Networking Technology

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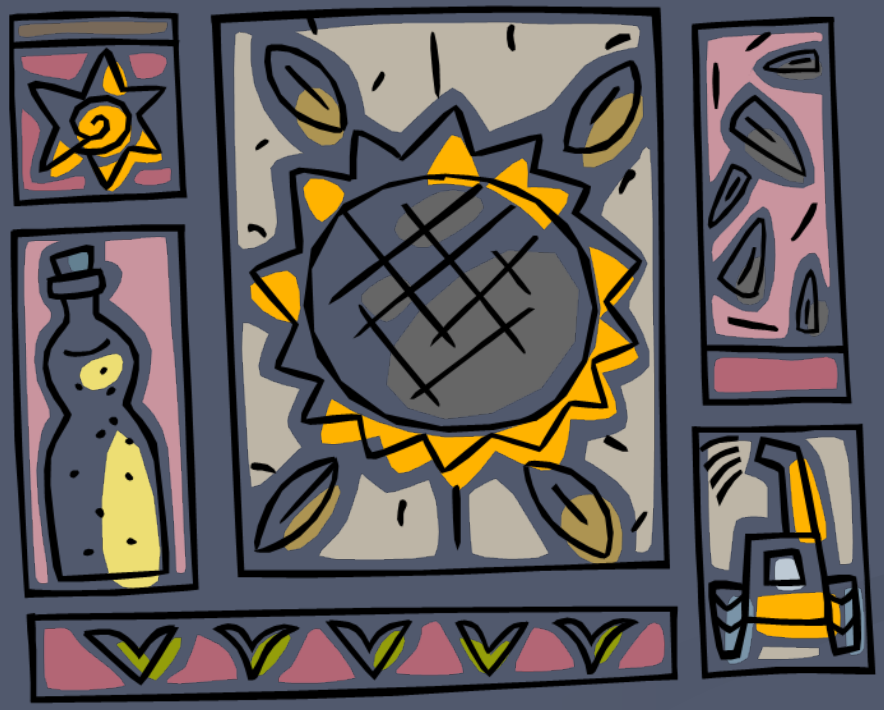
Networking Technology



a peasant woman regards the future

Reflecting on Networks and Technical Change

How should we think about technical change in agriculture?

What is the role of learning in the process of innovation?

- Is learning a matter of information transfer resulting in adoption of innovations?
- Or, is learning a matter of developing capacities for on-going adaptation?

Whose capacities should be developed?

Where, in fact, does innovation occur?

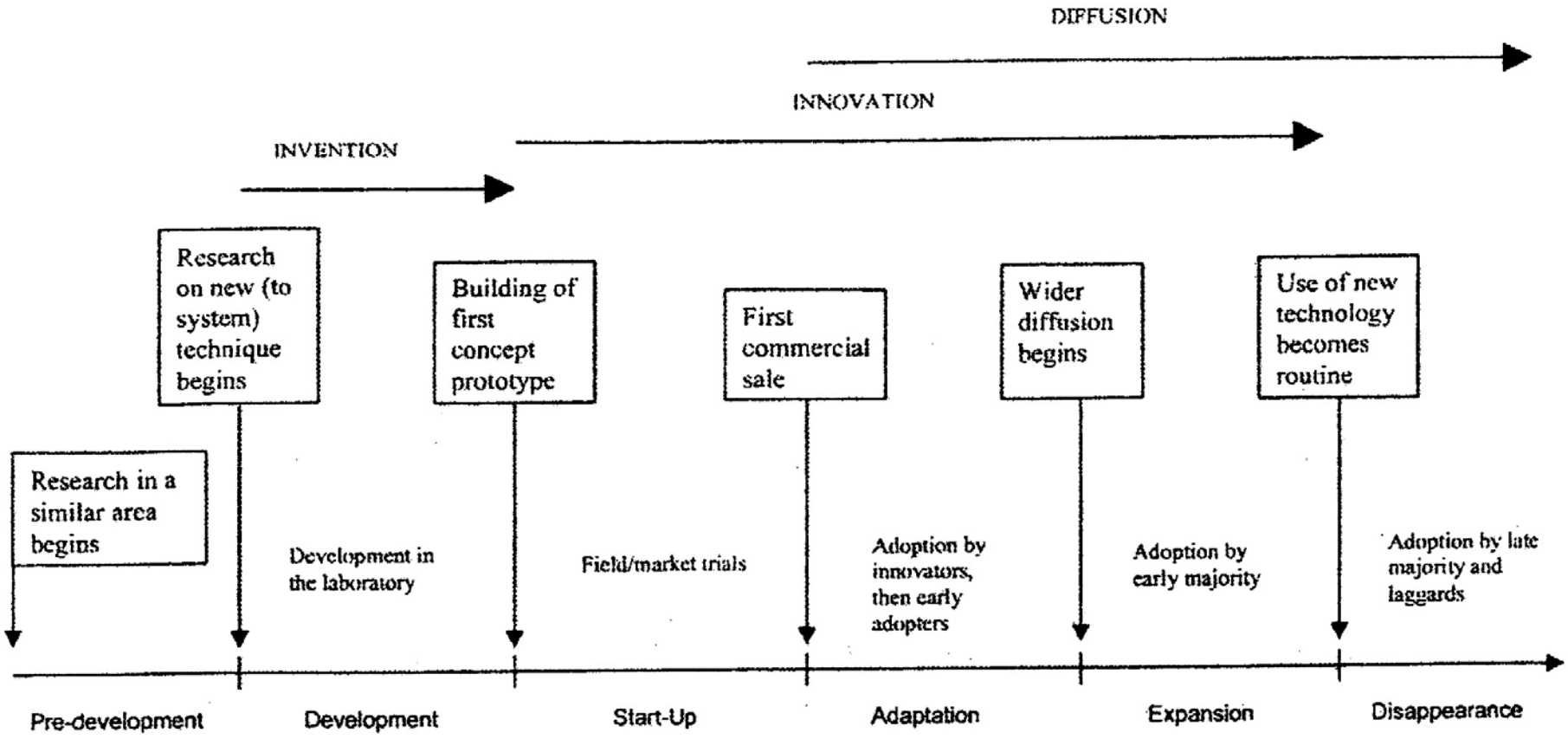
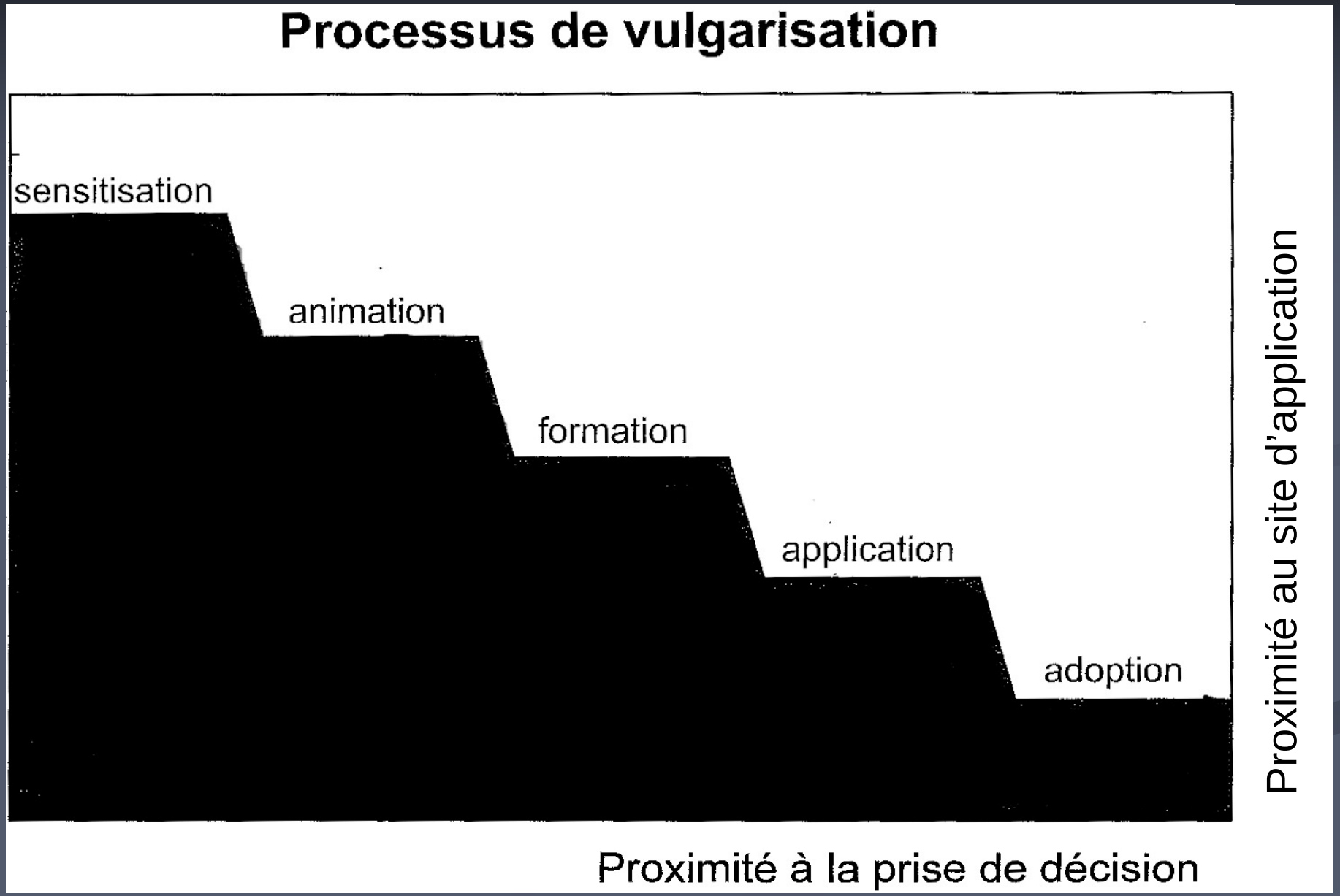


Figure 2.2 Stages and milestones in the invention, innovation and diffusion process[3]

From Douthwaite, 2002

The steps of technology transfer



Knowledge networks/systems

People and technologies are interconnected in ways that reproduce some types of knowledge and behavioral practices and not others

Knowledge networks rationalize socio-material relationships in the agro-ecology

There is often competition between knowledge network segments

Knowledge Network Characteristics of Technology Transfer

Technology Transfer operates well under conditions where:

- Technological change is a matter of component replacement
- Shared knowledge systems extend from conception to execution
- Ecological and market conditions are stable and relatively homogeneous
- Linking investments with outputs allows for quantitative priority setting

Social Learning for Adaptive Management

Learning by doing

Local stakeholders innovate management techniques adapted to local conditions

Negotiation

Resistance

Accommodation

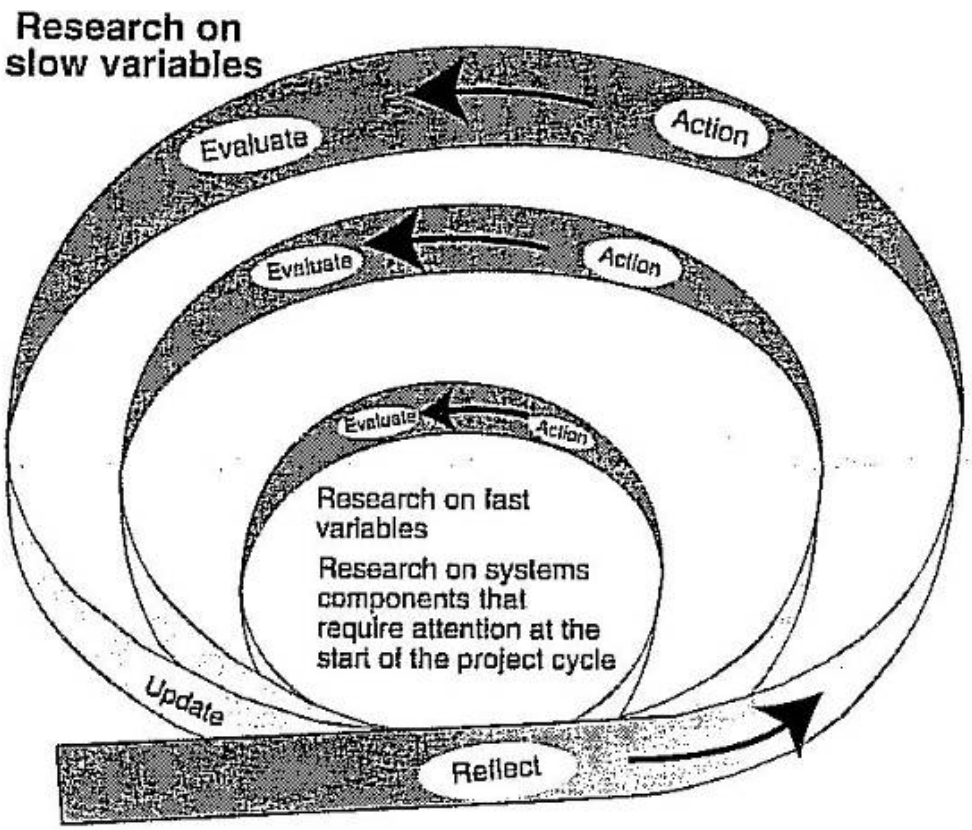


Fig. 4.1. Overlapping learning cycles for processes with different temporal characteristics.

From: Sayer and Campbell, 2004

Negotiation

Successful negotiation requires building **trust** across boundaries

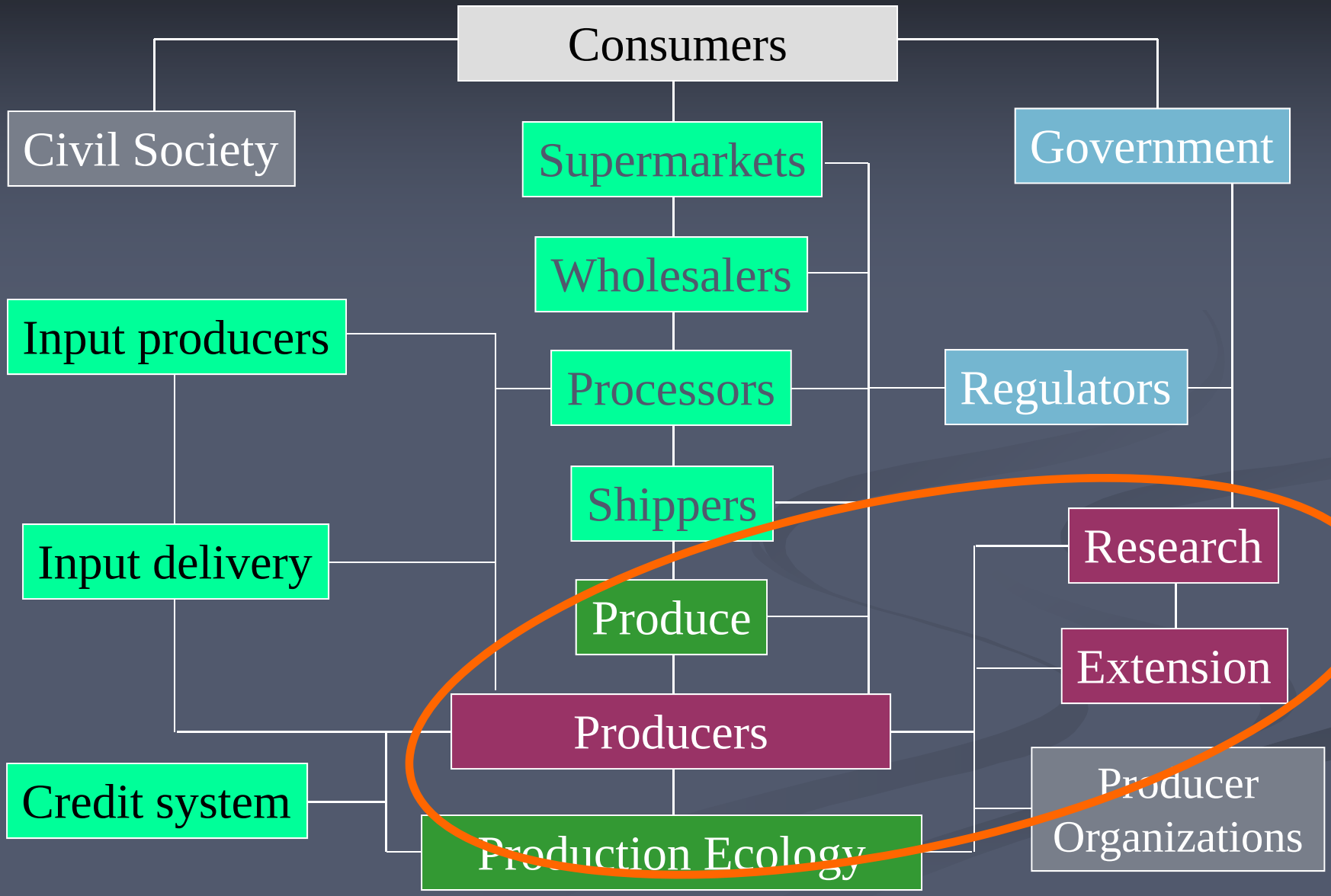
To influence stakeholders scientific information needs to be:

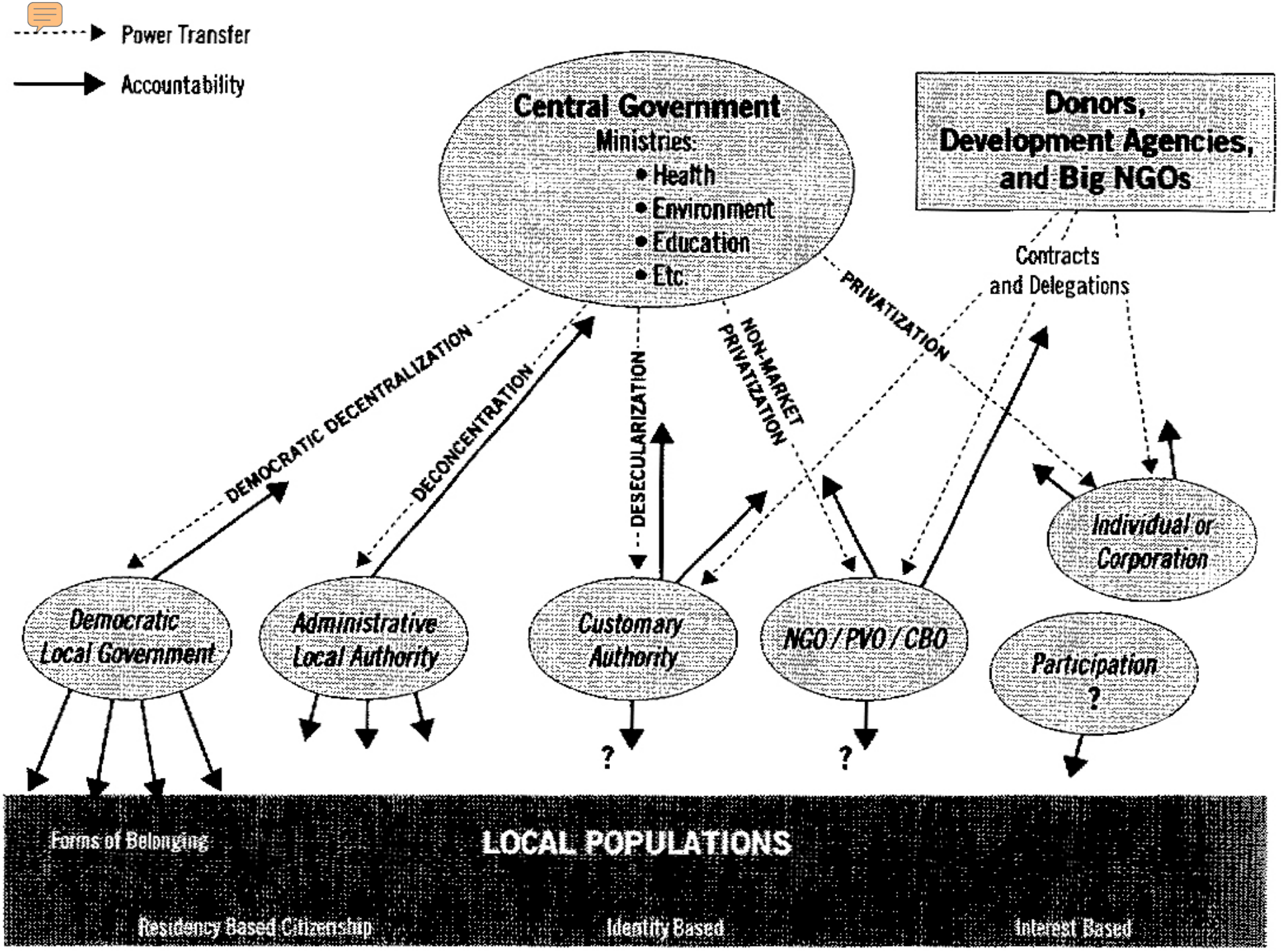
Credible: scientific adequacy for technical evidence & arguments

Salient: relevance of assessment to needs of decision makers

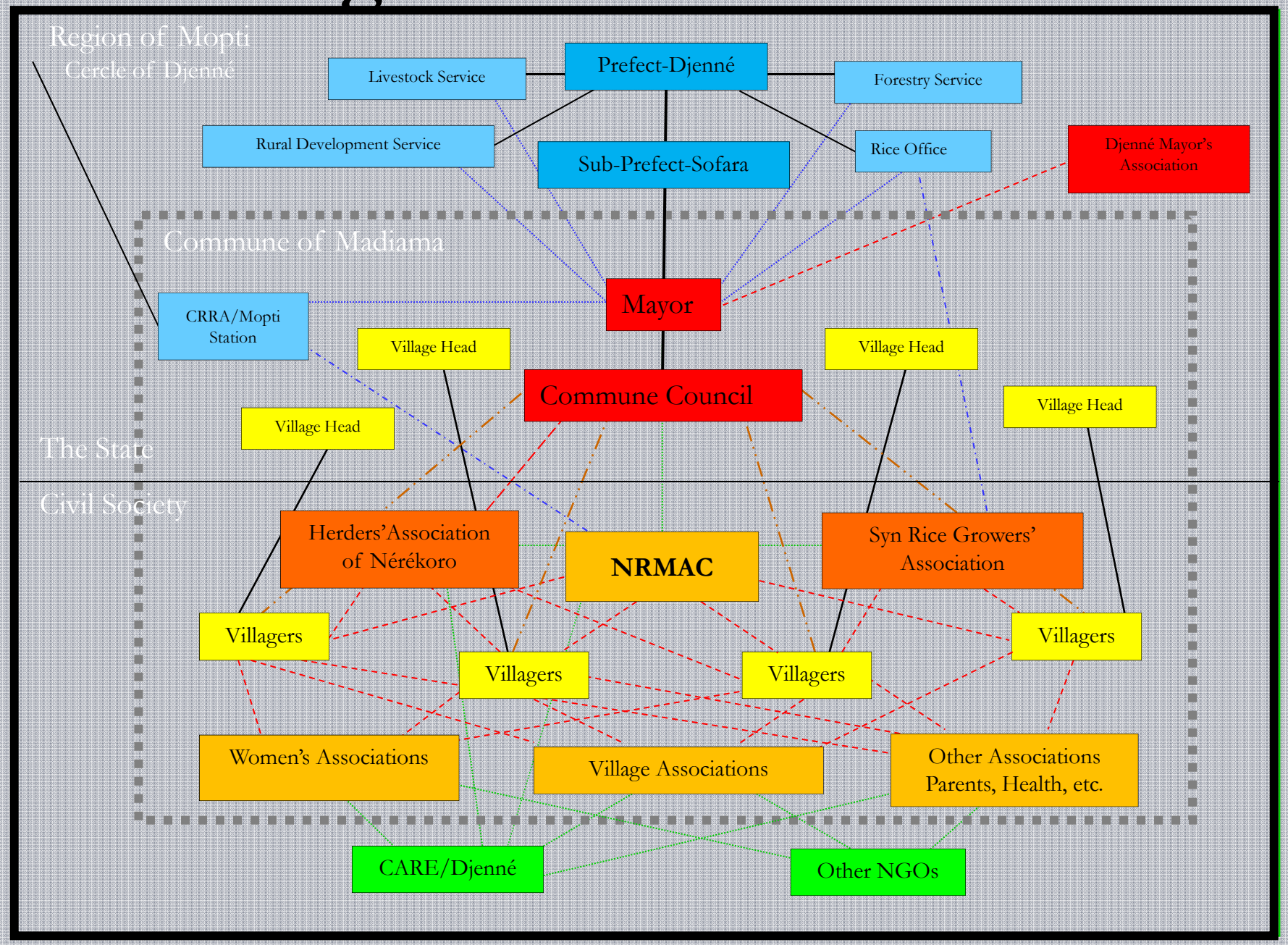
Legitimate: perception that information has been respectful of stakeholder divergent values & beliefs

IPM Actor Network

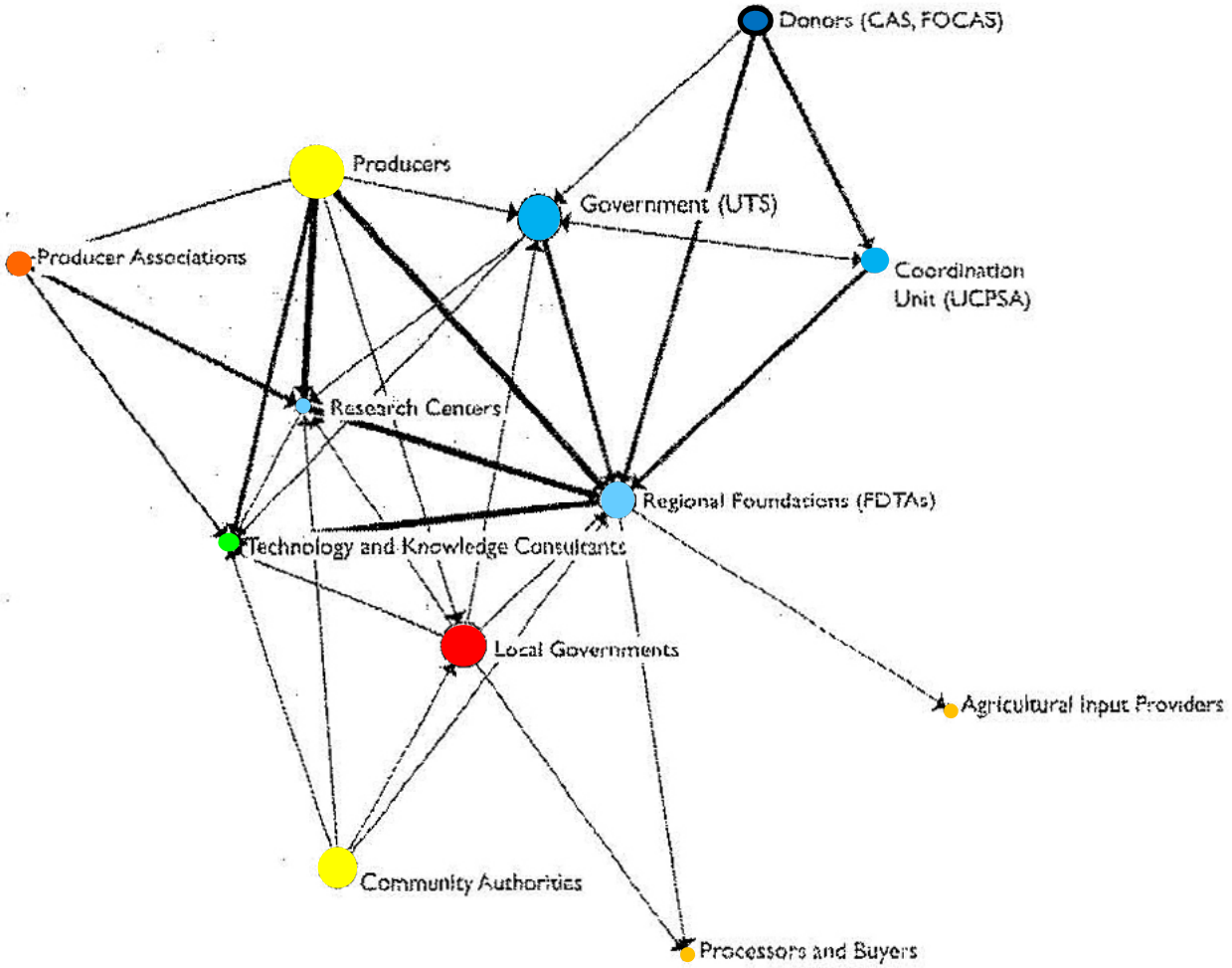



Power Transfer
Accountability
Central Government
Ministries:
• Health
• Environment
• Education
• Etc.
Donors, Development Agencies, and Big NGOs
Contracts and Delegations
PRIVATIZATION
DEMOCRATIC DECENTRALIZATION
DECONCENTRATION
DESECULARIZATION
NON-MARKET PRIVATIZATION
Democratic Local Government
Administrative Local Authority
Customary Authority
NGO / PVO / CBO
Individual or Corporation
Participation ?
?
?
Forms of Belonging
LOCAL POPULATIONS
Residency Based Citizenship
Identity Based
Interest Based

Local Ag and NRM Governance



Box 5: Priority-setting relationships among SIBTA actors



Source: Study data.

The directions of the arrows show the nodes that impose and communicate priorities and the nodes that are affected by this. The size of the nodes is proportional to the out-degree centrality, in this case the number of ties a node uses to communicate directives on priorities to other types of actors. Nodes that have high out-degree centrality usually have more power and influence at their disposal and are able to communicate intensively and influence many others. Thicker arrows mean that there is stronger influence (on a scale where 1 is weak and 5 is strong).

National systems of innovation and other local networks

Principles for enhancing innovative performance

- Assess the extent of institutional interactions and power relations
- Evaluate knowledge flows between nodes
- Identify bottlenecks and opportunities for interactive learning
- Assess institutional policy and practices
- Suggest appropriate remedial action

U.S. Land Grant Universities

A model of institutional innovation.

- Well integrated socially with its clientele in the late 19th century.
- Based on local-input and control for responsiveness.
- Research and education responsive to local needs.
- Graduates were sons/daughters of the farming community of each state.

Extension was not developed until the early 20th century.

USAID Development Assistance

USAID has demands and limitations placed on it by Congress leading to:

- strategic objectives that guide program planning, and
- requirements to achieve program results in a short time span

framed by:

- annual budget cycles,
- management systems,
- funding mechanisms, and
- implementation tools

All structured to achieve the strategic objectives.

A Growing Disconnect Between Institutional Visions

USAID is organized to design, implement, and evaluate development projects with immediate impacts.

- a technical assistance (production) function

Universities are organized to generate new knowledge and innovations, human capital, and share these with other societal stakeholders.

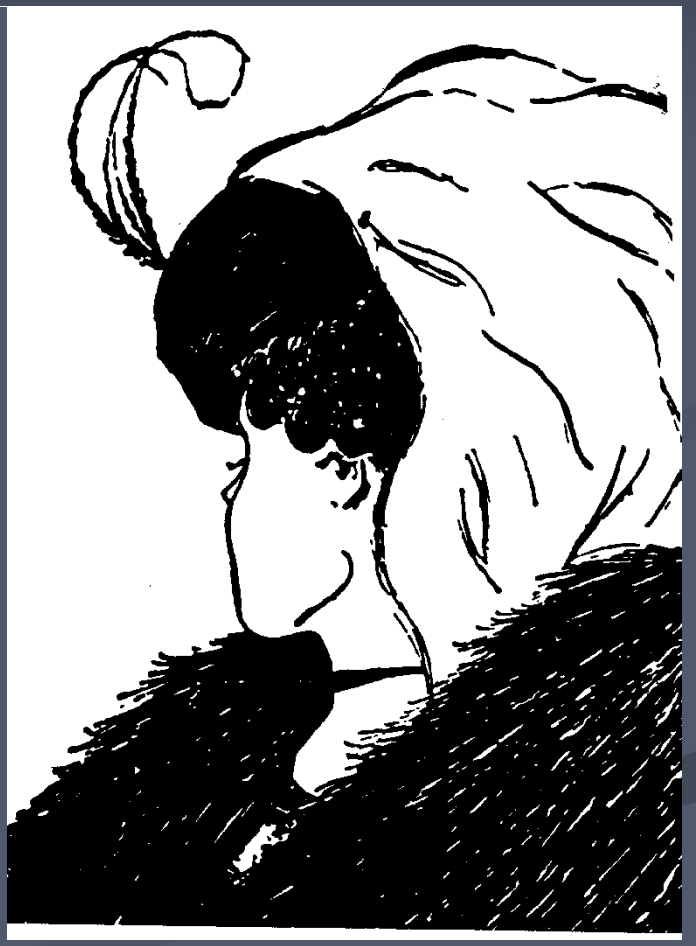
- a research and dissemination function

Whither the University Role

Implementation has shifted away from university strengths:

- **Institution building** – local knowledge institutions (public universities, research and extension institutes; GOs, NGOs; and private enterprises)
- **Long-Term Training** – intellectual capital (scientists, extension agents, private entrepreneurs, and government policy makers)
- **Long-Term Research** – knowledge for development (new technologies and improved practices)

Toward provision of immediate deliverables and impacts.



a young woman negotiates the future