

Agricultural Foreign Direct Investment and Water Rights - an Institutional Analysis from Ethiopia

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Outline

1. Introduction and Research Questions
2. Methodology and Theoretical Background
3. The Case Study Site
4. Results
5. Discussion
6. Conclusion

1 Introduction



“Landgrabbing”
(see IFPRI 2009, GTZ 2009)

Access to water resources is central for investors to choose an area (BMZ 2009)

but: not adequately discussed! (e.g. Smaller and Mann 2009, BMZ 2009, IFPRI 2009, FAO/IFAD/UNCTAD/World Bank Group 2010)

1 Introduction

Water is, to a large extent, an institutional question!

Institutions are “*the humanly devised constraints that structure human interaction*” (North 1994: 360): formal **rules** and **laws**, but also informal **norms** of behaviour

- Who has the right to **access, withdraw, manage, exclude** others, and **alienate** water resources?
 - Question of **water rights!**

1 Introduction

Research Questions:

1. How does agricultural foreign direct investment affect local water institutions in the case study area?
2. Why is there institutional change and conflict?

2 Methodology and Theories

Research Strategy:

Case Study

Methods:

- Analysis of Textual Data
- Direct Observation
- Semi-Structured Interviews: 70 farmers in two communities, 5 farm representatives and 10 governmental officials and researchers.

Overall Theoretical Background:

Institutional Economics (Ostrom, Knight)

Theoretical Framework:

See next slides →

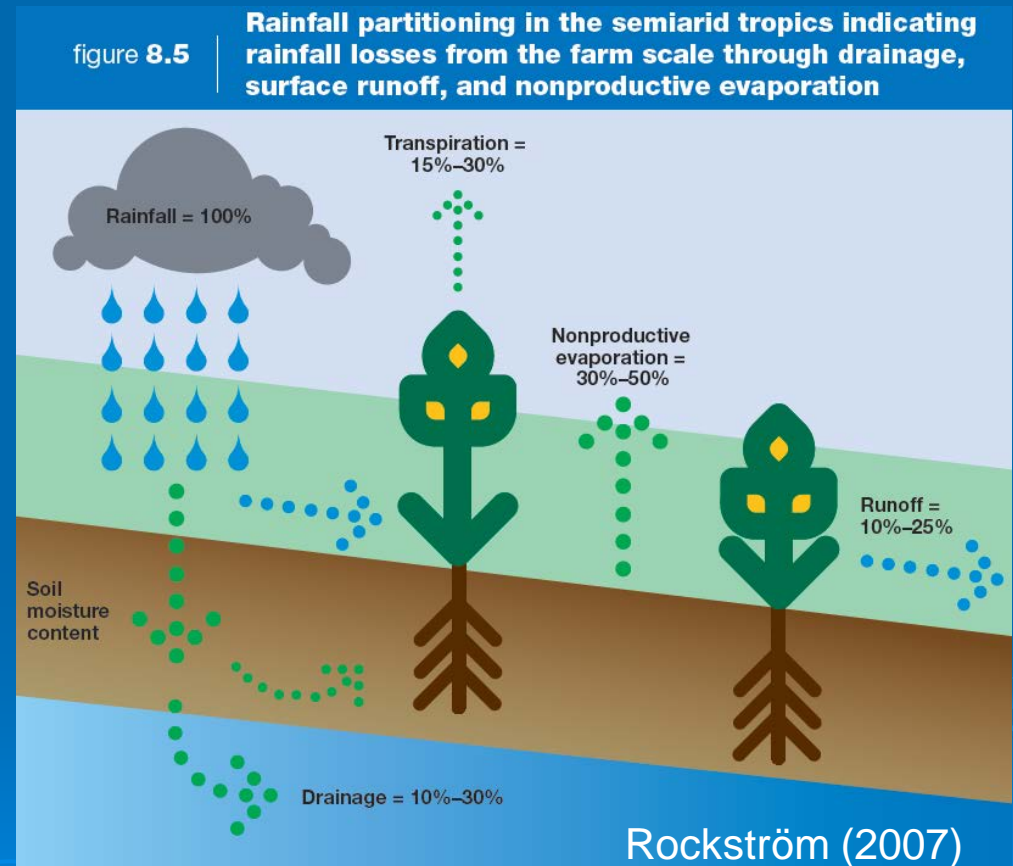
(1) Possible Changes in Water Rights

Direct change in blue water rights: explicit

Indirect change via land rights (green and blue): implicit

Indirect change: Social factors (e.g. corruption)

Indirect change: upstream/downstream setting



(2) Distributive Bargaining Theory of Institutional Change (Knight 1992)

- Institutions as by-product of bargaining between actors with asymmetric power resources
- Pursuit of strategic distributive advantage as the main motivation to create rules
- Bargaining power resources are central:

Exit costs

Time preference

Network power

Risk aversion

Information

Sanction power

Positional power

Knowledge

3 The Case Study

The Horn of Africa



http://www.absoluteastronomy.com/topics/Horn_of_Africa

Ethiopia



source: CIA 2010

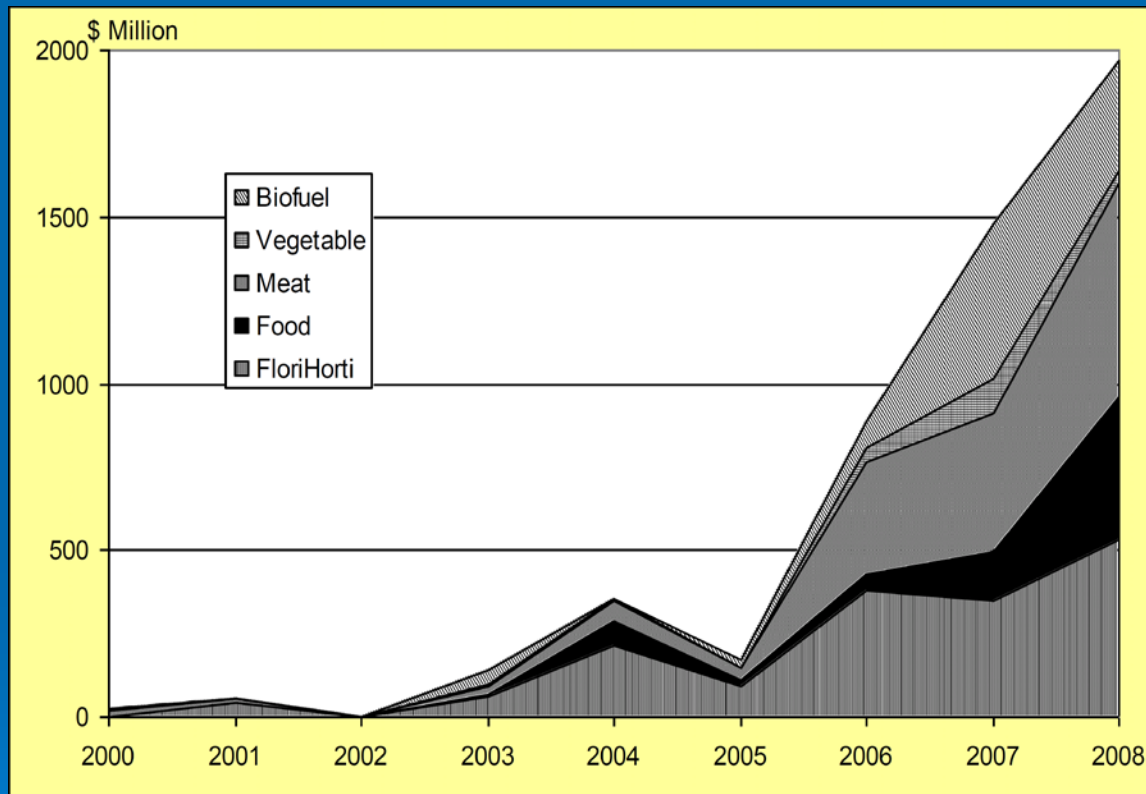
Ethiopia



source: CIA 2010

- HDI: 171st (out of 182 countries)
- **Agriculture**: 43% to GDP (2008/2009, EIA 2010);
86% foreign currency earnings and
85% of rural employment
- 2005-2007: 41% of the total population
undernourished (FAO 2010)
- Constitution: **Public ownership** of rural and urban land
and natural resources

FDI to Ethiopia



FDI inflows into the main agricultural sectors, 2000 - 2008 (source: Federal Investment Bureau of Ethiopia (2009), cited in Weissleder (2009))

The case study site from above...



The Water Users in the Case Study

➤ Local Farmers

use canal water since a long time
use water for irrigation,
livestock, drinking, washing
grow staple crops for local
market and subsistence

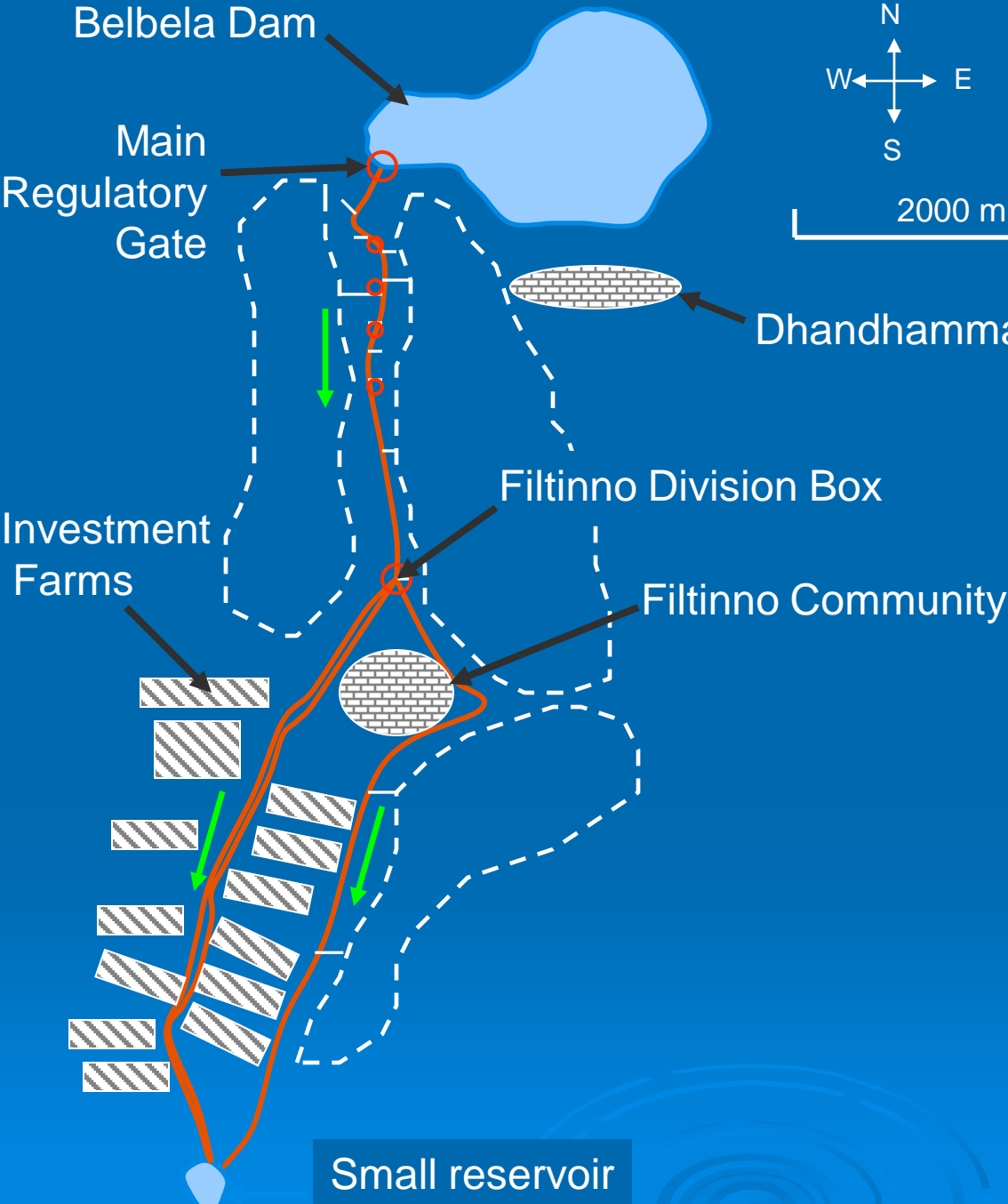


➤ Investment Farms

came to the area around
2005
use canal water as
additional source
produce cut flowers for
Europe and vegetables
for the Middle-East



Sketch of the Irrigation Scheme



Legend:

- Water Flow Direction
- Main Canal
- Farmers' Canals (Selection)
- Plots of Investment Farms
- Area Farmed by Local Farmers
- Water Body (Other than Canal)
- Community Homesteads
- Metal Gates, Locked by Key (Selection)

Impressions from the Case Study Site



Main regulatory gate of Belbela dam



From Belbela to Filtinno Division Box:
9 small gates for farmers' fields

Opening
mechanism
at Filtinno
Division Box



Downstream water use

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The Institutional Arrangement Before

Focus here on informal rules!

Local farmers:

- Organised in water user groups with rules
- Each group had a committee collection of fees and fines
- Decisions taken collectively

	Local Farmers
Pay a yearly water fee (Birr/ha and year)	0-20-40 Birr to their user groups
Attend group meetings	if non-compliant: sanction: 0; 5-10; 30-50
Respect the water turns	if non-compliant: sanction: 30-50
Use water properly	if non-compliant: sanction: 5-10, 30-50

History of water use and conflict

9 floriculture investment farms were allocated land from the government: from state land and from farmers, and started to use the canal water.
→ Water scarcity and serious water conflicts resulted



The Change in the Institutional Arrangement

The investment farms created an **association** with representatives from investment farms and local farmers.

Aim: resolve the conflict!

The association

- Organised water turns between flower farms and farmers
- Organised the cleaning of the canal
- Employed 4 water guards to open gates
- Increase of sanctions and collection of water fees

Results: The Institutional Arrangement Before and After

	Local Farmers		Investment Farms
	Before	After	
Pay a yearly water fee (Birr/ha and year)	0-20-40 to their user groups	40 to the new association	120 to the new association
Attend group meetings	yes (sanction: 0; 5-10; 30-50)	yes (sanction: 200-250)	<i>no such groups exists</i>
Respect the turns	yes (sanction: 30-50)	yes (sanction: 50-100)	yes (no sanction)
Use water properly	yes (sanction: 5-10, 30-50)	yes (sanction: 150)	<i>not explicitly by the new association</i>

→ 4 binding rules; 3 of which only sanctioned for local farmers!

4 Results: Interactions and Undertaken Actions

<i>Reactions to low water level in the canal</i>	Farmers	Investors
Appealing to the Government Appealing to the Association		
Appealing to the Investors / the Farmers		
Taking Action		
Neglecting Turns		
Bribing the Guard Bribing the Committee		
Using other Sources of Water		

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5 Discussion

- Back to the Research Questions:
 1. How does agricultural foreign direct investment affect local water institutions in the case study area?
 2. Why is there institutional change and conflict?

Changes in Water Rights

Direct change in blue water rights: explicit

✓ Withdrawal and management rights change

Indirect change via

land rights and blue water rights
Shift towards an institutional setting that distributionally favours the investment farms.

blue

Indirect change:

Social factors
(e.g. corruption)
Water rights and their execution change.

take place

Indirect change:
upstream/downstream setting

- Upstream/downstream effects



5 Explaining Institutional Change

Why does the institutional arrangement change?

Actor characteristics	Power resources	Local farmers	Investment farms
Resource dependence	<ul style="list-style-type: none"> → Risk aversion → Time preference → Exit costs 	high	low
Education and knowledge	<ul style="list-style-type: none"> → Information → Knowledge 	low	high
Governmental support	<ul style="list-style-type: none"> → Positional power → Network power → Sanction power 	low	high

Different bargaining power resources
 → The investment farms shaped the agreement to their benefit

6 Conclusion

- Agricultural foreign direct investment in low-income countries can involve highly unequal actors.
- Differing power resources can lead to institutional change of water arrangements that distributionally disfavour the local population.



Thank you for your attention!



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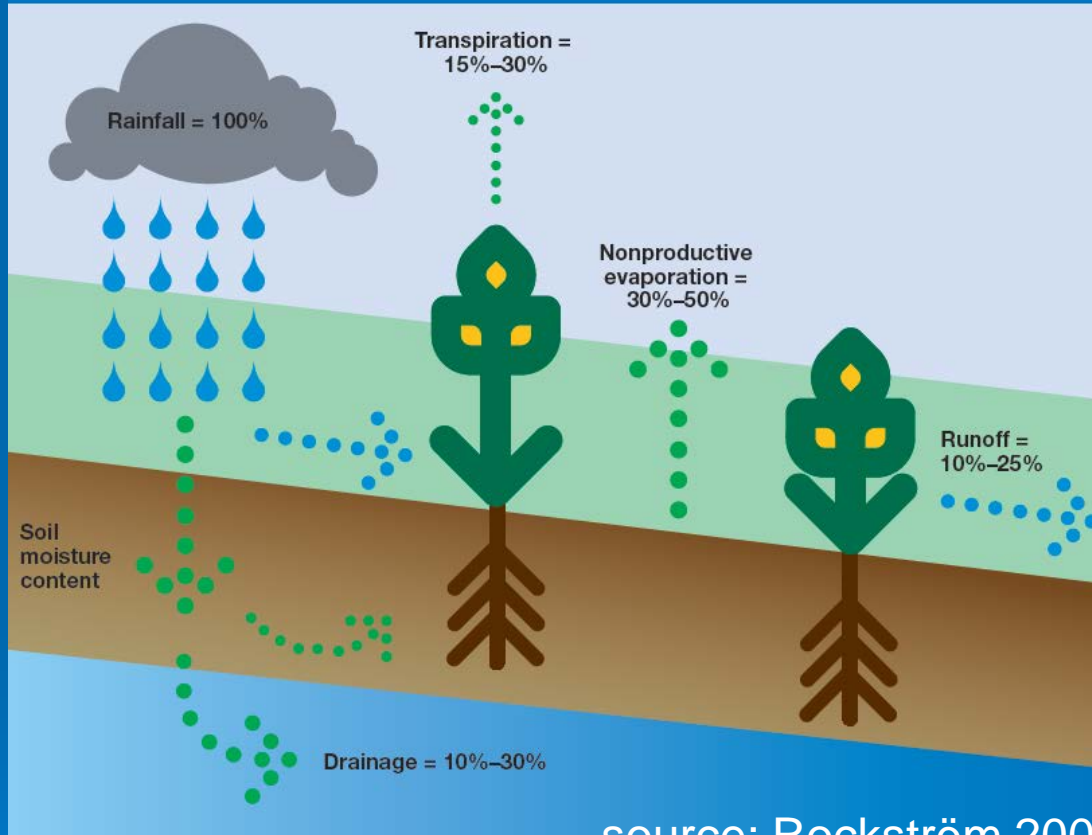
Formal Water Rights in Ethiopia

- **Constitution: Public ownership** of rural and urban land and natural resources
- **Ethiopian Water Resource Management Policy:**
- “Water is a natural endowment commonly owned by all the peoples of Ethiopia.” → vested in the state
- “As far as conditions permit, every Ethiopian citizen shall have access to sufficient water of acceptable quality, **to satisfy basic human needs.**”
- **Minimum water requirements** of basic human, livestock and environmental needs have the “**highest priority** in any water allocation plan” (MoWR 1999:6)

Blue and Green Water

figure 8.5

Rainfall partitioning in the semiarid tropics indicating rainfall losses from the farm scale through drainage, surface runoff, and nonproductive evaporation



source: Rockström 2007

Blue water describes liquid water in the form of groundwater and surface water, such as rivers, lakes and aquifers, and is the source of irrigation. **Green** water is the water stored in the soil, being absorbed and transpired by plants, or evaporating “unused”.

importance: to illustrate how land use influences hydrology in a catchment
In sub-Saharan Africa, most agriculture is rain-fed and almost entirely depends on green water (Hoff et al. 2010)

Detailed change in water rights

			Access	With- drawal	Manage- -ment	Exclu- -sion	Aliena- -tion
Pathway 1: Direct change	Green water		n/a	n/a	n/a	n/a	n/a
	Blue water		o	+	+	+	o
Pathway 2: Indirect change via land rights	Initial allocation of farmers' land to investment farms	Green water	+	+	+	+	+
		Blue water	o	+	+	+	+
Pathway 3: Change in executio n of water rights	<i>Hydrological factors:</i> Change in water use upstream → downstream effects		n/a	n/a	n/a	n/a	n/a
	<i>Hydrological factors:</i> Change in vegetation upstream → downstream effects		n/a	n/a	n/a	n/a	n/a
	<i>Social factors:</i> Corruption and rent- seeking	Green water	o	o	o	o	o
		Blue water	o	+	o	o	o

Legend: + right changed; o no change; n/a did not apply; to investment farms

... why is there conflict?

- conflict is inherent in any process of creating rules, and in the case study, conflict even continued after an agreement was found.
- As long as an equilibrium outcome is not found, conflict will endure, as both actors try to seek distributional advantage.
- The agreement was made as a result of power asymmetries, which led to distributional outcomes which favour one of the actors. The other actor will still seek distributional gains and try to change the agreement.
- According to Knight (1992: 183), however, **institutional change will only occur if the weaker actor either gets more bargaining power, or the distributional outcome shifts in favour of the weaker actor.**

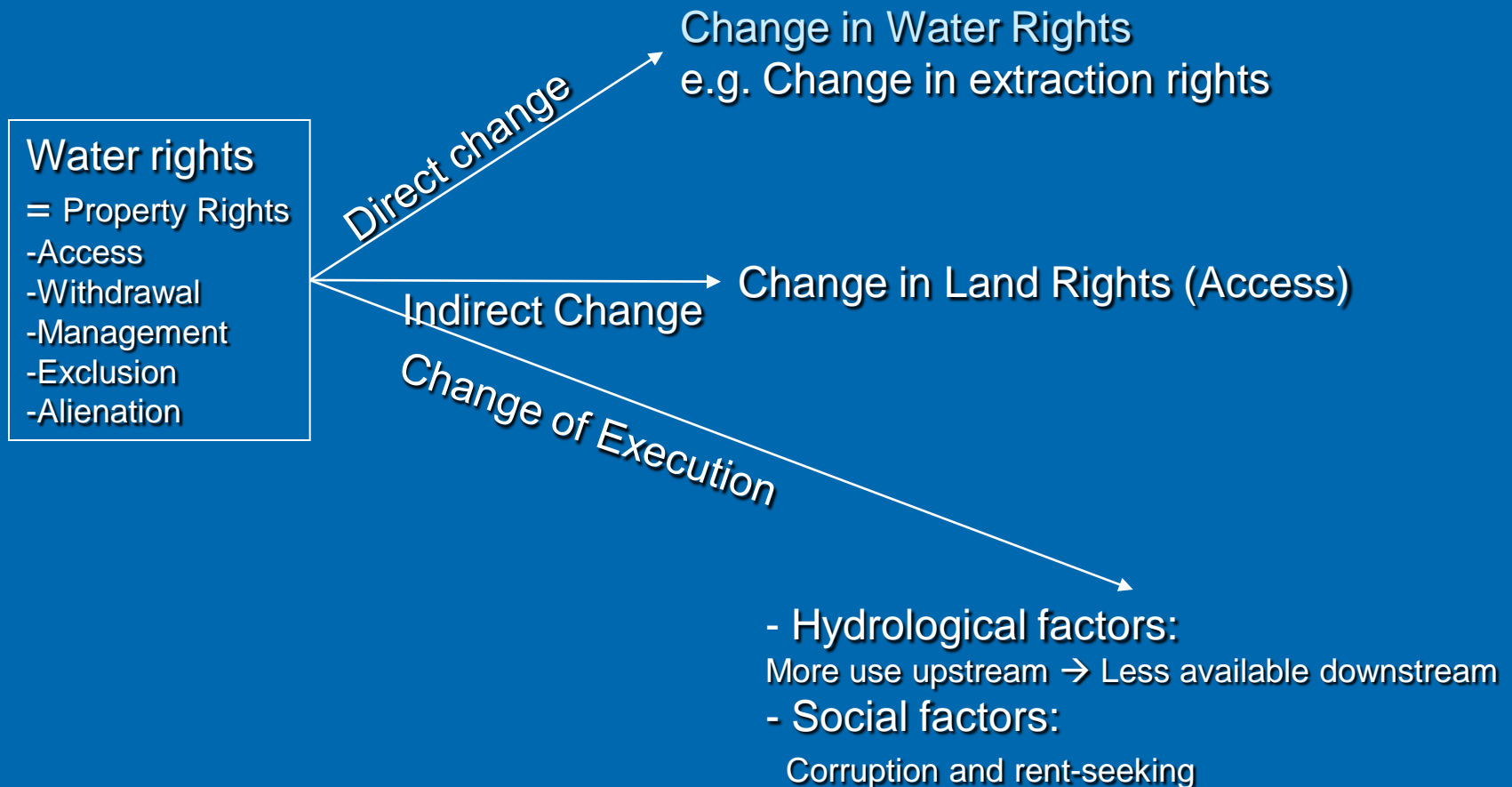
...but farmers are part of the association?

- they do not feel equally represented.
- the farmer representative says „not all members have veto power“
- many farmers don't even know the association exist and attribute the changes to the government
- Human Rights Watch Report 2010: GOV control to the smallest village level (humble attitude, respect)

Another important concept in this context is **property regimes**, which define the role of different actors in relation to a resource system (Bromley 1992). Property regimes characterise relationships between individuals with respect to a specific good or benefit. Conventionally, four property regimes are distinguished (Ostrom 1990, Bromley 1992): private property, common property, state property, and open access. Private property stands for individuals or legal individuals holding rights. In common property arrangements, rights are held by a group of individuals. State property refers to the state holding rights, while open access implies the absence of property rights.

Type	Exclusion Easy	Exclusion Difficult or Costly
Subtractible (Rival in Consumption)	Private Goods (e.g. Trees, Fish)	Common-Pool Goods (e.g. Forest, Pasture)
Nonsubtractible (Nonrival in Consumption)	Club Goods (e.g. Golf Club)	Pure Public Goods (e.g. TV Broadcast)

Three Pathways of how Water Rights Change

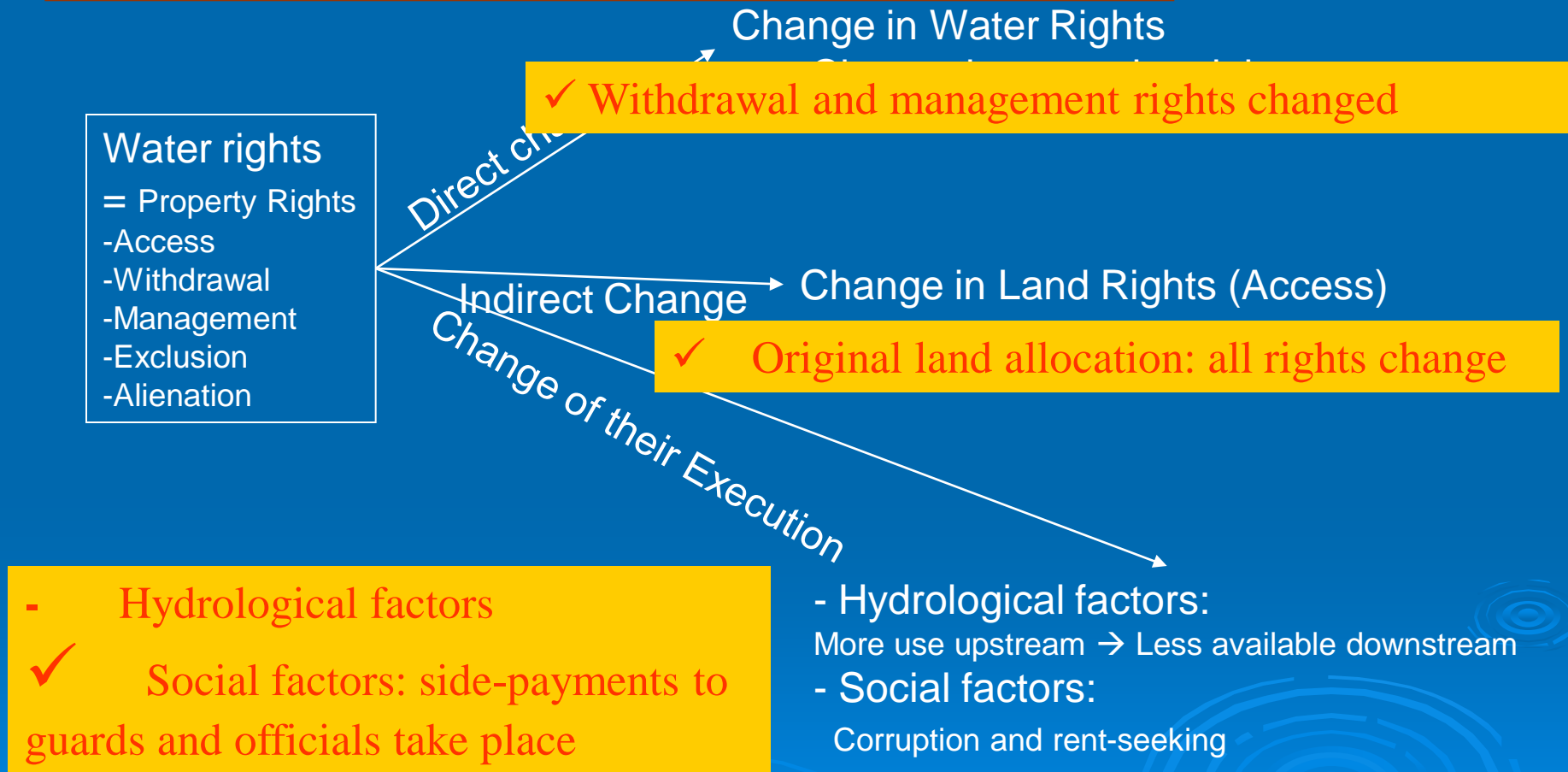


distributionally favours the investment farms.

5 The Change in Water Rights

Water rights and their execution change.

How do water rights change?



Potential and Limitations of the Study

➤ Potential of the Study:

- Identify the main institutional challenges for water rights, in case government-backed investors and farmers use the same water sources
- Transferrable to other settings
- Attempts to solve the conflict were already undertaken (association)

➤ Limitations of the Study:

- Focus on water rights, no statement about overall socio-economic benefits of investment for the local population