

Partnerships in Agricultural R&D: Myths, Facts and the Way Forward

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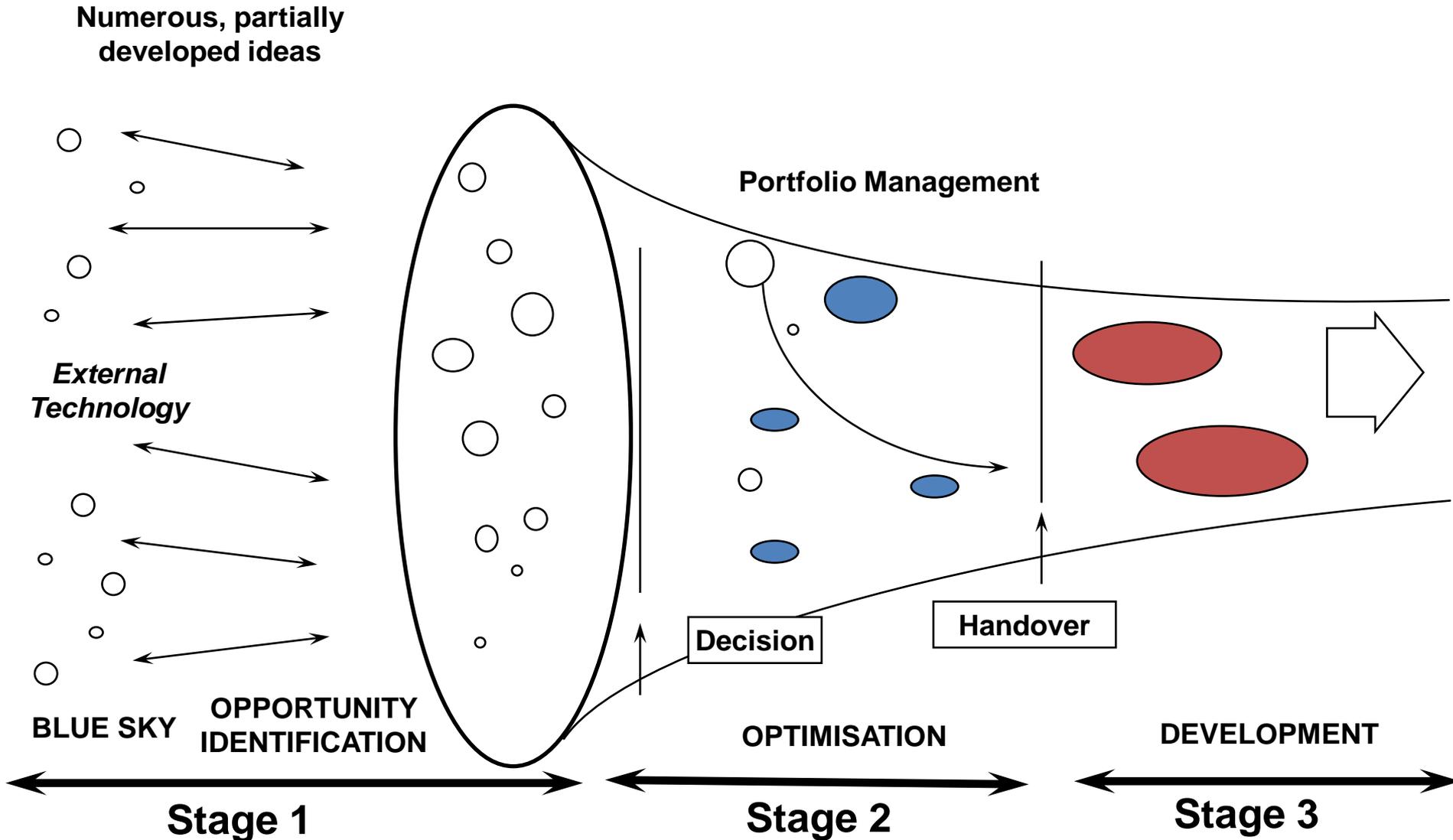
*14th ICABR Conference on Bioeconomy Governance: Policy, Environmental and
Health Regulation, and Public Investments in Research*

Ravello, Italy,

June 17, 2010

- **Myth: Public sector R&D is pro-poor**
- **Fact: We don't know**
 - Products fail to reach the farmer
 - Public sector innovation culture and funding focuses on 'R'
 - '*D*' delivers products to the market

The innovation process



Agricultural R&D

Public mindset

Research stage:

- Public good goals, funding- and publications-driven, donor preferences
- Knowledge generation (as opposed to exploitation)

Development stage:

- Not well developed
- Incentives and mindset don't lend themselves to 'development'; better to enter partnerships

Private mindset

Research stage:

- Targets and priorities gleaned from market
- Multidisciplinary project teams eyeing development and commercial functions

Development stage:

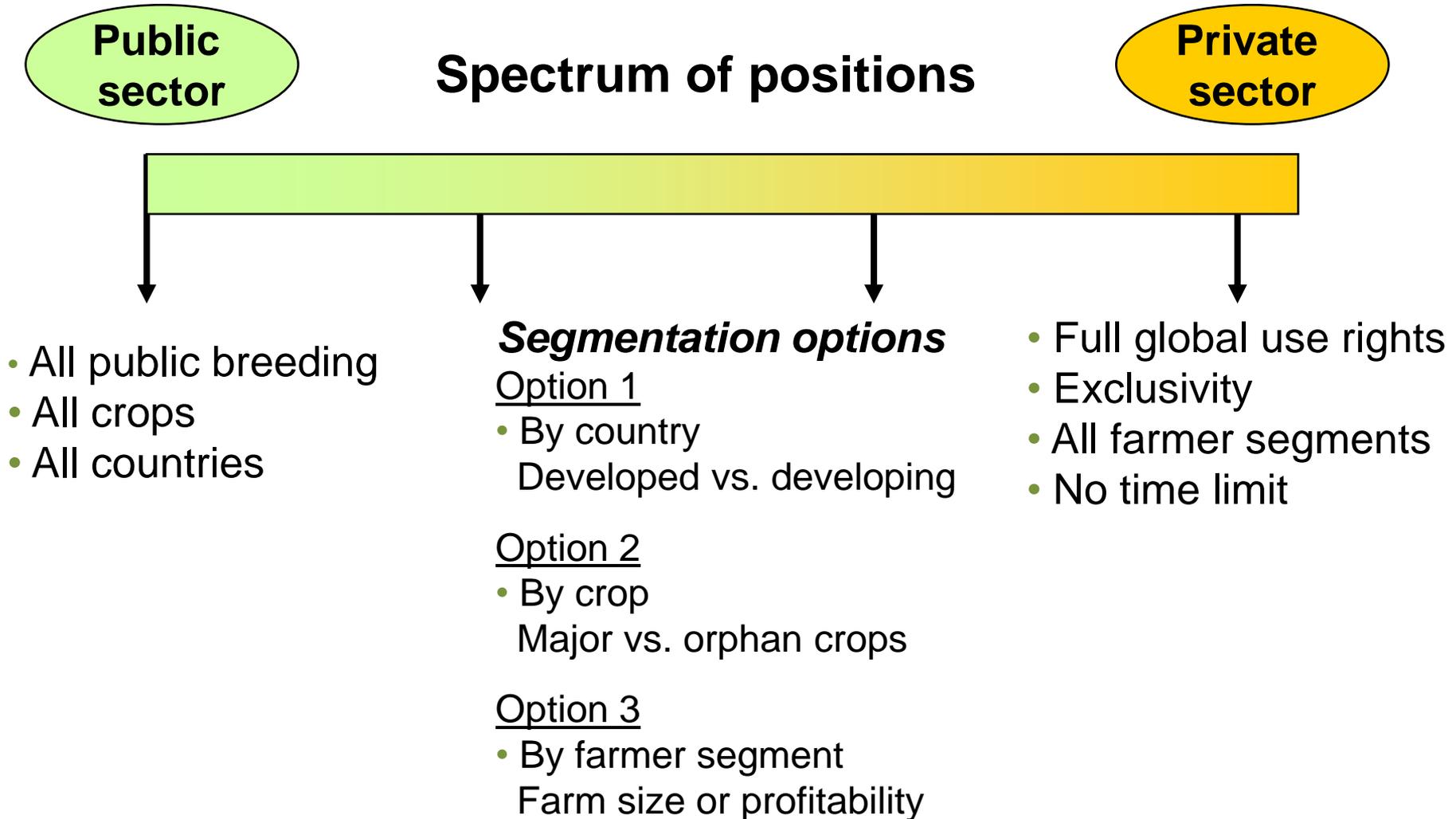
- Shift into different mode; change project leader at this stage
- Partnerships throughout: in-sourcing, out-sourcing, delivery

The goals, however, are the same: food security, sustainability, and 'growing more with less'

- **Myth: Public or private R&D alone will deliver MDG1**
- **Fact: Cooperation is essential to leverage relative assets**
- **Research cooperation:** Phenotyping, genotyping
- **Development cooperation:** To overcome the public sector's limited ability to market research outputs and the private sector's limited ability to operate where there is no market ==> Not-for-profits have a role!

Commercial exploitation

Route to farmers



PPPs beneficiaries

Public sector

- Greater research scale, scope and funding
- Freedom to operate
- Access to:
 - private sector proprietary technology
 - knowledge and know-how
 - equipment and facilities
- Broadening development reach and seed distribution
 - delivery of outputs to farmers

Private sector

- Access to:
 - public germplasm for product development
 - cutting edge genomic research
 - novel research in crops that are not commercial targets but contain unique characteristics
- New market creation – access and knowledge to key contacts and seed systems
- Social/corporate responsibility - technology or expertise donation

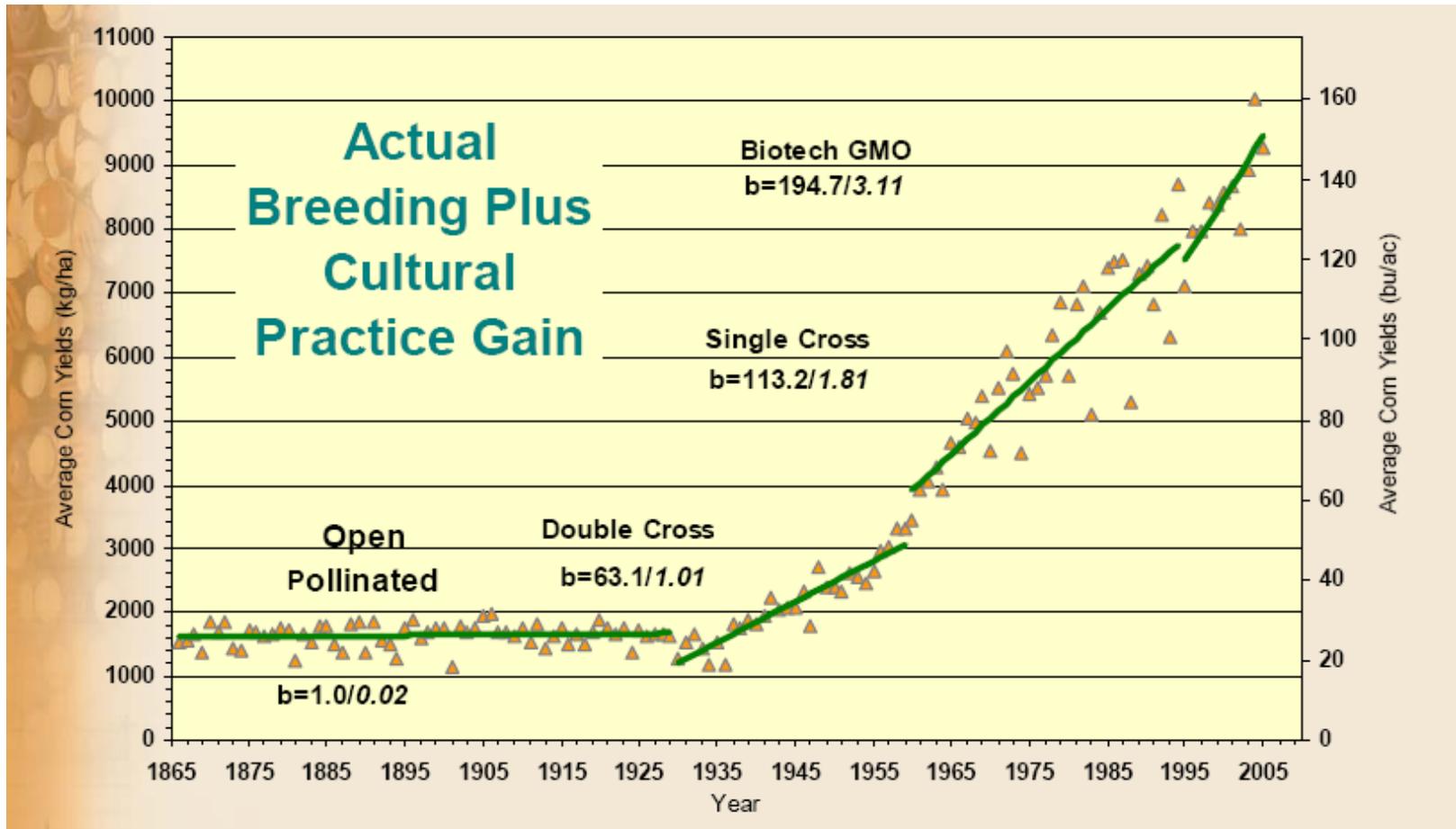
Farmers

- Modern improved crops
- Access to seeds, CP, fertilizer

- **Myth: IP prevents innovation from reaching poor farmers**
- **Fact: No ownership, no innovation; IP can be negotiated**
- IP is not a limitation in poor countries; no patents there; with GM crops, the real issue is stewardship
- In plant breeding, **IP commons and royalty-free licensing** for developing countries hold promise

The miracle of maize

Hybrids and appropriable traits; return on investment



Source: Adapted from Vivek, CIMMYT

The wheat rust Ug99 technology partnership and IP

POSSIBLE MIGRATION ROUTES OF WHEAT RUST Ug99

Based on prevailing winds and areas of wheat production, route A via the Arabian peninsula is considered the more likely route for the continuing advance of the disease



CIMMYT / SYNGENTA

- Identify, characterize and map QTLs to stem rust
- Identify markers for use in marker assisted trait selection
- Characterize the known gene complexes and determine how this interacts with other important genes in wheat
- Pre-breeding information in the public domain
- Breeding products proprietary

Brokered by the Syngenta Foundation

- **Myth: The relevant professional community understands the value of R&D partnerships**
- **Fact: Not at all (except for some mavericks)**
- ‘PPPs are not being leveraged to promote innovation – nor for enhancing the value of CG Centres’ work’
- ‘Few PPPs are based on clear analyses of their impact pathway’ (Source: Spielman et al./IFPRI, 2007)

Barriers for PPPs (1/2)

Looking for win-win

- Overlapping geographies
 - Growth markets for pvt sector
- Delivering value
 - Reducing poverty = increasing wealth
- Environmental stewardship
- Return on investment
 - = “impact”
 - = profits for all the actors
- Short / medium term focus
- “Donors” = Investors?
- Publication
 - Journals *or* Patents?
- Integrators
 - “puzzles” = open innovation
 - service providers
- Output focused milestones

Barriers for PPPs (2/2)

Differences?

- Orphan crops vs global food crops?
 - Market size
- Research skills vs development skills
 - Business plan
- Deployment plan vs “make available” or “hand over”
 - Stewardship vs ... (especially for GM)
 - Development of regulatory process
 - Enabling rather than risking trade
- Sustainable increased production vs intensification at all costs
 - Sustainable practices ... for environment and markets

Breaking down the barriers

- Intellectual property / Licensing
 - Considering exclusivity, costs, management
 - Liability risks
- Market segmentation
- New models of financing
 - Overcoming competition for core funds
 - Retaining business rationale
- Paying for development costs
 - “Not for Profit” vs “Not for Loss” ??
 - International development funds, National governments, Foundations
 - Guaranteed purchase schemes & predictability in business planning
 - Investment in future customers
 - Short term pain for long term gain

Our challenge

- How to create “mutual benefit”?
- How to effectively deliver?
- How to share risks and create re-investable capital?
- As partners, how to present a unified vision of enhanced productivity?
- As partners, how to align to achieve strategic goals in innovation as opposed to just seeking tactical advantage?
- Messages to the public and the private sector:
 - Chart out common ground
 - Deepen understanding of relevance of cooperation in PPPs
 - Set examples

A guidance framework to create and deliver PPPs in agricultural R&D will soon be published on the Syngenta Foundation site



Contributions by Viv Anthony and Mike Robinson are acknowledged