INNOVATION SYSTEMS AND CAPABILITY BUILDING AMONG SMALLHOLDER FARMERS' IN KENYA

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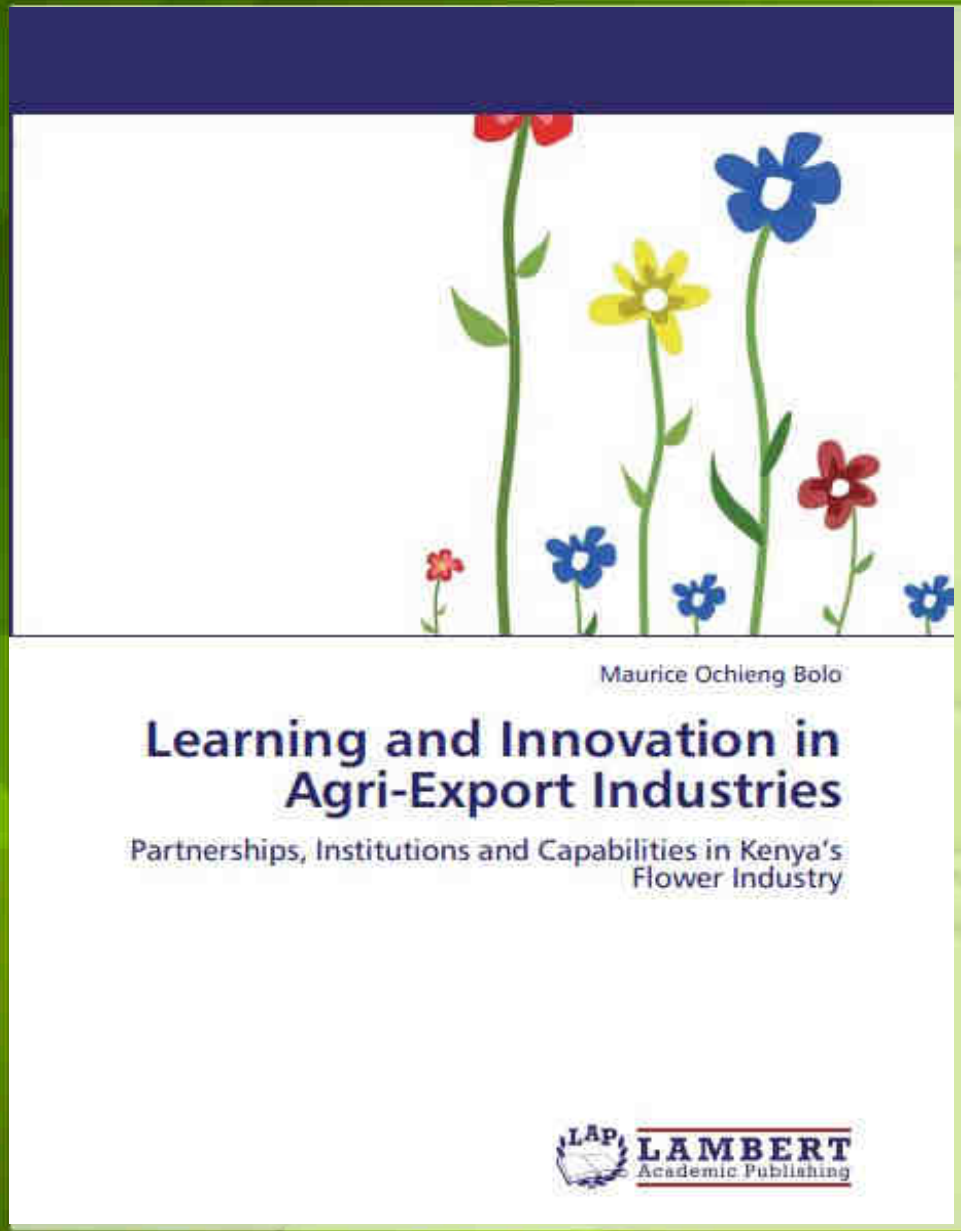

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Innovation systems as a framework for interactive learning and capability building: A mixed bag

Hall et al (2004): "activities that widen the interaction of organizations with other partners and networks are likely to be an important way of building up innovation capabilities, both individual and organizational and in the wider national systems"

Smith (2005): "where the interactions are dynamic and progressive, great innovative strides are often made. Conversely, where the components are compartmentalized and isolated from each other, the result is often that relevant research bodies are not at all productive."

Innovation systems as a framework for interactive learning and capability building: A mixed bag

UNCTAD 2006: "the capability to learn and build new competencies will depend on how well the parts fit together and the strength of these connections"

Lundvall et al (2002): "the focus on interactive learning – a process in which agents communicate and even cooperate in the creation and utilization of new economically useful knowledge – may lead to an under-estimation of the conflicts over income and power, which are also connected to the innovation process…."

Can Innovation Systems lead to building smallholders innovation capabilities?

Mytelka (2009): "for developing countries to benefit from the technological changes that have been taking place with increasing frequency in the recent decades, requires access to knowledge, the capabilities needed to innovate on the part of a wide spectrum of the population and the adoption of complementary policies at the outset that enable smallholders to deal with technological change."

Summary of Results

- That generally research organizations (both local and foreign) are rated poorly as 'sources of new knowledge' to farmers and are unlikely to be chosen by farmers as 'partners in R&D'.

- That farmers obtain knowledge more easily and readily from input suppliers, 'other farmers' and NGOs. Both the input suppliers and NGOs are rated highly as 'sources of new knowledge' and are more likely to be chosen by farmers as 'partners in R&D'

Choice of R&D partners by farm size

Table 1: Choice of main partners in R&D by farm size

			size of farmers			Total
			small scale	medium scale	large scale	
Main partners in R&D[a]	other farmers	Count	46	20	3	70
		% within Identity	95.80%	100.00%	33.30%	
	input suppliers	Count	31	15	6	52
		% within Identity	64.60%	75.00%	66.70%	
	local public universities and research institutes	Count	1	1	4	6
		% within Identity	2.10%	5.00%	44.40%	
	foreign universities and research institutes	Count	5	0	1	6
		% within Identity	10.40%	0.00%	11.10%	
	foreign private consultants	Count	0	0	5	5
		% within Identity	0.00%	0.00%	55.60%	
	local NGOs	Count	20	7	3	30
		% within Identity	41.70%	35.00%	33.30%	
	international NGOs	Count	2	0	0	2
		% within Identity	4.20%	0.00%	0.00%	
Total		Count	48	20	9	77

Percentages and totals are based on respondents.

a. Group

Importance of actors as sources of new knowledge

		least important	not quite important	important	quite important	most important	Total
Small Scale	local NGOs	12	2	4	3	13	34
		35.30%	5.90%	11.80%	8.80%	38.20%	100.00%
	foreign NGOs	13	1	3	0	7	24
		54.20%	4.20%	12.50%	0.00%	29.20%	100.00%
	input suppliers	3	4	5	14	15	41
		7.30%	9.80%	12.20%	34.10%	36.60%	100.00%
	local private consultants	23	4	0	0	0	27
		85.20%	14.80%	0.00%	0.00%	0.00%	100.00%
	foreign private consultants	20	0	0	0	2	22
		90.90%	0.00%	0.00%	0.00%	9.10%	100.00%
	foreign universities and research institutes	25	1	2	1	0	29
		86.20%	3.40%	6.90%	3.40%	0.00%	100.00%
	local public universities and research institutes	22	2	0	2	0	26
		84.60%	7.70%	0.00%	7.70%	0.00%	100.00%
	farmers	1	1	4	6	36	48
		2.10%	2.10%	8.30%	12.50%	75.00%	100.00%

Explaining the Results

- *If policies are favourable (supportive of learning, interactions and innovations) and the key actors are in place,*

- (i) Why have farmers rated the R&D/training actors poorly as sources of knowledge and partners in R&D?

- (ii) What are the NGOs and input suppliers doing differently?

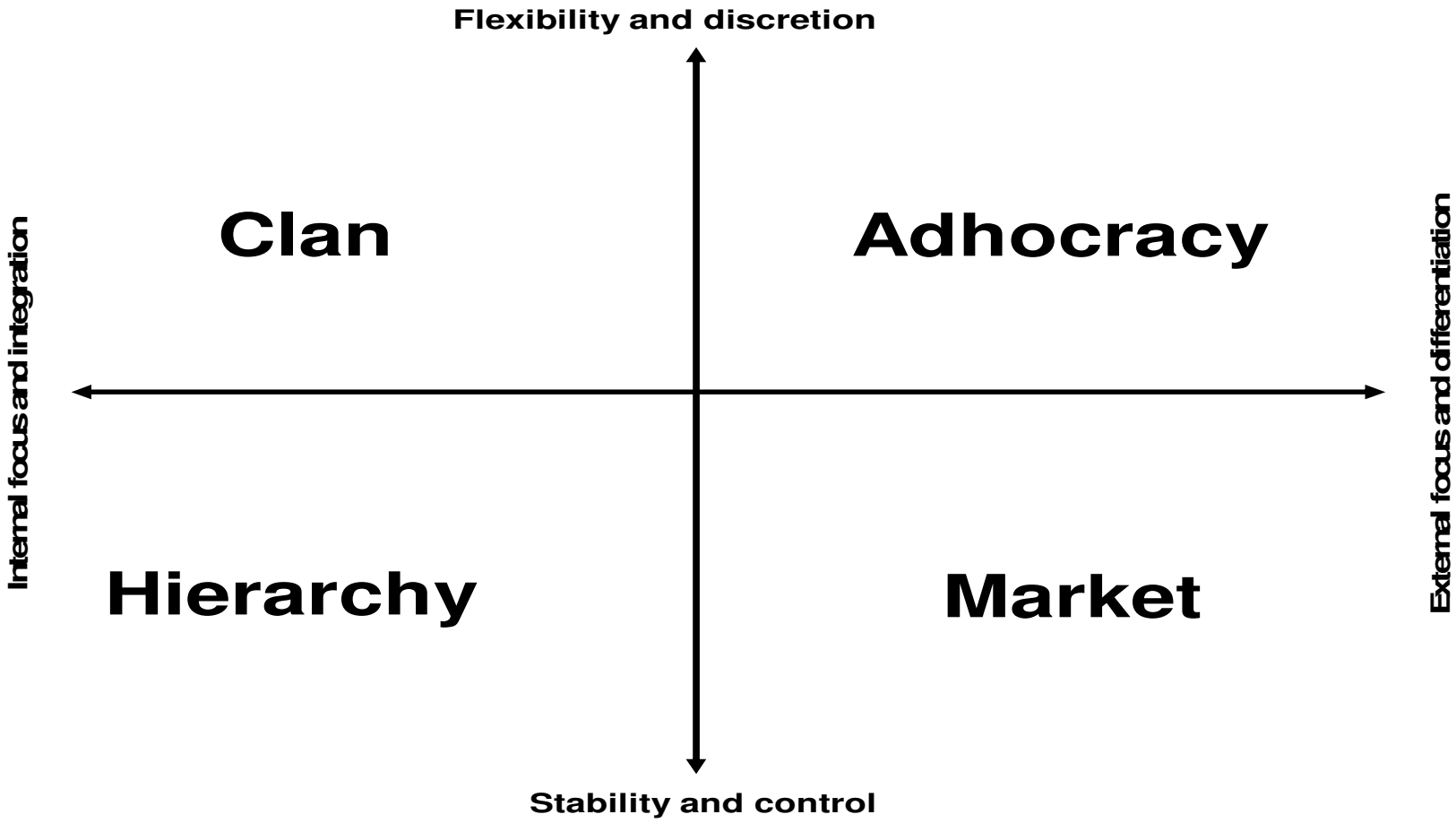
Explaining the Results:

Organizational culture/ routines; traditional habits and practices of the actors

- "Culture encompasses the taken-for-granted values, underlying assumptions, expectations, collective memories and definitions present in the organizations"

- "culture is reflected by what is valued, the dominant leadership styles, the language and symbols, the procedures and routines and the definitions of success that make an organization unique."

Organizational cultures and the competing value framework



Source: Cameron and Quinn, 1999

The Dominant Organizational Cultures

The Clan Culture A friendly place to work; people share and relate like an extended family. •Success is defined in terms of sensitivity to customers and concern for people. •The organization places a premium on teamwork, participation and consensus.	**The Adhocracy culture** A dynamic, entrepreneurial and creative place to work. •Commitment to experimentation and innovation. •Success means gaining unique and new products or services. •The organization encourages individual initiative and freedom.
The Hierarchy culture A very formalized and structured place to work. •Procedures govern what people do. •Coordination and efficiency matter •Formal rules and policies hold the organization together. •The long-term concern is on stability and performance with efficient, smooth operations. •The management is concerned with secure employment and predictability.	**The Market culture** A results-oriented organization whose major concern is with getting the job done. •The glue that holds the organization together is an emphasis on winning. •The long-term focus is on competitive actions and achievement of measurable goals and targets. •Success is defined in terms of market share and penetration.

Exploring the peripheral role of R&D organizations

- **Hall, Mytelka and Oyeyinka (2006):** "the habits and practices of organizations are shaped by the historical, cultural and political settings in which they are embedded."

- The hierarchical organizational structures and layers of command provide limited incentives for actors who may want to operate in innovative and disruptive manner

NGOs and Input suppliers: why are they different?

- NGOs are small sizes, have institutional flexibility, horizontal structures and short communication lines, hence quick response to farmers' needs
- Input suppliers offer training and field demonstrations for farmers
- These attributes lead to trust; and sensitivity to farmers' concerns

What implications for small scale farmers?

- How can farmers demand for research services in a way that makes the universities and R&D institutes respond?
- What kind of incentives and reward structures are required to improve the interactions between farmers and R&D actors?
- Are there new ways of organizing R&D to make it respond quickly to farmers' needs?

What implications for small scale farmers?

- *Forming Strong farmer cooperatives, associations/organizations to collate farmers' research/training needs.*

- *Promoting adhocratic culture within Universities and R&D organizations e.g.* by creating "interdisciplinary research centres" (Clark, 2000).
  - the Makerere In-Training Community Service (MINTRACS Centre)

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