PhD Research: Role of the CGIAR PARASITE: Postdoc Project

Lunch Seminar: Knowledge Technology and Innovation (KTI) Group

26 February 2015, Josey Kamanda
International Agricultural Research

Source: www.cgiar.org

Source: Craswell et al., 2006
Objectives

- Analyze perspectives of different stakeholders on the dilemma regarding focus of the CGIAR.
- Develop a framework to guide decision making on how the CGIAR centers should position themselves.
- Examine the underlying issues that drive CGIAR centers to conduct activities for which they may not have a comparative advantage.
Theoretical and Analytical Concepts

- Market failure in agricultural research and development
  - Feder et al., 2010; Spielman, 2007; Birner & Anderson, 2007

- Agricultural research as a public good
  - International public good (IPG) concept in the CGIAR

- State failure in agricultural research and development
  - Reasons for state failure in extension (Feder et al. (2010))

- Role of ideas & beliefs in policy processes (Campbell, 2002; Hajer & Wagenaar, 2003; Birner et al., 2011)

- Transaction cost economics (Williamson, 1991)

- Innovation systems (World Bank, 2006)
ICRISAT Locations and Mandate
What are the perspectives of stakeholders on the role of the CGIAR?
Narrative Policy Analysis

Narratives

Stories have a beginning, middle and end, e.g. scenarios or arguments with premises and conclusions

Nonstories have no chronological succession of events, e.g. critiques, hopes or circular arguments

Dominant Stories underwrite and stabilize the assumptions for policymaking

Counterstories run counter to the controversy’s dominant policy stories

Metanarratives generate a new way of underwriting and stabilizing the assumptions for policymaking allowing decision makers to proceed with a case. A metanarrative is created by comparing dominant narratives to nonstories and/or counterstories

Source: Berg and Hukkinen, 2011
Pro-IPG Narrative

- Lack of new technologies, focus on IPG research, crowding out of national systems

  - "ICRISAT's role is to generate material, and the other people's role is to use the material according to their own requirements and give due recognition to ICRISAT”.

  - "Ultimately ICRISAT has to phase out, no way can ICRISAT keep promoting that variety, it's not sustainable. Engage the state machinery to pick that variety, you have to bring them on board".
Pro-Uptake Narrative

- Technologies available but systems weak, not all CGIAR products can be characterized as IPGs, downstream work necessary to achieve impact
  
  "We are not a bystander, if nobody else is producing, it's our technology, we must keep producing seed. If ICRISAT was not here, groundnut would not be in the subsidy program".

- "The fault lies with the CGIAR as it's not very clear about what they want to do. They want to achieve results there is no doubt about it, but how? They say we have to stop here and after that the national programme has to take over but if you leave it to the national programme it does not make any difference. Why should they promote your material, or at all why should they promote any material? Then you will say there is no impact."
How should the CGIAR position itself relative to national systems?
Conceptual Framework - Normative

- **Transaction Cost Economics: Cost-effectiveness Approach**
  - Identifies cost-effective governance structures or institutional set-up for achievement of a given outcome

- **Discriminating alignment hypothesis**
  - Transactions that differ in their attributes aligned with governance structures that differ in costs & competence (Williamson, 1991)
  - Assign each transaction to the actor who, in relative terms, is best at carrying it out i.e. has a ‘comparative advantage’
Transactions in Agricultural R&D

- Planning & priority setting
- Technology Development
  - Basic
  - Adaptive - participatory
- Field testing, release
- Multiplication
- Certification
- Promotion
- Evaluation/impact assessment
Reduced NARS capacity

Transaction costs + other costs arising for achieving a specific result

Economies of scale
Potential for spillovers
Low transaction intensity
Scope for elite capture and corruption

Source: Adapted based on Williamson (1991)
# Relevance of Attributes

<table>
<thead>
<tr>
<th>Transactions</th>
<th>Relevance of Attributes</th>
<th>Economies of Scale (incl. asset specificity)</th>
<th>Spillover Potential</th>
<th>Transaction Intensity</th>
<th>Scope for elite capture and corruption</th>
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</thead>
<tbody>
<tr>
<td>Planning and priority setting</td>
<td>Generic goals</td>
<td>High</td>
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<td>Location-specific goals</td>
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<td>Technology Development</td>
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<td>Adaptive - participatory</td>
<td>Low</td>
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<td>Field testing and varietal release</td>
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<td>Multiplication</td>
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<td>Certification</td>
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<td>Promotion</td>
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<td>Evaluation/impact assessment</td>
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What drives CGIAR centers downstream?
Process-Influence Map (NetMap)

- Participatory mapping technique to identify:
  - Role of different actors
  - Influence level on outcome
  - Challenges in the process
1. Identification of Breeding Objectives
2. Funding for Breeding Research
3. Initial Crossing at ICRISAT
4. Supply Parental Material (Collaboration)
5. Funding for staff salaries, recurrent expenses
6. Observation Yield Trials/ Varietal Trials
7. Supply of Promising Material for Trials
8. Proposal to Release Variety based on Trial Data
9. Approval for Release and Notification
10. Evaluation of 32 Varieties in Farmers’ Fields
11. Funding for Projects with Promotion Components
12. Promotion – PVS, Awareness, Seed Sample Distr.
13. Demand for Seed
14. Breeder Seed Production and Supply
15. Seed Subsidy Funds
16. Foundation and Certified Seed Production
17. Seed Certification
18. Seed Sales
CG7 Uptake Process in Malawi

- Groundnut variety bred at ICRISAT, India, tested in Southern Africa; coordinated by ICRISAT, Malawi
- Released in Malawi in 1990
- Typical case of a good variety that remained on the research station shelf after its release
- Took further interventions by ICRISAT working with others in seed multiplication, promotion to get adoption
- Capacity gap still remains in national system for breeder
Seed Sector Governance Challenges

Agricultural Research

- Priority Setting
- Germplasm Conservation
- Crop Improvement Research
- Varietal Release
- Breeder Seed Maintenance

Seed Production

- Seed Multiplication
  Resources for breeder, foundation and certified seed production
- Seed Processing
  Cleaning, drying and labelling facilities
- Seed Storage
  Treatment and storage infrastructure
- Quality Control
  Resources for field inspections and laboratory tests

Seed Marketing and Uptake

- Seed Indent and Seed Lift
- Seed Prices and Subsidies
- Farmer Knowledge and Seed Demand
- Performance of Extension Services

Macroeconomic Policies, Agricultural and Seed Policies

Socio-Economic and Biophysical Environment
Key Messages

- IPG concept still debatable as a criterion for CGIAR role
- Reframing debate on positioning of the CGIAR
- Legumes particularly require integrated seed systems development (public, community), enabling policies.
- Priority setting and targeting of research
  - Assessment of NARES capacities – specific to mandate.
- Centers to take advantage of both comparative and complementary advantages (catalyze, facilitate)
- Systematic learning of institutional lessons
  - Analysis of innovation network dynamics
Welcome to PARASITE

PARASITE - Preparing African Rice Farmers Against Parasitic Weeds in a Changing Environment - is an exciting multidisciplinary research project of Wageningen University, Africa Rice Center (AfricaRice) and the National Agricultural Research Systems (NARS) of Benin (INRAB), Côte d'Ivoire (CNRA) and Tanzania (MARI). This website provides information on the 4 subprojects, project members, upcoming events, publications and interesting links and references. For more information please check the youtube interview with Dr Jonne Rodenburg - weed scientist at AfricaRice - on this page.

Want to stay up-to-date on our news, documents, videos and more?
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Parasitic Weeds

- *Striga* spp. in rain-fed upland
- *Rhamphicarpa fistulosa* in rain-fed lowland rice production systems
- Parasitize host roots:
  - Rice, maize, sorghum, millet
  - Extract water, nutrients, assimilates
  - Other yield reducing effects
- Difficult to control:
  - Copious seeds, easily spread, viable
  - Damage caused before emergence
  - Witchweed, Rice Vampire Weed

Source: Rodenburg, 2014
The PARASITE Program

- Preparing African Rice Farmers Against Parasitic Weeds in a Changing Environment
- Integrated programme NWO-WOTRO, CCAFS
- WUR, AfricaRice and NARS of Tanzania, Benin
- 3 PhD-projects, 1 postdoc project
  - Project 1: Environmental effects
  - Project 2: Management strategies
  - Project 3: Economic losses/ costs
  - Project 4: Institutional innovations
Postdoc Project

- Address institutional organisation/ preparedness of crop protection systems to timely address newly occurring biotic constraints

- Building on Marc’s work:
  - Systems approaches to crop protection
  - RAAIS (methodology, case study)

- Findings:
  - Specific entry points: Parasitic weeds awareness (farmers, extensionists), co-develop parasitic weed strategies
  - Generic entry points: Multi-level interaction, structural allocation of resources

Source: Schut, 2014
Next Steps

- Feed back results to stakeholders, identify the institutional changes required at different levels
- Strengthen linkages with other subprojects, focus on more specific prevention and control strategies
  - Prevention of spread thro’ seeds/grain, water, animals etc.
  - Control: biological, chemical, cultural, genetic
- Innovation Capacity Analysis
  - Actors and their roles, attitudes and practices of the main actors, patterns of interaction, enabling environment (Hall et al., 2006)
  - Communication pathways – outbreak, reporting, actions
  - Insights on provision of crop protection services (governance challenges, how to address them)
Addressing governance challenges

**Demand-side approaches**

- **Measures to improve voice and accountability** (e.g., empowering user groups; social audits; right to information;)
- **Measures to improve capacity for service delivery/implementation** (e.g., staff qualification, incentives, outsourcing)
- **Ability of beneficiaries to demand services and benefits and hold agencies accountable**
- **Capacity of agencies to supply services and program benefits**
- **Effectiveness of food security and agricultural investments**
  - *Quality*
  - *Efficiency*
  - *Equity*  
    - Gender
    - Poverty
  - *Sustainability*

**Outcomes**
- Sustainable pro-poor development

**Supply-side approaches**

Source: Birner, 2007
Suggestions?

- **Action component – Tools for facilitating ILAC**
  - RMA as a concept and associated tools (van Mierlo et al., 2010)
  - PIPA (http://boru.pbworks.com/w/page/13774903/FrontPage)

- **Research component – Theoretical grounding**
  - Deeper analysis on governance of crop protection services
  - Political economy of service provision (veterinary services, invasive species, SRI)

Source: van Mierlo et al., 2010
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<th>Activities</th>
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<td>Literature review, fieldwork preparations</td>
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<td>Draft paper identifying governance issues associated with crop protection strategies, how they can be addressed</td>
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References


- http://www.parasite-project.org/
Thank you

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