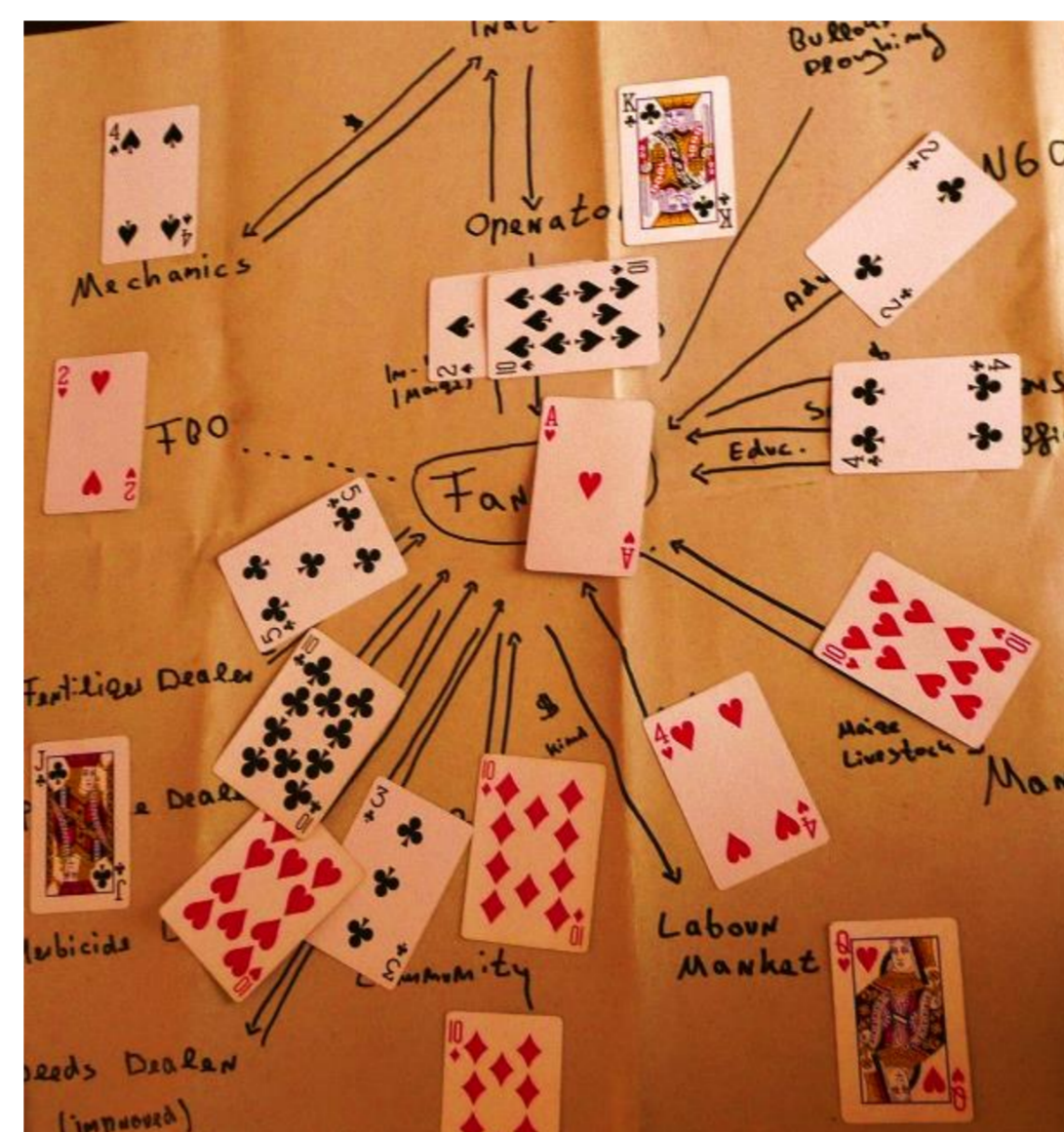


The neglected governance challenges of agricultural mechanisation in Africa.

Insights from Ghana. (Daum, T. & Birner, R.)

Background

- Agricultural mechanization back on development agenda.
- Neglect of institutional aspects was major reason for failure of past mechanization.
- Which governance challenges must be addressed to make mechanization sustainable from an economic, social & environmental perspective?
- Ghana as case study: market & state-led mechanisation (e.g. Agricultural Mechanisation Service Centers)



Methodology

- 8 Net-Maps:
 - Which stakeholders?
 - How are they linked?
 - Which are most important?
 - Where are bottlenecks?
 - How can they be overcome?
- 104 Key Informant/Expert-Interviews (68 Frontline & 36 Upstream)

Example Bottleneck: Knowledge & Skills

- Externalities: companies train own technicians & customers → excludes used tractors
- Merit or quasi-public good: should be provided by state but extra-extension
- Rent-seeking: state focuses on imports → neglect of training



Conceptual Framework

- New Institutional Economics + Agricultural Innovation System
- Combination allows to systematically find & understand bottlenecks

Frequency of Bottlenecks	Individual Respondents		Net-Map sessions
	Frontline	Upstream	
Knowledge & Skills			
Limited maintenance & handling	35%	44%	75%
Limited skills of operators	29%	56%	63%
Limited skills of technicians	26%	22%	63%
Agronomics			
Soil Erosion	6%	42%	0%
Inputs & market environment			
Limited access to technicians	40%	22%	88%
Limited access to credit	37%	19%	100%
Sporadic fuel shortages	29%	0%	25%
Lack of market stability	21%	6%	50%
Problems with customs	13%	0%	38%
Standards & certification			
Lack of standardized testing	15%	17%	25%
Problems with non-orig. parts	22%	0%	50%
Adulterated fuel & oil	18%	0%	38%
Small & female farmers			
Lack of access for smallholders	40%	36%	100%
Lack of access for females	13%	33%	38%
Government-Imports & AMSEC			
Lack of access to parts	54%	17%	88%
Elite Capture & Clientelism	22%	47%	75%
Frequent Break Downs	19%	28%	25%
Low repayments	7%	11%	0%



Market Failures	State Failures	Community Failures
Indivisibility	Clientelism, elite capture + political targeting	Collective action problems
Transaction costs + coordination failures	Corruption	Exclusion
Public + merit goods	Lack of financial sustainability	Capacity + financial constraints
Externalities	Information problems	
Bounded rationality + information asymmetry	Crowding out effects	
Principle-agent problems		

Conclusion

- Build enabling environment for private markets (rather than to supply machinery). This includes, especially, education and training.
- Combine advantages of different actors.
- Focus on technical and institutional solutions for smallholders.
- Consider the potentials of ICT-based solutions.