Designing Agricultural Research Linkages within an Agricultural Innovation Systems Framework

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Rationale

- New “dialogues” in social and economic development
- New drivers of change
- New demands on public research organizations

- Expectations: Immediate, measurable impact on productivity and poverty
- Realities: variable performance across public research organizations

Hypothesis:

Without greater linkages between research organizations and the wider innovation system, there is a risk of excluding vital public goods generation from the development agenda

Status – where are we now?

- Many reforms of research organizations
  - Decentralization, rationalization, reconstruction
  - Corporatization, commercialization
  - Stakeholder inclusion, consultation

- Limited evidence of
  - "What works and where"
  - Influence on research outputs
  - Impact on productivity, poverty

Caveat:

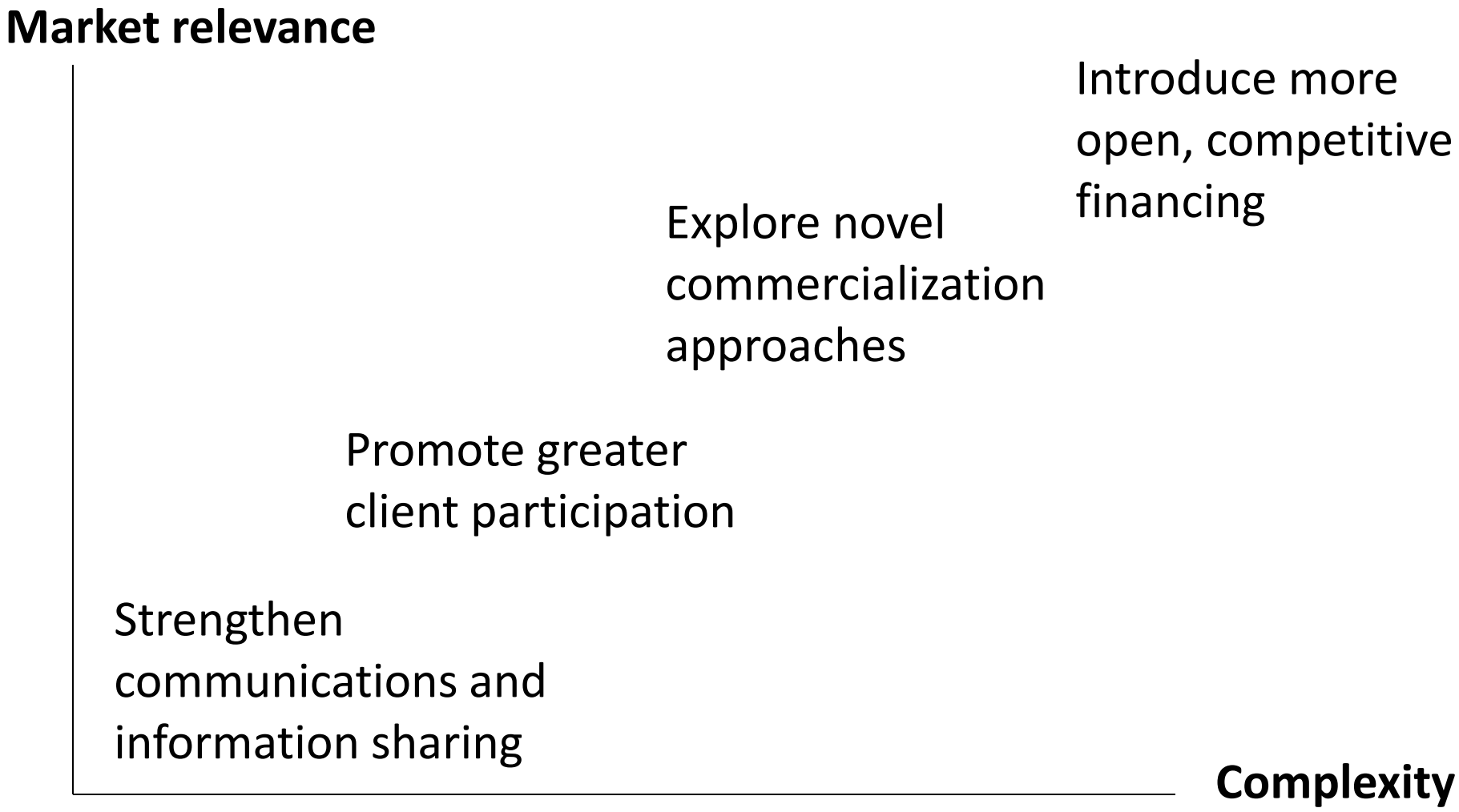
Without sufficient evidence, it is difficult to provide conclusive insights on returns to large-scale research system reforms

Key areas of focus

Strategies for strengthening the connectivity between agricultural research and other system actors

- Invest in “demand articulation” mechanisms to better identify the needs of different user groups
- Design “organizational interfaces” that help transform research into real goods and services.
- Use both market and nonmarket approaches to improving demand articulation and organizational interfaces

Investment options



Investment mechanisms

Approach	Purpose	Key assets
Coordination mechanisms	Share information, set priorities, allocate funds	Strategic direction; scientific information
Communications and ICT	Share information, articulate demand	Scientific information
Participatory research	Engage farmers	Scientific and localized information
Codesign approaches	Engage stakeholders	Scientific and localized information
Innovation platforms	Share information, promote co-innovation, promote policy change	Technology tools, products; private financing
Consortia	Acquire information, materials	Technology tools, products
Technology transfer	Acquire information, materials	Scientific information
Commercialization programs	Commercialize public research	Technology products
Public-private partnerships	Develop new products	Scientific information; technology tools, products; public, private financing; managerial capacity
Science parks, business incubators	Develop new products	Scientific information; technology tools, products; public, private financing; managerial capacity
University-industry collaboration	Commercialize public research, develop new products	Scientific information; technology tools, products
Novel funding mechanisms	Diversified financing	Public, private financing

Examples

- Nigeria: Research Extension–Farmer–Input–Linkage System (REFILS)
- Ghana: Research-Extension-Linkage Committees (RELCs)
- Senegal: Agri. Services & Producer Organizations Project (PASAOP)
- Australia: Cooperative Research Centres (CRCs)
- India: ICRISAT Hybrid Parents Research Consortia
- E./S. Africa: CIMMYT drought-tolerance/water-efficient maize projects
- S. America: Papa Andina
- Argentina: Zero tillage wheat/soybean

Lessons learned

- While large structural reforms are a good investment, smaller, more evolutionary, and incremental approaches to systemic change sometimes work better.

- In agriculture-based countries
  - improve researchers' responsiveness to farmers' needs and increase access to global science and technology through a diversified, cross-cutting approach to participatory research and technology transfer.
- In transforming countries
  - use combined market/nonmarket approaches to actively engage the private sector and encourage opportunity-driven entrepreneurship.
- In urban countries
  - Invest in sophisticated competitive funding mechanisms

Policy implications

- Sustainable linkages require managerial & structural reforms
- Reforms require stable, long-term support from government
- Long-term support requires the participation of civil society
- Participation requires activist policies to include underrepresented
- Inclusion raises issue of where public funds are use
- Use of public funds foster a conducive investment environment

Thank you