

Systems Perspectives on Agricultural and Rural Innovation

Jeroen Dijkman & Joachim Otte
7th Interagency Meeting

Edinburgh, Scotland, 15-16 May 2006



Outline

- Innovation vs Research
- New Agriculture
- Innovations Systems
- Examples
- Conclusions



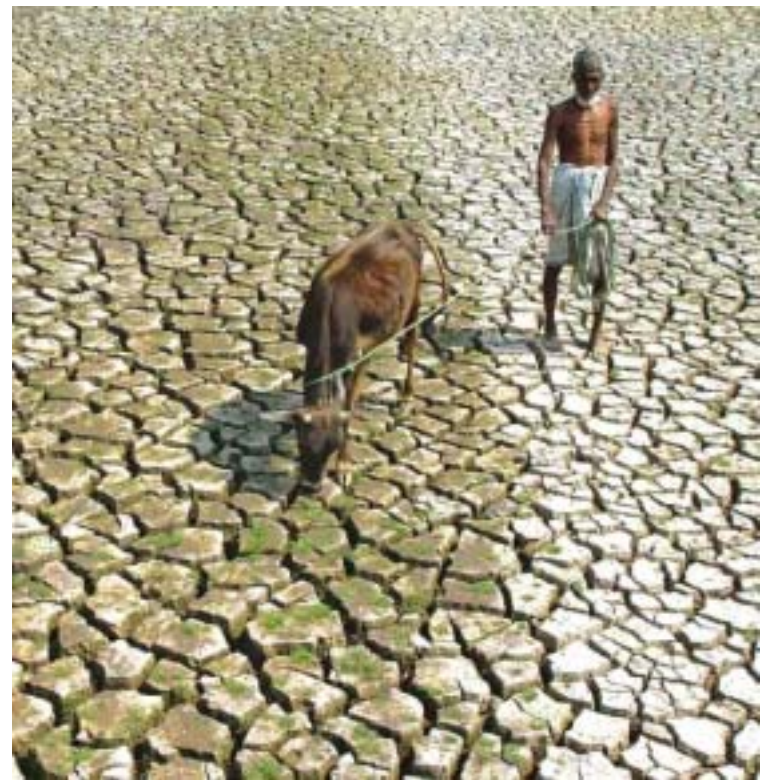
Innovation vs. Research

- Research **creates** knowledge and technology
- Innovation: The process of creating and **putting into USE** combinations of knowledge from different sources
- Putting knowledge into use adds value to existing resources and creates **IMPACT**
- Innovation thus links research to impact on the ground



Why is Innovation so Important?

- **Mandate articulated in impact terms** – economic growth, poverty reduction and environmental protection
- The emergence of a **new agriculture**, situated in a global context that is evolving very rapidly with many different players



New Agriculture



- **Sectors:** Livestock, aquaculture, flowers, horticulture, medicinal plants, agro-processing, bio-fuels, fibers, forest products
- **Drivers:** Trade liberalization & international value chains; new technology; changing consumer preferences associated with rising incomes and urbanization



Features of New Agriculture

- It can reach the poor through non-food routes
- Many different players involved, particularly the private sector
- Embedded in the global context of trade rules, consumer demands and competition: change rapid and often unpredictable
- Innovation to cope with the global context requires knowledge from many different branches of science as well as management and empirical knowledge
- Capacity to respond and adapt needs to be enhanced in ways that allow producers to innovate and safeguards the livelihoods of poor people linked with the sector



How to Promote Innovation?

	Linear Approach	Systems Approach
Sources of ideas	Centralized, scientific research	Multiple sources including research
Communication	Researcher to “extensionist” to farmer	Structured around action
Assumptions on how impact is achieved	Diffusion processes organized by extension / the market	Interactive learning give rise to concerted action
Assumptions about the nature of knowledge.	Generic / a-contextual Knowledge is universally valid and can be transferred.	Specific/ contextual Knowledge only has meaning in its domain of existence



Empirical Evidence

- Innovation not strictly related to levels of R&D **investment** *per se*
- Success comes from **patterns of organisation** and ways of working that support an interactive process of knowledge sharing and learning
- In practice - **partnerships** between public research and private enterprise creating both technological and institutional change
- A key feature of interactive learning is the ability of these arrangements to **adapt** rapidly to changing conditions



What is an Innovation System?

- A system of innovation comprises all the actors and their interactions involved in the generation and use of knowledge, as well as the institutional and policy context that shapes the processes of interacting, knowledge sharing and learning



Innovation Systems Principles

- Research is **part of** a wider process of innovation
- Innovation requires **interaction** and this is only productive if it is supported by the right sort of **relationships**
- Interaction is not only important for **problem solving**, but also to **identify** new challenges and opportunities
- The process of interacting and innovating is **context-specific**
- Participating in the generation and use of knowledge provides **lessons on how to improve** this interaction
- Learning causes the **evolution** of patterns of interaction and ways of working



Implications for *Livestock Research*

- Centrality of stakeholder dialogue, network development and partnerships
- Agenda of systems capacity development
- Integration of new roles (eg knowledge brokers, network catalysts)
- New organizational culture (openness, institutional learning)
- New skills and disciplinary mixes



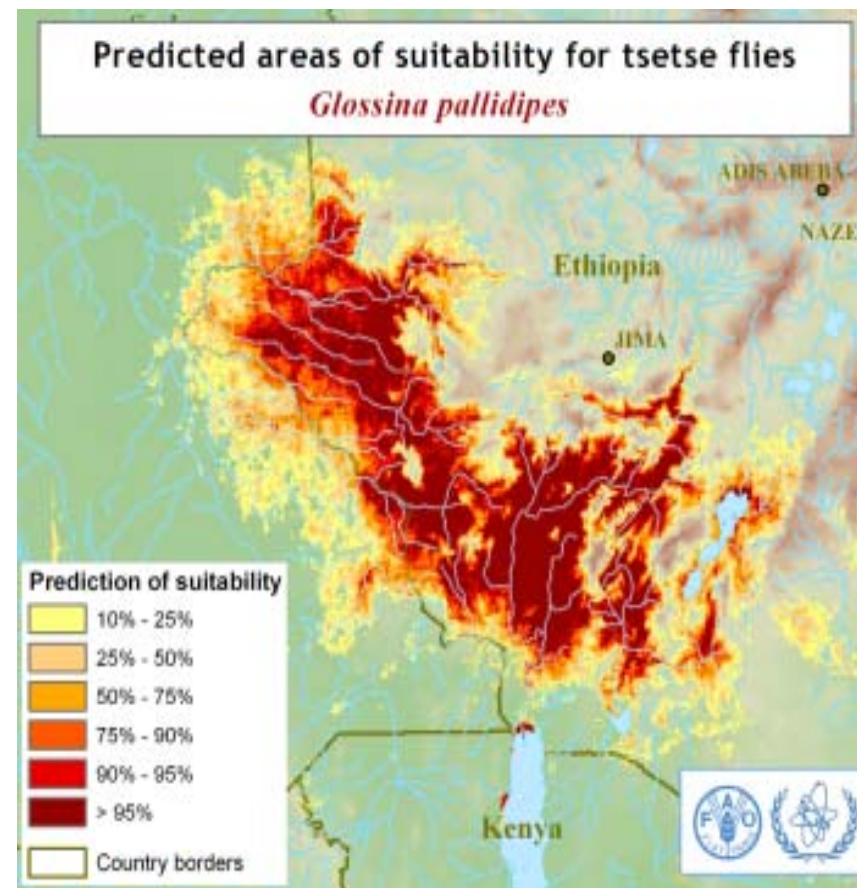
What Researchers Will Say....

- Linear approach not that bad, as it worked well in the past
- Innovation systems are nothing new, we are already working that way
- Innovation doesn't sound much like research, so it distracts us from our main work
- It's expensive and has high transaction costs

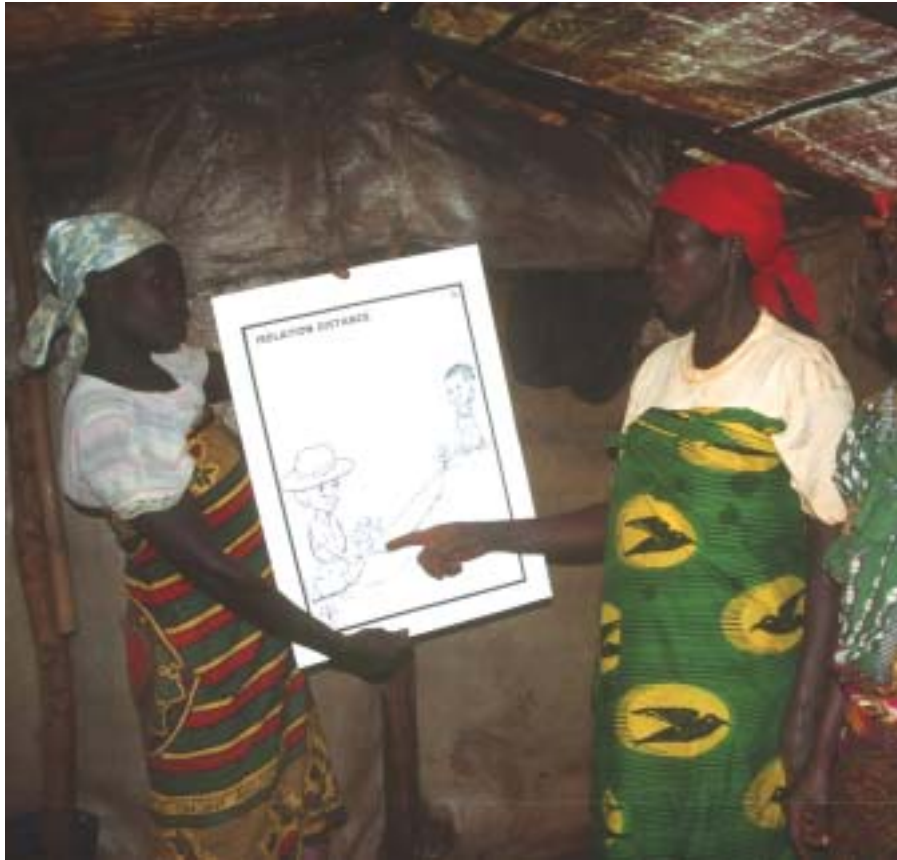


'Livestock' Example: Ghibe Valley

- Resettlement area, tsetse infested
- Decades of tsetse ecology and trypanotolerance research
- Provision of tsetse control and related animal health services by ILCA (ILRI)
- Dependency of communities on ILRI as a 'philanthropic' service provider



Ghibe Valley – New Approach



- Change from ‘philanthropic’ service provider to ‘process facilitator’
- Group facilitation, skill acquisition, actor linkages
- Experimentation with different approaches to service delivery
- Independent service co-operatives established



Ghibe Valley - Outcomes

- Allowed for the evolution of new patterns of interaction and learning amongst public, private and tertiary sector actors
- Catalyst for the experimentation with other institutional and technological inventions
- Entry point for other development actors and capacity strengthening
- Sustainable provision of services, new skills and linkages made a significant contribution to farming success



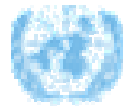
Recap

- *New Agriculture* demands a dynamic, interactive approach to facilitate continuous innovation
- R&D increasingly needs to be situated in a broader set of relationships within a system of innovation
- Major implications for the way R&D organizations operate and the ways capacities for innovation and impact can be build



References & Further Reading

In collaboration with:



UNITED NATIONS
UNIVERSITY
UNU-MERIT

Learning Innovation Knowledge (LINK)

Policy-relevant Resources on Innovation for a New Rural Economy

www.innovationstudies.org



For more information please visit the PPLPI website:

www.fao.org/ag/pplpi.html

www.fao.org/ag/againfo/projects/en/pplpi/publications.html



A Living from Livestock
Pro-Poor Livestock Policy Initiative





A Living from Livestock
Pro-Poor Livestock Policy Initiative

