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From Land to Water Grabbing: A Property Rights Perspective on Linked Natural Resources



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1. Introduction

The number of foreign and partly domestic large-scale actors securing land for agricultural production or to some extent also for environmental protection has increased substantially in frequency and extent, particularly in Africa and (South-East) Asia (Cotula, 2012; Deininger, 2011; Margulis et al., 2013). Based on the latest figures from the Land Matrix (accessed 2017), the number of completed deals corresponds to 3.0% of world's arable land and permanent crop land (FAO, 2017). Yet, the actual local processes of what happens to individual property rights held by local people are not well understood (Teklemariam et al., 2017). Currently, a debate is developing as to whether large-scale land acquisition (LSLA) is not more about access to land with lots of rainfall, or land with irrigation potential. If so, it appears the land acquisition should really be seen to a large extent as water acquisition or, depending on the outcome of the process, as water grabbing (Breu et al., 2016; D'Odorico et al., 2017; Dell'Angelo et al., 2018; Franco et al., 2013; Hertzog et al., 2017; Mehta et al., 2012; Skinner and Cotula, 2011; van Eeden et al., 2016; Woodhouse, 2012). Mehta et al. (2012) defined water grabbing as the process in which powerful actors are able to take control of, or reallocate to their own benefits, water resources used by local communities [...] on which their livelihoods are based. Dell'Angelo et al. (2018) presented an overview of current water grabbing definitions and proposed as a common denominator among the different definitions that there is an aspect of injustice and power imbalance which is represented by the word "grabbing", leading to a disregard of local users and their customary rights. In that regard, water grabbing represents a loss in initially possessed or perceived property rights and customary claims to water. The interconnectedness of land and water still lacks a concept with the necessary analytical power, that explains how water grabbing can be a consequence of LSLA at an actual place, not hypothetically calculated at the national scale. Unlike land, water resources are mobile, and follow a hydrologic cycle. Water grabbing therefore affects a greater number and broader range of users (Franco et al., 2013). The scholarly attention to the need for better analysis is slowly growing and is likewise represented in three groups of current literature.

1.1. Water as the Driver

First, there are papers in political economy that looked for reasons for the phenomenon of increasing large-scale land deals (Zoomers, 2010): increase in global food demand, rising food prices, bio-energy policies or population growth. Important factors in deciding where to invest are ecological characteristics such as fertile soils and humidity. There is one straight-forward connection to water, raised by Rulli et al. (2013): because about 86% of the human appropriation of fresh water is for agriculture, land acquisition simply has to involve grabbing of freshwater resources including both rainwater and irrigation water. The latter has been further specified by D'Odorico et al. (2017) assuming more appropriations of rainwater in Asia, compared to requirements of blue¹ water for irrigation in Africa, associated with the land deals. Anseeuw et al. (2012, p. 37) even concluded that access to water is the key driver for the location of land deals in some countries. The water conditions in the investors' home countries - such as drained fossil aquifers in the Gulf States or in the banana production regions in China - make it attractive to produce water-intensive crops abroad (Friis and Nielsen, 2016; Warner et al., 2013). Yet, the desire to secure water rights elsewhere applies not to all of the countries engaged in LSLA (Breu et al., 2016). The socio-political characteristics in the country where land is acquired are also among the decisive factors for an investment. For instance, land policies not allowing for effective oversight of land deals, weak law enforcement and a legal system highly dependent on the power of ruling elites facilitate the investor's access to land transactions.

1.2. Hypothetical Quantifications

Second, very few hypothetical hydrological calculations, such as the one from Rulli et al. (2013), quantified freshwater grabbing rates associated with land deals at a global scale. Although the reliability of the data is questioned, the study from Rulli et al. is one of few global water grabbing assessments we can currently refer to (Scoones et al., 2013). The global water balance can also be depicted by calculating a virtual water trade balance comparing the crop water consumption if the crops grown on land acquired abroad were grown domestically instead (Breu

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¹ Surface and shallow groundwater supplied by irrigation

et al., 2016). Further applications and combinations of modelling initiatives lead to a framework that defines and assess the water grabbing associated with LSLA at a national scale based on the difference between consumptive and non-consumptive water use. Dell'Angelo et al. (2018) combined in that sense hydrological and undernourishment indicators depicting countries likely to experience "blue" water grabbing.

Breaking down the global studies into regional trends by quantifying land grabs and associated freshwater grabs based on a crop water use model in the African context is done by Chiarelli et al. (2016). Zetland and Möller-Gulland went further, to reach a national level estimate (Zetland and Möller-Gulland, 2013, p. 270). They calculated an index of water vulnerability at national scales, 2 combined it with the pressure on land and drew conclusions on the assumed impact on people and environmental severeness.

1.3. Effects on the Agricultural Water Sector

The geopolitical perspective and global modelling efforts explored do not specify how actual water units are reallocated locally. Thus, a third group of scholarly works encompasses qualitative case studies on the individual impacts of LSLA on the redistribution of rights and claims in the agricultural water sector in a given country, e.g. van Eeden et al. (2016) for Tanzania, Bues and Theesfeld (2012) for Ethiopia; Kruchem (2013) for Mozambique, Zambia and Tanzania; Nolte and Voget-Kleschin (2014) for Mali, and Friis and Nielsen (2016) for small-scale land acquisition in Laos.

This contribution follows up on this third body of literature with attention to the actual impact that land deals could have on agricultural water rights and customary claims of local actors in the host country of the investment. Here we are in line with Scoones et al. (2013) and Teklemariam et al. (2017) who called for a second phase of land grab research studying what is actually occurring on the ground. We believe that the "on-ground" research has thus far lacked a conceptual framework allowing researchers to analyse cases in a systematic way and to compare cases. Analysing LSLA and likely eventually corresponding water grabbing with a property-rights based framework – as presented here – provides a concept especially designed for the situation. It is intended to overcome the weaknesses criticized by Oya (2013) who noted the problems of implicit, untested assumptions and casual use of analytical concepts in many existing studies on land and water grabbing.

Section 2 provides a theoretical introduction to the property rights approach used in this contribution. Section 3 proposes a framework of eight patterns to connect property rights shifts in the land and water sector. Finally, two land acquisition case studies show land use changes with impact on the property rights of agricultural water users. One is from a hot-spot country of foreign direct investment – Ethiopia; and one is from a region where witnesses have reported great potential for land acquisition deals – Tajikistan. In Section 4, I analyse the cases according to the patterns and discuss the results. Finally, in Section 5 I draw conclusions on the value of the presented approach for comparing cases, and predicting trends in a systematic way.

2. An Inter-sectoral View on Land Acquisition

In order to be valuable from an investor's point of view, land needs to possess certain properties which taken together can turn land deals into lucrative business. One crucial characteristic is access to water resources (van Eeden et al., 2016), either rainwater but looking at LSLA the foreseen crops and development of infrastructure most likely irrigation water (Dell'Angelo et al., 2018), which will be our focus here.

Water access, in case rainwater is not sufficient, can determine crop selection. Without potential for irrigation, land investors would face high risks in drought periods. Thus, water plays a central, but not always explicit official role regarding the formal land deals (Anseeuw et al., 2012, p. 37; Mehta et al., 2012; Smaller and Mann, 2009; Woodhouse, 2012).

In legal pluralism, people attempt to secure rights to natural resources by having their access claims recognized by legitimate authorities, as described by (Sikor and Lund, 2009). Besides laws, also customs and conventions may serve to support an enforceable claim (Ribot and Peluso, 2003). Yet this must not necessarily happen. The actually perceived claims are those people base their individual actions on. They are granted by either a formal or a customary authority or sometimes they are not even in accordance with a respective institution. Either way, access to a resource is regarded to constitute the core bundle of property rights by scholars of the access theory (Sikor and Lund, 2009). In fact, based on access theory, it comprises even more as access based on property. The mechanisms, processes and social relations analyzed in access theory (Ribot and Peluso, 2003, p. 154) open up another layer of linkages, which I am not describing here. Assuming the same situation, access theory is able to explain why some people are able to benefit from particular resource units while others are not and likewise, different bundles of rights apply to different community members (Agrawal and Gibson, 1999). Both aspects of social analysis are however not in the focus of this contribution. The access theory considerations are integrated in the pattern concept by a large amount of patterns that specify access as a core bundle of property rights (see Table 1).

As Sikor and Lund (2009) put it, people may derive benefits from resources without holding formal property rights, but having de-facto access, such as simply occupying a water source. This is what Ostrom and Schlager (1992) call informal property rights or what I refer to as customary claims. Thus, you can benefit without the instituted right (Ribot and Peluso, 2003) but, e.g. still face severe losses if this takenfor-granted-access to water is hampered due to a change in the property rights or claims associated with land.

There are many different ways in which access or withdrawal rights to water can be obtained – and many ways those rights can be exercised. van Eeden et al. (2016), for instance, presented in detail how land investors in Tanzania gain access rights, and dispossess other water users, through resettling, blocking access ways, closing infrastructure or not issuing permits. Depending on local conditions, investor approaches to water rights acquisition can range from careful advance planning with open discussion to unannounced misappropriation of water after the land deal is concluded.

To scrutinize the processes under investigation here, a disentangled property rights perspective is the most useful. Property rights do not necessarily imply full ownership, but are composed of different bundles of rights that may be held by different claimants, such as the state, user groups, families, individuals (Meinzen-Dick, 2014) or are non-defined. Thus, property rights show a social relation among groups over land and water; a property rights analysis does not approach land or water essentially as a "thing" identified as a property. The new investor does of course not own the resource itself with a sale or lease. It is only a bundle of rights to use a resource that has changed ownership (Alchian and Demsetz, 1973; Dell'Angelo et al., 2017; van Eeden et al., 2016). I do not intend to allow an impact assessment of the investment on such areas like livelihood or employment through the approach I am going to suggest. Rather, the proposed patterns serve from an analytical perspective to show that the link between both the land and water sectors happens via changing property rights, i.e. changing social relations between actors regarding a resource (Klümper et al., 2018; von Benda-Beckmann et al., 2006). This in turn, can cause further economic, social or environmental impact, not under consideration here.

In their efforts to secure water rights, foreign and domestic investors and local water users are often highly unequal actors in terms of

 $^{^{2}\,\}mathrm{They}$ pointed out, however, that the actual water vulnerability depends on local conditions.

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