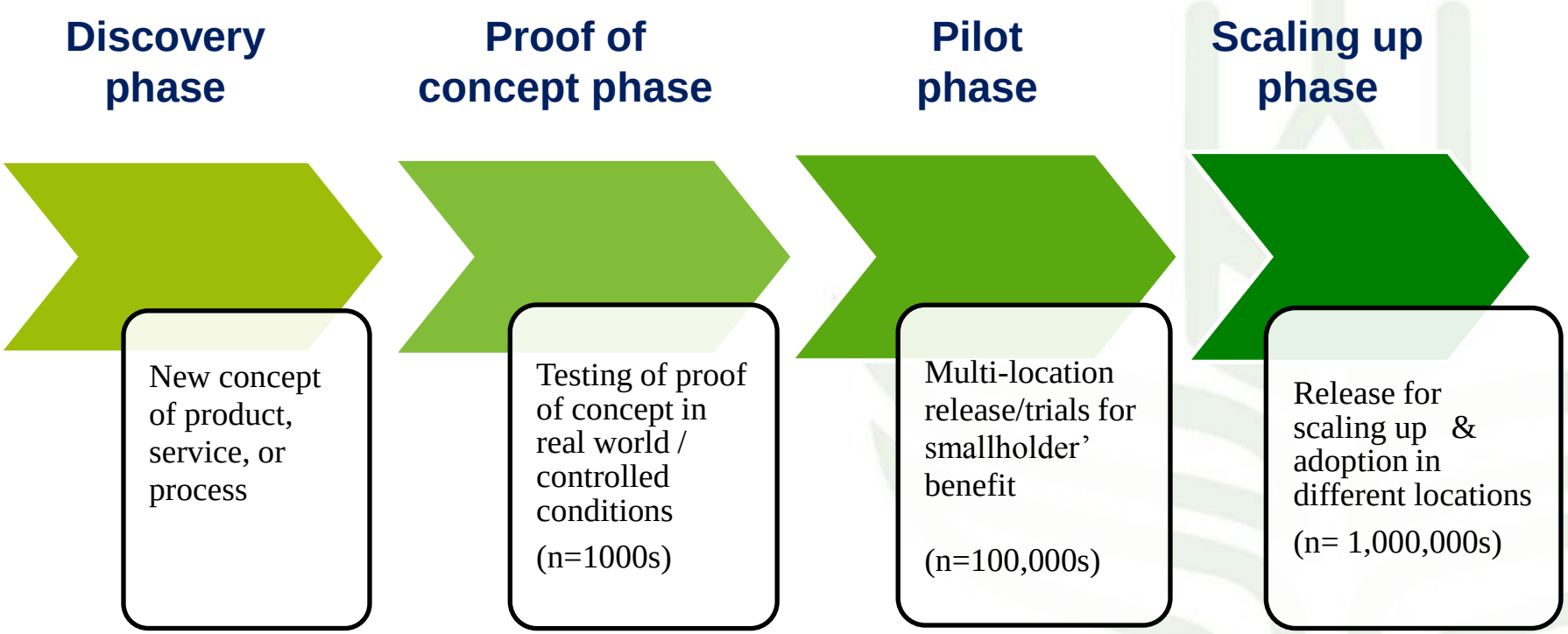
+2.7%

Conclusion on unfulfilled need

After period of decline, overall investment levels in agriculture R&D have increased globally – particularly since the food price spikes of 2007-8 and the sustained higher food ever since – particularly in middle income countries, the international system, bilateral donor support, and some low-income developing countries.

In Sub-Saharan Africa, however, national investments in AR4D is only about 0.5% of AgGDP – well behind the target of 1%.

CGIAR R4D pipeline & partnership



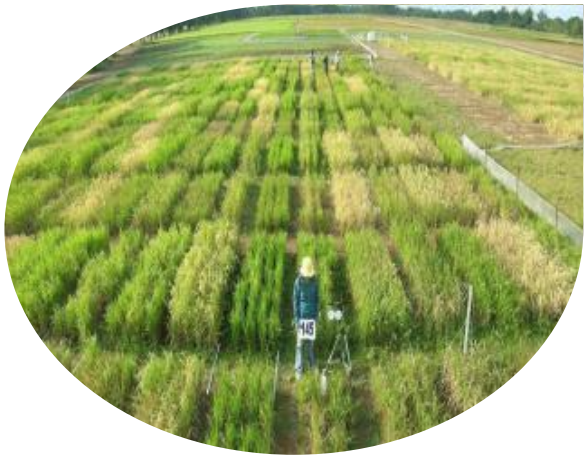
Science partnerships

Development partnerships

CGIAR Centers developed high yielding varieties for staple cereals that were the engine of the Green Revolution

Organizational structure of GRiSP

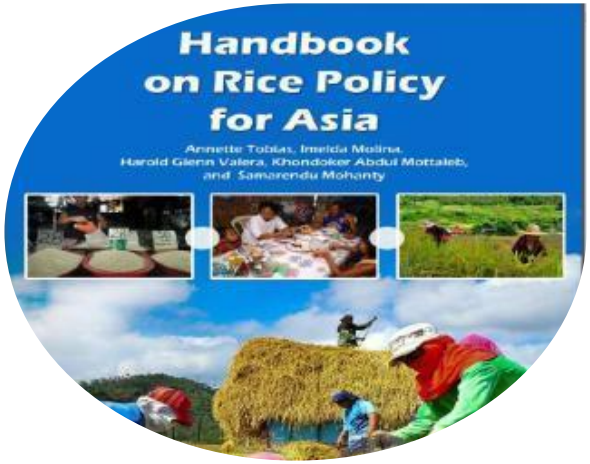
Genes



Varieties

Management

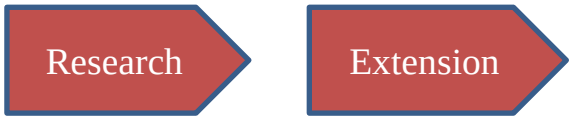
Value adding



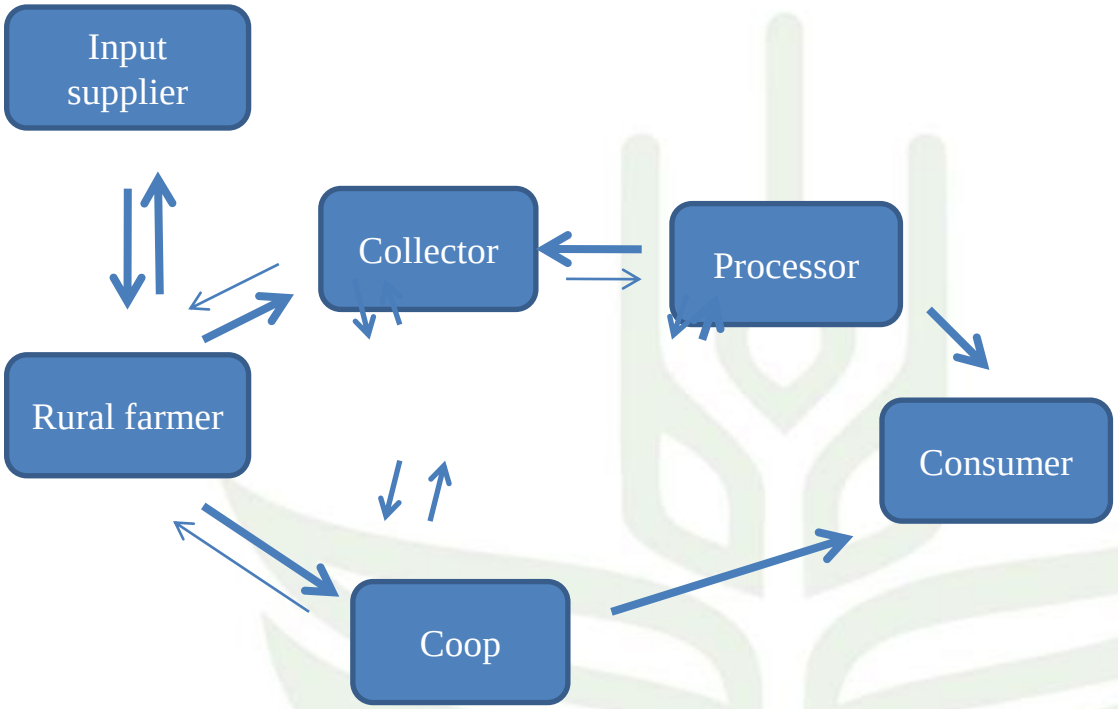
Assessment Policy

Last-mile delivery

CGIAR: From technology push to Innovation Platforms



Conventional approach: research to farmer



Innovation Systems Approach: research inside

Why Innovation Platforms?

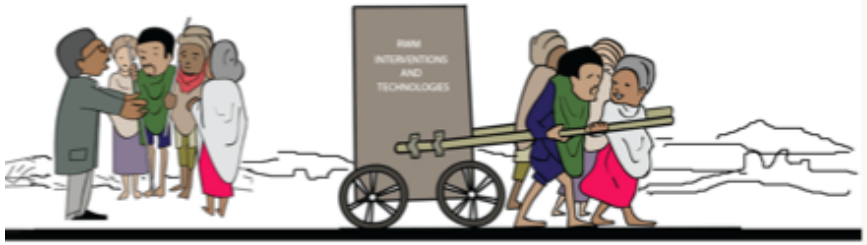
Push RWM interventions & technologies

→ Achieve short term quotas

Or...

Empower & engage actors in RWM strategies

→ Achieve sustainable landscapes & improved livelihoods



From Cullen and Ergano 2011

But how do innovation platforms change how things are done?

Changes habits and practices

Involves wider institutions, policies and markets

Empowers actors

Leads to joint action

Encourages local actors to own the process

Addresses wide range of issues

Improves communication between stakeholders

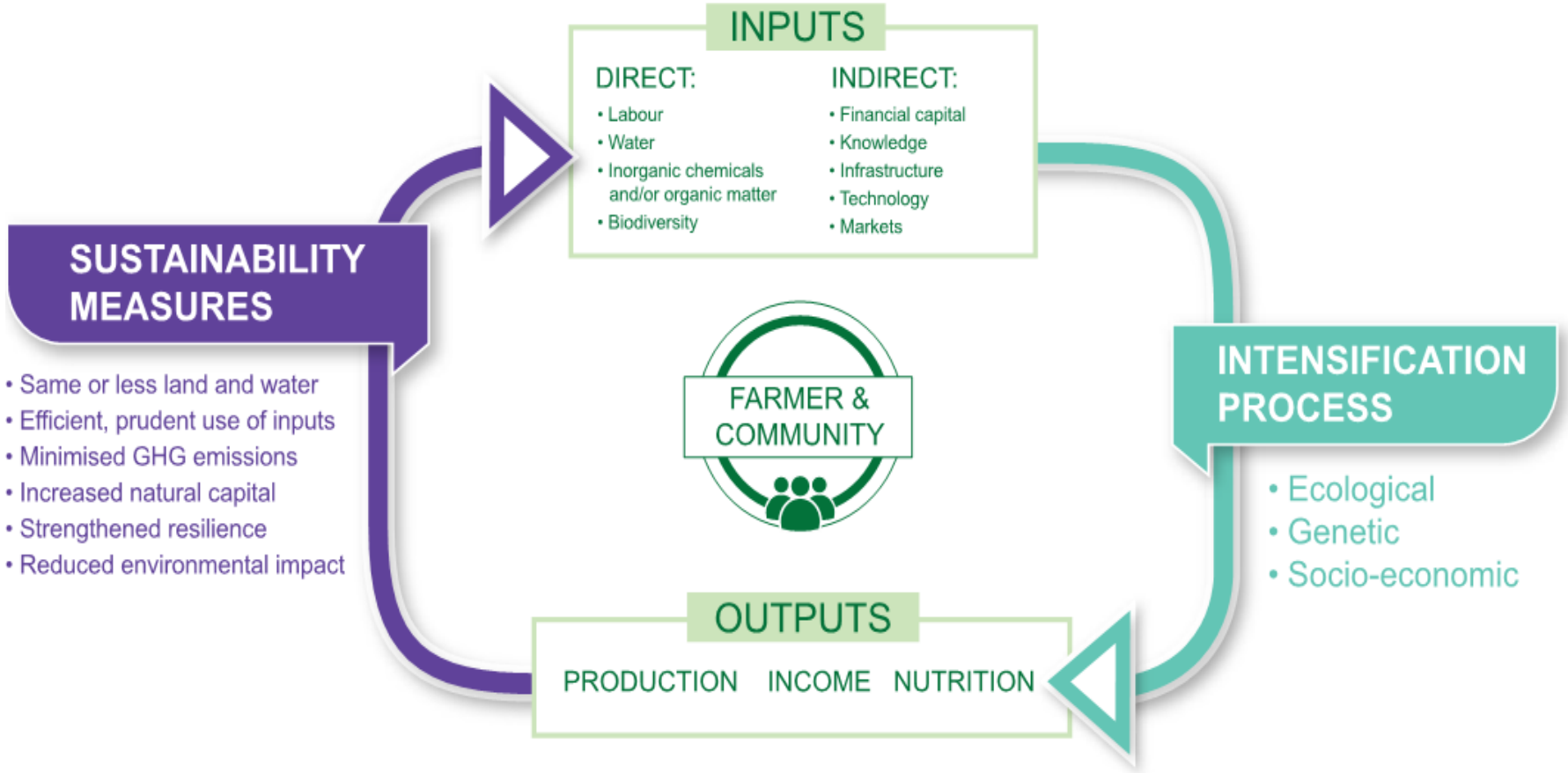
From Cullen and Ergano 2011

Livestock Value Chain Analysis thru Innovation Platforms

Action Area Platforms: CGIAR Humid Tropics Farming System Research Program

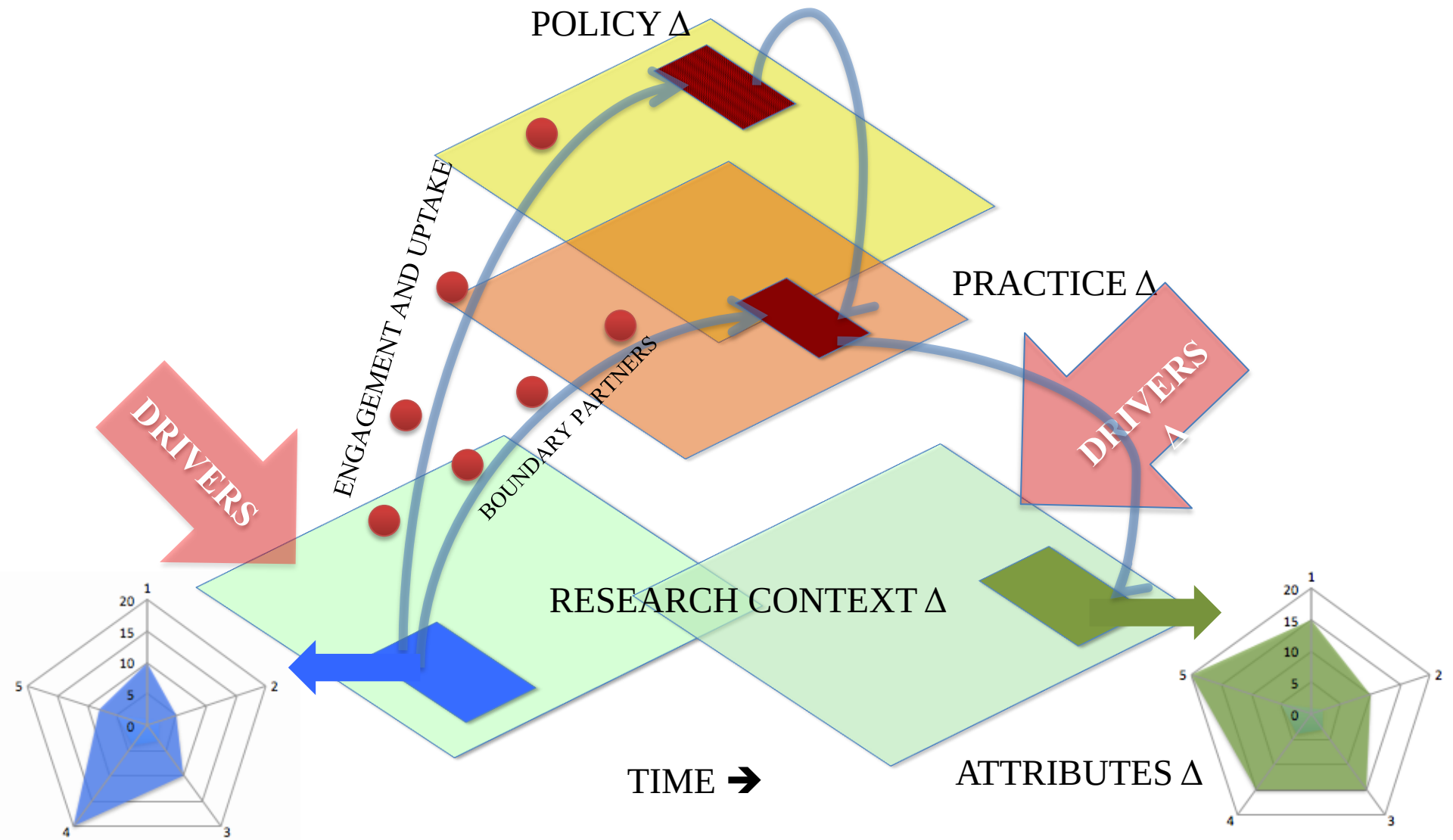
Action Area meeting, Bukavu, May 2013

Sustainable Intensification of Agriculture

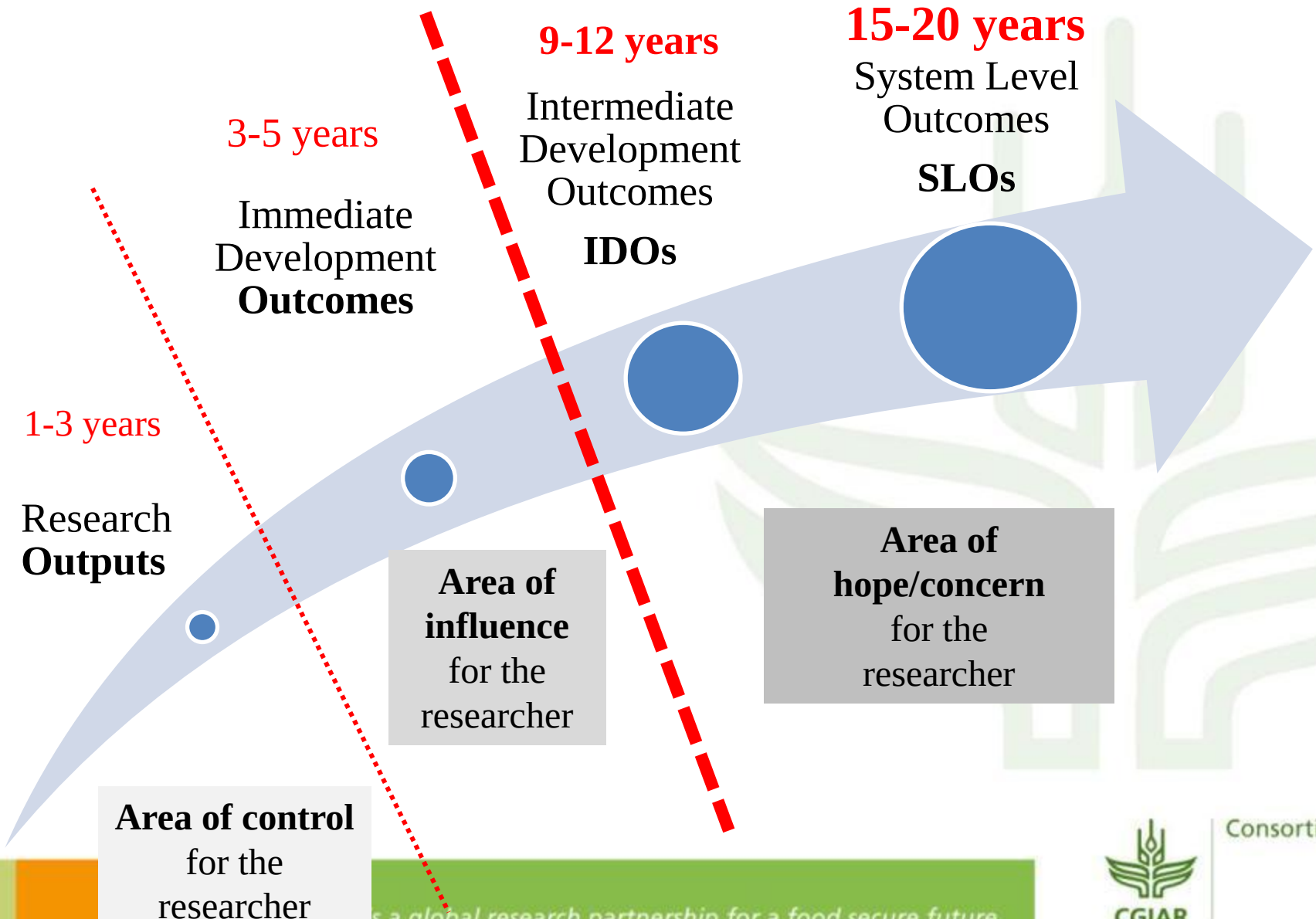


From The Montpellier Panel Report (2013)

Non-pipeline approach & impact



Outputs, outcomes, timescale & impact



Drought Tolerant Maize for Africa

Nairobi meeting, September 2013

CIMMYT

IITA
Research to Nourish Africa

CGIAR Consortium

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Drought Tolerant Maize for Africa (DTMA)

DTMA Project indicators	2013
Number of new varieties released (2007-2013)	140
Seed production in 2013 (new varieties)	30,000 t
Number of NARs - or companies - involved in seed production	13
Number of stakeholders adopting the new varieties: cooperatives; regional, national, small & medium enterprises (SMEs); international enterprises; large companies	118
Hectares planted with the new varieties	1,230,000 has
Number of households reached	2,900,000
Number of consumers benefiting these adoptions (Millions)	20 M

http://www.cgiar.org/consortium-news/partnerships-lead-to-measurable-impacts-for-drought-tolerant-maize-for-africa/

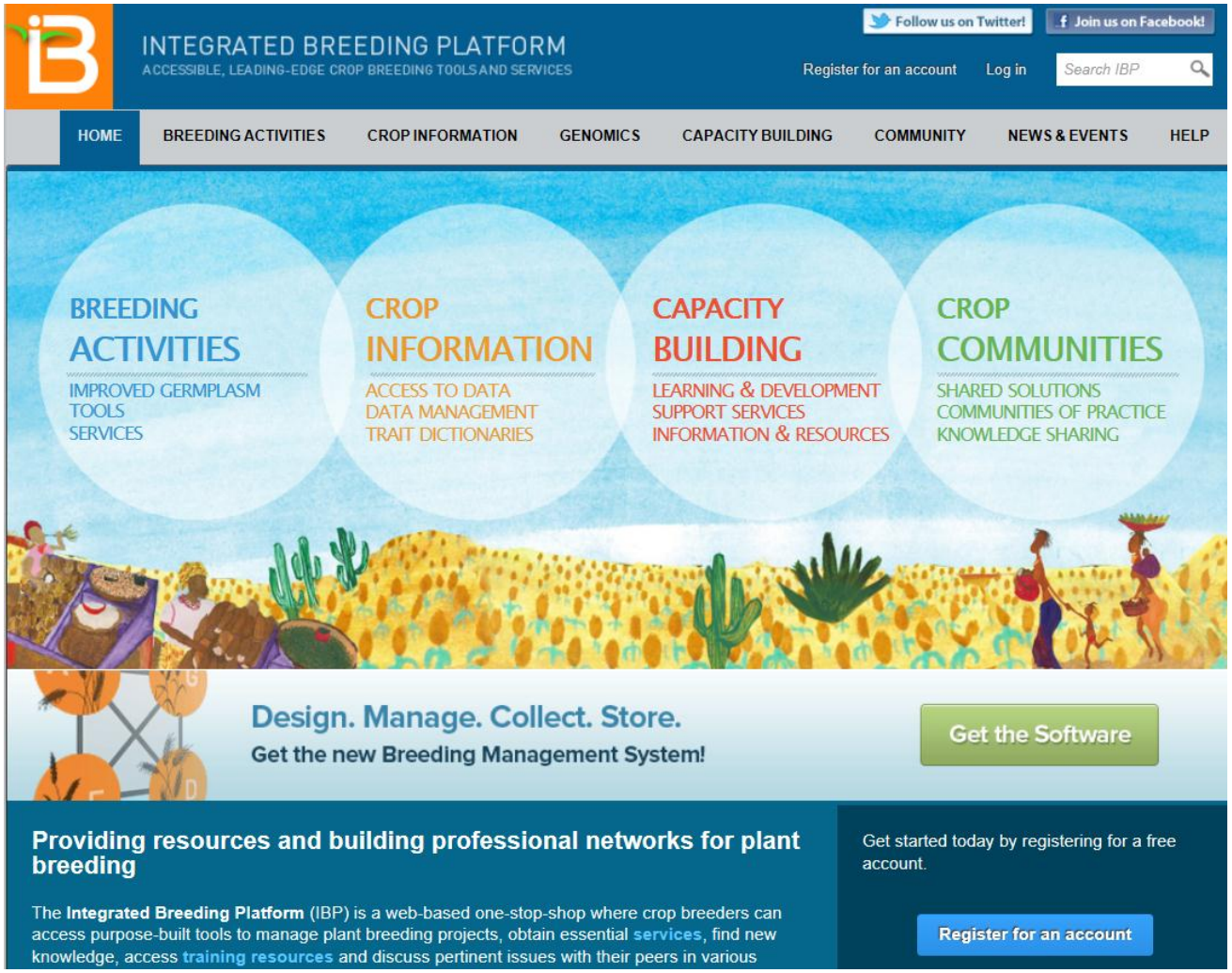
<u>Private sector linkages</u>: To strengthen the collaboration between the public and private sectors and to enhance the dissemination of hybrid rice technology, **Hybrid Rice Development Consortium** (HRDC) was established at the International Rice Research Institute (IRRI) in 2008 with 38 public and private organizations. By Q1 2014, the HRDC has been expanded to 69 members.

Source: IRRI flickr collection.

Re-greening desolate landscapes and delivering results to millions of farmers – Faidherbia fertilizer tree & Maize multi-cropping systems (Mali, Malawi)

e: CIFOR flickr collection.

Breeding data management



Source: https://www.integratedbreeding.net/

CGIAR Open Access & Data Management

Source: http://www.cgiar.org/consortium-news/

Agriculture trials & data management

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

The Global Agricultural Trial Repository and Database

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http://www.agtrials.org/aboutagtrials

aWhere

Home | Solutions | Platform | Technology | Company | Contact Us

A Billion New Data Points Every Day

for hyper-local climate smart recommendations and alerts delivered directly to farmers, and evidence-based decisions for policy makers

Increase productivity
Adapt to weather variability
Strengthen value chains

Climate Smart Agriculture | aWhere Platform 2.0 | Monitoring and Evaluation | Data Management

http://www.awhere.com

Extension 2.0: Adapting mobile ICT technologies to the needs of low income farmers

Conclusion on Technology Facilitation:

1. AR4D develops and facilitates adoption of clean and sustainable technologies to 500 million smallholder farmers, improving poverty, food-insecurity and malnutrition – and improving the sustainable management of the natural resource base.
2. The AR4D adoption model now makes extensive use of innovation platforms and value chain analysis – a participatory model that emphasizes demand.
3. The international AR4D partnership – the CGIAR – still works extensively with national AR4D partners, but also with private SME seed companies.
4. CGIAR manages its data and makes innovations available through Open Access, mobile technologies and technology platforms – to researchers, private sector, NGOs and to farmers.
5. ***Agriculture, forestry, fisheries, landscapes and food systems are critical for achieving all the future SDGs focus areas – a new technology facilitation mechanism should increase the focus on AR4D.***

THANK YOU

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www.cgiar.org