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Does Commons Grabbing Lead to Resilience Grabbing?

The Anti-Politics Machine of Neo-Liberal Development and Local Responses

Edited by
Tobias Haller, Fabian Käser and Mariah Ngutu

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About the Editors

Tobias Haller is Professor at the Institute of Social Anthropology at the University of Bern, Switzerland. He studied social anthropology, geography and sociology at the University of Zurich, Switzerland and also graduated there. He did research on institutional change in agriculture and common- pool resources management in Cameroon and Zambia, and led several comparative research projects on the management of the commons in floodplains in Mali, Cameroon, Tanzania, Zambia and Botswana; on land, water and green grabbing with impact on gender relations in Kenya, Sierra Leone, Morocco, Ghana, Tanzania and Malawi; on food systems in Kenya and Bolivia; on social and environmental impacts of oil and mining companies worldwide; and on the management of the commons in Switzerland and on constitutionality (participatory bottom-up institution building processes).

Fabian Käser holds a Ph.D. in Social Anthropology from the University of Bern, Switzerland. He studies social anthropology and sustainable development at the University of Bern. He did research on present-day glocal small-scale farming in Kenya and analysed social impacts of land and resilience grabbing in Sierra Leone. During his Ph.D., he worked in an international transdisciplinary research team analysing the sustainability of the food systems in Kenya and Bolivia. Fabian Käser is Head of the Swiss Commission for Research Partnerships with Developing Countries of the Swiss Academy of Sciences.

Mariah Ngutu is a research associate and part time lecturer at the Institute of Anthropology, Gender and African Studies, University of Nairobi, Kenya. She studied Anthropology at the University of Nairobi and graduated with a Ph.D. in 2018. Her thesis focused on the actors and institutions in agro-industrial food systems in Kenya (export horticulture) and articulated common pool resource (water and land) grabbing, the bargaining power positions and gender relations of the different actors involved in the production of food within the agro-industrial global food value chain. Mariah continues to engage in research projects to explore the anti-politics machine of neo-liberal agrarian development and local responses in Kenya.

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Editorial

Does Commons Grabbing Lead to Resilience Grabbing? The Anti-Politics Machine of Neo-Liberal Agrarian Development and Local Responses

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1. Introduction

This Special Issue contributes to the debate that land grabbing should be discussed as commons grabbing. But it also goes a step further. It poses this question: does commons grabbing also removes local people's capacity for resilience in the Global South, especially in Africa and if so how does that process unfold? The contributions share a focus on how the development of state institutions (formal laws and regulations for agrarian development and compensation) and voluntary corporate social responsibility (CSR) initiatives by investors have enabled the grabbing process of not just removing land but land and land-related common-pool resources formally previously governed by local common property institutions. The papers look at how state institutions (specifically state property of resources and their subsequent privatization) and CSR programs are used for development strategies by state actors and companies to legitimate their investments (Anseeuw et al 2012 [1], Lavers 2012 [2], Schoeneveld and Zoomers 2015 [3]).

Furthermore, the contributions in this Special Issue analyze the embedding of these strategies into neoliberal ideology of economic development (Escobar 1995 [4], Haller 2013 [5]). This ideology defines development as an economic progress of individual efforts adapted to the market to eradicate poverty and promote individual development. Such a view negates processes of power asymmetries and calls for remedies that are often externally defined. In addition, these remedies are often based on notions of private property and economic achievements with low level but nevertheless existing state interference (see Fletcher 2010 [6]). Therefore, state actors still profit from these policies, often without involving local actors and groups apart from local elites. State actors and investors also promote ideologies of modernity based on discourses of market-oriented economic development including green development based on the Sustainable Development Goals (SDGs) (see Haller et al 2018 [7], Haller et al 2019 [8]).

In order shed more light on these dynamics, this Special Issue proposes to take a fresh look at James Ferguson's *Anti-Politics Machines* (1994 [9], 2006 [10]) that serves to uncover the hidden power asymmetries of actors and political basis of state-driven development strategies in the age of neoliberalism. The papers therefore analyze development discourses and CSR-policies in agrarian as well as green infrastructure-related investments and how these hide power differences. We argue that the various discourses of development further legitimize the institutional change from common to state and private property of land and land-related common-pool resources (Haller ed 2010 [11]), which is the basis of commons grabbing (Haller 2019 [12], Haller this volume [13]).

Moreover, this collection of papers stresses the fact that investments and neoliberal developments affect not just 'wastelands', but land-related common-pool resources of cultural landscape ecosystems,

previously governed by common property institutions. In addition, the authors illustrate the way institutional change leads to legal and institutional pluralism, and how companies and local as well as state elites select from this institutional pluralism (a process labelled as institution shopping, see Toulmin 2008 [14], Haller 2016 [15], 2019 [12]) depending on their bargaining power and for their own interest to enable and legitimate the grabbing processes.

As a general conclusion—and in answering the question posed by the title of the Special Issue—the research presented here suggests that investments using institutional pluralism related to development, not only lead to commons grabbing, but also to "resilience grabbing": CSR programs and compensations in the form of financial payments or employment do not cover local people's loss of common-pool resources for subsistence and cash. In particular, women and minorities are often not able to get access to the few jobs available and to compensations, which are often low and unequally distributed (Marfurt et al 2016 [16], Haller et al 2019 [8]). In the cases where women do get access to jobs, these are badly paid, of short duration and compete with other duties of reproductive work (see Ngutu et al, this volume). This means that access to the commons, which enhanced local resilience in times of crisis in the past, is no longer available, while at the same time the promises of work and access to compensation and development programs are not kept by states and investors. As a consequence, marginal local people are under conditions of commons grabbing more vulnerable to environmental disturbances and less resilient than they were before.

Finally, the contributions of this Special Issue also present local perceptions and related responses of commoners to the grabbing-process, go beyond resistance, acquaintance and incorporation (see Hall et al 2015 [17]). They include further strategies ranging from weapons of the weak (Scott 1987 [18]) to options of mobilization (labelled as politics machines, see Niederberger et al 2016 [19]), containing also institution shopping from below (on customary and human rights laws and regulations, see Marfurt 2019 [20]) and bottom-up institution building processes to reclaim the commons and its new participatory governance (see constitutionality approach by Haller, Acciaioli and Rist 2016 [21], Haller, Belsky and Rist 2018 [22]).

The papers of this Special Issue were written by 22 authors from nine university institutes from five countries (Switzerland, Kenya, Cambodia, New Zealand and Bolivia) covering case studies from Kenya, Tanzania, Morocco, Bolivia, Ecuador, Cambodia. The Special issue is organized in the following way: After the first paper serving as theoretical introductory, the following papers are presented under three main topics such as (a) property transformations and resilience, (b) agricultural neoliberal order and notions of green development and (c) green investments and Anti-Politics Machines:

In the introductory paper [13] theoretical reflections are proposed from a social anthropology perspective that uses a combined New Institutional and Political Ecology approach (NIPE). It looks historically at empirical data from research on African floodplains (Haller ed 2010 [11]). The paper shows that pre-colonial notions of land were embedded into local ontologies and epistemologies, in which land included land-related common-pool resources governed by common property institutions in relation to a non-human and spiritual world. This view also integrated reciprocal access arrangements between different groups that contributed to their resilience. This meaning of land was undermined and defragmented during colonial and post-colonial times, changing, the commons into state and also private property. As a result, this process also contributed to multiple forms of resource regulations for several separated sectors for state administration (agriculture, wildlife, fisheries, water, conservation etc.) of previously inclusively managed cultural landscapes. These new different meanings of land related to institutional pluralism are vital to understand how access to land and related resources is organized in today's neoliberal order following the states debt crisis. Therefore, the paper discusses who has the power to select property rights and resource management institutions and how this selection (institution shopping) can be legitimated by multiple discourses. These include several forms of green economic and sustainable development anti-politics machines used by state elites and investors as well as by local elites to justify investments. Importantly, the paper outlines theoretically how commons grabbing leads to resilience grabbing. Finally, this introduction also proposes that all

local actors should be much more involved in developing coping strategies enhancing resilience based on their knowledge and experience.

These theoretical reflections can be used to help to analyze the institutional issue regarding land and resource management that arise in the other papers in this Special Issue, which are introduced below under three broad topics:

2. Property Transformations and Resilience

The first three papers provide examples of changes in property rights over time from common to state and private property of the neoliberal order. Furthermore, they describe institutional pluralism and the effect this had on livelihoods and resilience. Because property rights have changed substantially in the past, less powerful local actors find less options to recover from environmental or other stress factors. Such historical processes indicate that the grabbing of the commons during colonial times and the plurality of rights for more powerful external actors has reduced local peoples' resilience historically and pose challenges for coping strategies:

Edwin Ameso et al [23] show in their paper based on anthropological research data how local Maasai groups in Northern Kenya have lost large amounts of common land and related pastures and wetlands during colonial as well as postcolonial times. As a result, their mobility as an important aspect of their resilience capacity is badly affected. Therefore, they have tried to diversify their strategies in order to cope with these changes and in order to sustain pastoralism. Maasai are currently combining property institutions and trying to promote holistic management of pasture and the watersheds, leading to a better co-management of resources. However, they are still facing challenges in order to regain resilience with regard to climate and market changes.

Sochanny Hak, John MacAndrew and Andreas Neef [24] examine land grabs in Cambodia in indigenous people's areas over the last decade. They argue that because of these indigenous people lost their commons in the name of national economic development. They illustrate this process of commons grabbing by using the example of two indigenous communities indicating how the titling processes have failed to provide indigenous villagers with effective legal mechanisms to counteract the grabbing process. In addition, the dependency on cash crops and to the loss of communal forests has contributed to loss of livelihood resilience that is also based on the low bargaining power of local actors.

The issue of asymmetric bargaining power is also the topic of the paper of Jemaiyo Chabeda-Barthe and Tobias Haller [25] who discuss how the minority of the original hunter-gatherer group of the Ogiek in Kenya has lost large tracts of common property of their cultural landscape since colonial times. After independence they have tried to enhance their resilience by focusing on apiculture in an area called Mau Forest. Under the new wave of neoliberal land reform in the country, the Ogiek have handed out land to other allied ethnic groups such as the Kalenjin to prevent encroachment from other powerful ethnic groups such as the immigrant Kikuyu using private property rights of land and powerful state relations. This case also shows how all actors use strategies of institution shopping but that the way to be able to do this relies on historically developed power relations.

3. Agricultural Neoliberal Order and Notions of Green Development

The next three papers deal with the neoliberal order of agro-industrial capitalist systems and conservation schemes, which shape institutional contexts and resilience of local actors.

Mariah Ngutu et al [26] discuss in their contribution how the agro-industrial food system in Laikipia, Kenya represented by an UK-export oriented commercial horticultural company is driven by a neoliberal privatization of land and resource policies, feeding the European demand for vegetables. This process shapes the access to short-term livelihoods options by offering women poorly paid jobs and increasing their workload as this adds to their domestic and subsistence duties. Furthermore, the actors of the agro-industrial food system have more bargaining power than local peasants to select and transform institutionalized access to former common-pool resources. This undermines local food systems such as agro-pastoralism and small holder agriculture vital for local livelihoods and food

security. Therefore, the livelihood resilience of local actors is undermined, increasing the potential for conflicts across the different food systems.

Horacio Augstburger, Fabian Käser and Stephan Rist [27] introduce a comparative dimension in their paper, in which they study the similarities and differences between the Laikipia area in Kenya (as the previous paper) and the agro-industrial area in Bolivian Lowlands. They analyse the capacity of several locally occurring food systems to enhance sustainable farm-based agroecosystem services and how they affect the sustainable management of common-pool resources. The authors show that in both countries regional and agro-industrial food systems, embedded in a market oriented neoliberal order, are less socio-ecologically sound than local, indigenous and alternative food systems. The former two have negative impacts on agroecosystems, undermining common property and cultural landscapes. They grab the commons and reduce the resilience capacity of the indigenous and alternative systems. Strengthening local, indigenous and alternative food systems and their common property institutions is proposed as a key strategy to promote sustainable farm-based agroecosystems.

Lisa Alvarado [28] illustrates how strategies to support local common property systems is undermined in the context of neoliberal conservation. She outlines that in the Ecuadorian Amazon region of Ecuador, protected areas have been established as a response to the expansion of the agricultural frontier based on the neoliberal rule in the country since 1979. She focuses on the protected area of the *Reserva de Producción Faunística Cuyabeno*, that was previously managed as commons by local indigenous groups of the Siona. Before the establishment of the conservation area, the arrival of several waves of colonizers had already severely compromised traditional institutions of common property. Resource use limitations by the introduction of the protected areas have been the last of these grabbing attempts. This green grabbing now forces the Siona people to legitimize their existence in the park, if they want to stay in their ancestral territory. They argue against the green grabbing, especially based on the negative impact of tourism in the park and by trying to shop institutions based on their (reconstructed) indigenous identity that is protected by international conventions.

4. Green investments and Anti-Politics Machines

The issue of green grabbing, however in another forms, is the focus of the last three papers, illustrating the environmental turn used by powerful actors of states and companies. These investments show classic forms of commons and resilience grabbing but are embedded in strategies of social and ecological corporate responsibility schemes (CSRs), masking the grabbing process and the undermining of the resilience of marginal groups and women.

Gargule Achiba's [29] paper shows a classical conflict of an internationally-celebrated green investment in a wind park in Northern Kenya. It explains the way land is grabbed but legitimized by green energy Anti-Politics Machine. He shows how the implementation of the wind energy project employs the corporate strategies of depoliticizing both land claims and development interventions. This process hides how the private sector engagement in large-scale wind energy infrastructure has created a complex development apparatus ideologically empowered by using the SDGs and Kenya's related Vision 2030. Furthermore, the green energy grabbing of pastoral land and related common-pool resources is hidden by CSR strategies through which dispossession is justified and legitimized.

Another case of commons grabbing in the name of green energy is illustrated in the contribution of Sarah Ryser [30]. She explains how the largest solar energy project in the world financed by a public–private partnership removes common property of a Moroccan Amazigh (Berber) clan, who's members thereby lose access to pastures and animal fodder. The Anti-Politics Machine of green energy, including compensation payments and CSR development, hides the fact that a very low land price was fixed by the state, and further legitimated by the discourse that the land is wasteland. Furthermore, payments did not reach the communities who also did not fully profit from CSR-programmes and simultaneously lost access to the commons. Thus, they became less resilient as their losses were not replaced by the development gains promised. Women, in particular, lost more than men.

The issue of gender is a particular focus of the paper by Désirée Gmür [31]. She uses data from her research among the ethnic group of the Wahehe farming communities in Kilolo District, Tanzania, who had a common property system regarding land and land-related resources that included resource co-ownership of clan land by women. The investor in this case first tried to get communal land and then later on so-called private land held by men, who sold it and thereby excluded women form access to land, water and other resources. While more common-pool resources were enclosed and were no longer accessible to women, they also lost most of the valuable agricultural land in the valley bottoms used by them for cash crop production. In addition, the grabbing process by the company also reduced access to veld products and to water, leading to the loss of food and cash providing resources on which women depended for their reproductive work. As the traditional rights of women to land has altered, they are more affected by land and commons grabbing than men and have fewer options in trying to defend their former property. The company on the other hand uses a green development discourse to legitimize the selection on environmental legal state institutions and thus the removal of access to the commons.

5. Conclusions

These case studies indicate several elements of the links between historical and contemporary commons grabbing processes and how they undermine resilience in food and cash production systems as well as general livelihoods for marginalized, local communities in the Global South. The cases presented in this Special Issue show that "resilience grabbing" is the result of commons grabbing as a process, in which powerful state and corporate actors as well as local elites use institutional and legal pluralism in the age of neoliberalism. This provides them with the option to select, activate and transform rules and regulations and to use always new forms of discourses (conservation, green economy, green investment, CSR-development programs and SDGs) to legitimate their actions. While the promises of development has been criticized by Ferguson almost three decades ago [9], the contemporary examples in this Special Issue show the same mechanisms still exist, albeit sometimes in new forms, but still legitimizing unfavorable outcomes for local actors with less bargaining power. The tragedy of this notion of development is that in this way the capacity to recover from a human or environmentally-induced land and resources crisis is reduced. It is assumed that the COVID-crisis and the related economic and political outcomes on the local level might illustrate this trend.

However, there are cases that show different forms of local reactions and coping strategies that should be studied further. These may range from small actions of resistance to larger legal claims. In addition, local groups may develop new identities that boost their bargaining power and try to use strategies of institution shopping from below or engage in the development of bottom-up institution building (see Haller et al 2016 [16]). We argue that further research, preferably participatory research (see Haller and Zingerli 2020 [32]), should focus on these issues.

We hope to have contributed to an understanding that land grabbing in fact removes the communal rights to own and use not just land but land-related common-pool resources in cultural landscape ecosystems. These are central for local actors to be able to recover from market and climate induced crisis and to enhance biodiversity. Undermining these rights and local institutions will accelerate the global degradation process and further reduce the capacity for local actors to build up resilience in the face of global environmental and development crises. Enhancing common property and the development of institutions from below by all actors might be one solution to this set of problems.

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The Different Meanings of Land in the Age of Neoliberalism: Theoretical Reflections on Commons and Resilience Grabbing from a Social Anthropological Perspective

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Abstract: Recent debates in social anthropology on land acquisitions highlight the need to go further back in history in order to analyse their impacts on local livelihoods. The debate over the commons in economic and ecological anthropology helps us understand some of today's dynamics by looking at precolonial common property institutions and the way they were transformed by Western colonization to state property and then, later in the age of neoliberalism, to privatization and open access. This paper focuses on Africa and refers to the work of critical scholars who show that traditional land tenure was misinterpreted as customary tenure without full property rights, while a broader literature on the commons shows that common-pool resources (pasture, fisheries, wildlife, forestry etc.) have been effectively managed by locally-developed common property institutions. This misinterpretation continues to function as a legacy in both juridical and popular senses. Moreover, the transformation of political systems and the notion of customary land tenure produced effects of central importance for today's investment context. During colonial times a policy of indirect rule based on new elites was created to manage customary lands of so-called native groups who could use the land as long as it was of no value to the state. However, this land formally remained in the hands of the state, which also claimed to manage common-pool resources through state institutions. The neoliberal policies that are now demanded by donor agencies have had two consequences for land and land-related common-pool resources. On the one hand, states often lack the financial means to enforce their own natural resource legislation and this has led to de facto open access. On the other hand, land legally fragmented from its common-pool resources has been transformed from state to private property. This has enabled new elites and foreign investors to claim private property on formerly commonly-held land, which also leads to the loss of access to land related common-pool resources for more marginal local actors. Thus, the paper argues that this process does not just lead to land grabbing but to commons grabbing as well. This has furthermore undermined the resilience and adaptive capacity of local populations because access to common-pool resources is vital for the livelihoods of more marginal groups, especially in times of crisis. Comparative studies undertaken on floodplains in Botswana, Cameroon, Mali, Tanzania and Zambia based on a New Institutional Political Ecology (NIPE) approach illustrate this process and its impacts and show how institutional transformations are key to understanding the impacts of large-scale land acquisitions (LSLA) and investments in Africa.

Keywords: land grabbing; institutions; common-pool resources; common property; land tenure transformations; resilience, social anthropology

1. Introduction

This paper tries to reach a conclusion about issues that theoretically seem to relate only in a very loose way: Resilience is, on the one hand, defined as the capacity to absorb shocks and perturbations

of social-ecological systems and show their adaptability and transformation capacity often related to a natural hazard and climate change (see Folke et al., 2010) [1]. On the other hand, new debates in the social sciences and humanities on land, ecosystems and natural resource managements argue that it is political constellations that undermine the resilience of local actors [2,3]. The latter is related to critical perspectives in political ecology and ecological anthropology that have triggered new meanings about land and land use generally and, in particular, in Sub-Saharan Africa. This region is the geographical and empirical focus of this paper, which makes the following basic argument: Institutional change from resource-interrelated common property institutions to fragmented state and then private property and open access developments leads to commons grabbing for local people. It furthermore creates an institutional pluralism from which local elites formed during colonial times can profit because they can select the private property options after the undermining of state property during the implementation of neoliberal privatization policies driven by donor agencies [2,3]. These processes do not just lead to commons grabbing; they also undermine the adaptive capacity of local people to enhance their resilience, and this is the connection, which has not been made in the literature up to now and that combines the two strands. I thus argue as a theoretical part of this special issue that commons grabbing will also reduce the adaptive capacity of people in social-ecological systems and are thus to be seen as resilience grabbing processes.

These processes have often not been recognised in LSLA settings in Africa, because companies collaborate with local elites and with the state.

My interest in land issues grew from a political ecology perspective in the context of African crises that were prevalent in the 1970s, and which were repeated in hunger crises in the 1980s, 1990s, and 2000s up and continue to the present time. Many of the issues labelled as hunger and underdevelopment, with the added complication of climate change, have been presented as 'home made' African issues in development studies. These have repeatedly focused on neo-Malthusian, technology-based views and on narrowly conceptualized neoclassical ideas (see Timberlake's 1985 *Africa in Crisis* as one of the most cited examples). Counter-arguments have been manifold. Perhaps the most important theoretical strands were neo-Marxist, and local and global political ecology (Robbins 2005 [2], Peet, Robbins, Watts 2011 [3]) lines of argumentation that advocated colonial and market-specific legacies as reasons for the ongoing crises.

Another strand dealt with the way Africa and African development is perceived from the development perspective of the Global North. James Ferguson's image of the Anti-Politics Machine focused on Lesotho's development problems, which were labelled as problems of an independent state during the Apartheid era. It became evident, however, that Lesotho experienced almost the same level of dependence as the Bantustans, which were under South African control during the time of Apartheid. Thus, the Anti-Politics Machine was hiding the asymmetric power relation behind the notion of development (Ferguson 1994) [4]. This finding led to a political economy lens being used to look at development issues in Africa in general. On the one hand it might be polemic to view all African nations as being like the Bantustans, but on the other, there is some basic truth in the concept of the anti-politics machine: Discourses on development in Africa hide underlying political and economic interests (or disinterests). But what are these economic interests? Who pushes them? And what is at stake? Is it just globalized neoliberalism that sets the stage by labelling Africa in a specific way (see also Ferguson's 1999 Global Shadows) [5] or are additional issues involved?

It is interesting to see what labels are being used at the present time in this regarding Africa. While daily political media are full of new versions of the doomed continent, with a recent shift in focus from ethnic wars, under-development and environmental degradation to issues regarding climate change and terrorism (and lately the Ebola virus); economic journals, reports and analyses are enthusing over the new boom in African economies. The latter focus on high GDP growth rates, marvellous investment opportunities in mining, oil and land as well as, increasingly, in IT and other industries. In addition, it is said that education is improving, poverty is being reduced and demography—now

suddenly a good thing—is rising: Africa enables the Fastest Billion "(as Charles Roberson's 2012 book title promises) [6] through foreign investment, if "*done in the right way*".

One area where Africa has seen much investment is in land. The literature on Large Scale Land Acquisitions (LSLA) and investments or land grabbing is growing, especially in the resurrected *Journal of Peasant Studies*. Several authors with at least three major theoretical orientations have been setting the scene, (a) outlining opportunities and documenting collateral damage caused by investments (Deininger 2011) [7]; (b) by adopting a critical political economy position, arguing that there will be more losers than winners (de Schutter 2011 [8], Hall 2011 [9], Cotula 2013 [10]); and (c) a (rather marginal) Neo-Marxist position. The latter seems to follow Harvey's *A Brief History of Neoliberalism* (2007) [11], seeing large-scale agricultural investments or land grabbing as part of "primitive accumulation" processes by which the agricultural producers will form an agrarian proletariat (see Basu 2007) [12]. There is a significant body of newer literature (see the *Journal of Peasant Studies* since 2011), which unfortunately rarely includes in-depth field studies or emic views of actors in this field (see critiques by Oya 2013, and Lanz, Gerber and Haller 2018) [13,14].

However, organizations such as ILC, IIED Oxfam and Justica Ambiental provide more in-depth case studies, and there are some rare overviews such as the one by German, Schoneveld and Pacheco (2011) [15]. These do not, however, provide much data from the emic perspectives based on the longer periods of fieldwork that characterize social anthropological research. Unfortunately, social anthropology has been rather silent on these issues apart from some overviews (see Li 2011 [16] on labor issues, and Fairhead, Leach and Scoones 2012 [17] on green grabbing). However, these papers do not often provide concrete insights into LSLAs or land grabbing processes over a longer period of time, which could indicate changing constellations of actors, how their decision making unfolds and what strategic actions they are taking. Human geographers Locher and Sulle, writing about a Tanzanian case study, are a noteworthy exception [18]. Therefore, a combined institutionalist and political ecology view on this topic might be helpful, particularly regarding new institutionalist approaches that discuss land issues in the context of changing rights and obligations. Of course, the actual actors' perceptions cannot be neglected. The main question is how deals covering land and related resource rights are perceived by local actors as these have been changing since precolonial times. This requires an approach that focusses on how land and land-related common-pool resources are perceived in a changing world in relation to the bargaining power of involved actors and discourses they use to legitimate their actions: New institutionalism in social anthropology provides an analytical tool for these issues and links them to external historical change.

2. Land and New Institutionalism in Social Anthropology

Land has been a research preoccupation of social anthropologists since the colonial era, and has intensified with more recent land grabbing debates not only in African contexts, in which the land grabbing debate is most prominent, but as well in Asia and Latin America. What was perceived as land from a colonial perspective differed much from local views on what land meant. The colonial gaze made landscapes a wild, uncivilized and at best underused resource, which did not correspond with the local views on what land meant. However, many social anthropologists were caught in a dilemma. On the one hand, differences in perception between the local and the colonial actors became evident and asked for cultural translations while on the other hand, the colonial contexts, in which anthropologists were working in the Colonial era put them in a position of being collaborators or at best informants [5,19]. In Latin America, these issues were linked to the eviction of local groups and their marginalization as these views where not perceived by the colonial powers as being relevant land claims (see Wolf 1983 [19] for a general overview, Stocks 2005 [20]). In Africa, as well in parts of Asia, local people partially remained on their territory, but also faced evictions. Still, large portions of areas in Africa were labelled customary land (see Chanock 1991 [21], Peters 2013 [22] for Africa, Li 2011 [16] for Asia).

Colonial developments in Latin America started much earlier and led to debates over frontier zones. On the colonized side of the frontier, large parts of land were allocated to private land-owners through the Spanish or Portuguese crown, which were later claimed by the elites of the emerging states. Behind the frontier, often in rainforest areas, a constant colonialism process occurred that is still going on today Millington (2018) [23] for Bolivia. The original inhabitants were given reserves and gained some rights as indigenous peoples after an extremely harsh process of expulsion and physical partial elimination (see Bodley 1985) [24]. And despite political recognition of indigenous peoples, the debate that these small groups have rights to too much land is ongoing (see Stocks 2005) [20]. In Asia, similar processes unfold with the exception of India and China (see Geiger ed. 2008) [25], Li 2014 [26]). Nevertheless, indigeneity is a political tool these groups can use to defend their land (see also Galvin and Haller eds. 2008) [27]. In contrast, I will now focus on African contexts for the rest of this paper as most large-scale land acquisitions take place there and because the issues on the African continent differ significantly from Latin America and Asia as the political notion of indigeneity is difficult to be applied in Africa.

While colonialization processes in the African context were also not uniform, there are some similarities between the British and the French control as well as the Lusophone colonial and the pre-WWI German contexts (see Mamdani 1996: 80ff.) [28]. A globalized view of European expansion indicates that colonizing Africa in order to use both the land and the work force made much more sense than colonizing the land without the people. Land is only valuable when made valuable by external view. This was the case at the beginning of colonial times in Africa in the context of low mechanization. The fact that the colonial process was one not so much of economic profit but of high costs did not really matter in the beginning. What mattered was the initial idea of getting minerals and putting virgin land to use—and this view held sway in the minds of administrators despite the fact that people were living on the *virgin* land. The label of customary land was created in colonial times, based on evolutionist views of land institutions (from free to commons to private property) developed in this initial phase of colonisation. British colonial indirect rule became the blueprint, and outsourcing the management and control over land and people to select local authorities called chiefs was part of this model (Mamdani 1996 [28]., see also Haller ed. 2010 [29], Haller 2013 [30]). In many areas studied and compared, precolonial power structures included politically egalitarian, segmentary lineage groups, big-men structures (leading rivalling men) or more hierarchical groups. The institution of chief was often a colonial creation installed by the European authorities and especially undermined the egalitarian and big-men power structures [29]. These chiefs then commanded a specific territory of a so-called tribe. In this naturalization process of African land governance systems, it was emphasized that resources were communal. Therefore, there was no notion of real property. Peters outlines this by referring to Iliffe as follows:

> *The imposition of customary tenure with its denial of full ownership rights to land-holders had several key effects. One was to halt development of a land market by ignoring or denying evidence of past transfers, and by declaring that land was inalienable "according to tradition". Another, by placing land management under the institution of chieftaincy (though ultimately under the colonial state), intensified competition among the various incumbents of traditional leadership roles and centred that competition on land. The fixing of territorial boundaries over which the traditional authorities were made trustees greatly reinforced the link between political authority and authority over land*. (Peters 2013, pp. 3–4) [22]

Many examples from African colonies provide evidence that the British tried to implement indirect rule, as did the French in practice—in contradiction to their direct rule policy (see Mamdani 1996) [28]. Despite the many differences over the continent, this led to the functioning of a cheaper management structure, never allowing full ownership at the local level (by chiefs) but which kept ultimate control over ultimate land ownership. As a consequence, this transformation fuelled local conflicts by inciting competition between installed chiefs and other elites. This is illustrated by Firmin-Sellers [31] and case studies from Mali, Cameroon, Tanzania, Zambia and Botswana where there is a common shift in chiefly

authority over land [29]. Therefore, customary property was a camouflage of a wrong labelling of traditional property systems in which land was said to be (a) not for sale; (b) not related to individual views of belonging; and (c) commonly owned and therefore not property as such. This colonial narrative was upheld and supported a discourse on modernization processes in agricultural development: Common property tenure is perceived as a hindrance to development, despite the fact that during and after colonial times—with and without force—local peasant smallholders were producing cash crops for the market (see Netting 1993 [32], Peters 2013 [22]). Nevertheless, it was not just an increasing population that gave rise to competition over land since the 1970s but also increasing pressure on reduced land due to growing, multiple interests by the introduction of new agricultural production methods, mining and through the institutionalization of protected areas (game and forest reserves, see Neumann 1998 [33], Haller 2013 [30]).

The intensification of land use and land-related resources worldwide, highlighted by repeated hunger crises in the Sahel zone, created the image of land being degraded due to the overuse of natural resources held in common. This triggered a debate on the relationships between land and property not just from an economic angle but from an ecological point of view as well. Reference was made to Hardin's Tragedy of the Commons (1968) [34]. In this essay, which had no empirical evidence but was a Neo-Malthusian polemic against the freedom of human population growth, Hardin did not want to deal with land issues per se. He painted a picture of pastoralism in which actors are only interested in increasing their herd size illustrating the process of freedom in reproduction (here of cattle and then more generally of people) as degrading the pasture because it is governed as common, not private, property (see Acheson 1989 [35], Ostrom 1990 [36], Haller 2007a [37]). This had a strong effect on state policies, especially in supporting justifications of states to control natural resources within their boundaries and it was a welcome ideological legitimacy for stricter state governance and later for neoliberal privatization policies (see Feeney et al., 1990 [38], Fairhead and Leach 1996 [39]).

The arguments picked up by mainstream science and by governments regarding the economic and ecological flaws of traditional land tenure triggered a process of revision and rethinking. This was led by Elinor Ostrom, who devoted her Nobel Prize winning work to craft a new picture of common-pool resource management in common property regimes [36]. The main argument was that renewable common-pool resources, which are subtractable (what is taken away cannot be used by others for the moment) and difficult to defend (but possible by a group that can organize collectively), could be managed in a sustainable way by so-called robust common property institutions. Foremost, she and other scholars highlighted that Hardin erred in his view on the commons as open access but that resources held in common property regimes are the property of a group and not no one's property. Eight design principles for well-working institutions in her book *Governing the Commons* (1990) [36] were deducted from (mostly) social anthropological case studies. They indicated that institutions address the problem of freedom and free riding by reducing transaction costs (information, monitoring and sanctioning). Ostrom's work related to environmental issues, and it followed the line of argument of new institutionalism on property rights proposed by Douglass North (1990) [40], who in fact had followed Roland Coase's theory on the firm and labour contracts to illustrate that institutions do reduce transaction costs. The amount of work emanating from Ostrom's approach to new institutionalism as related to the commons is immense. There is now a digital library of the commons as well as journals linked directly to the issue. This is proof of the broad scholarly interest and is also manifest in growing participation in the *International Association for the Study of the Commons* (IASC), previously named the *International Association for the Study of Common Property*.

However, some variables that the economic historian Douglass North had integrated in his model such as power relations, were missing in Ostrom's work. She was more concerned with the possibility of self-organization and sustainable use of common-pool resources and neglected historical embedment or issues of politics and of power. Despite the recognition that institutions are also embedded in larger systems, her primary focus was thus not multilayered in the sense that, viewed from a political economic and ecological stance, local systems are often not articulated but still power-related parts

of state constitutions, legal systems and state elites as well as of international global governance regimes and global markets (see Haller 2007a [37], 2007b [41]. While studies focusing on the way self-organization is made possible as a puzzle stemming from game theory, a new approach from social anthropology emerged [42]. Starting from models in economic anthropology, Jean Ensminger (1992) [43], a US social anthropologist, proposed an interrelated model in which external factors (environment, population and technology) lead to changes in relative prices of goods and services and had a local impact (Figure 1).

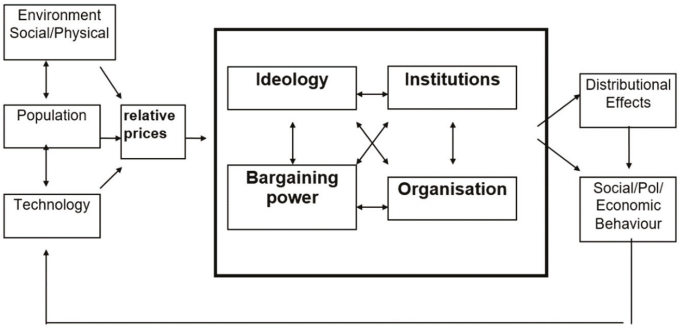

Figure 1. Modelling institutional change. Source: Jean Ensminger (Ensminger 192, p. 10) [43].

Local contexts (in the model bargaining power, institutions, ideology and organisation) are influenced by the changing relative prices and relative value that a specific resource or a region is gaining. In line with the work of North [40], Ensminger argues that the bargaining power of actors, the way they organize and the way they select and craft institutions and legitimate this by ideologies impacts the distribution, use and finally reproduction of resources in the environment, population and technology, i.e., the feedback loops in Figure 1. Therefore, in line with North she does not follow other New Institutionalism economists who predict that the market will choose the optimal institutions (see Williamson 1987 [44]). Rather, institutional settings and, later, distribution are shaped by bargaining power and ideology as a resource of legitimacy. This means that, for example, a rise in the relative price of land will not automatically trigger immediate privatization but can have different outcomes depending on the bargaining power of actors and the way they are able to produce legitimacy (ideology) for their choice of a certain institutional option. This model has been enlarged, looking closely at issues of bargaining power and ideology (including constructivist approaches regarding discourse and narrative to produce legitimacy, often in either so called traditional or modernization ideologies [29,30]).

This point will be taken up later in this article as I return to the issue of land and the colonial and postcolonial discontinuity. But how are these issues related to land, to LSLAs or land grabbing? The theoretical focus on common-pool resources could direct the view that land is a general category, linked to the territory of a group of users including multiple resources without specifying the way the land and its resources are used. This is often ignored, and the focus is on how property rights on land alone are defined from an outside point of view of the state and its actors. Hence, there is a paradox: On the one hand, land as agricultural land or soil is often separated from resources other than soil, while on the other hand land-related common-pool resources are ignored as if these would not matter for local people and their livelihoods and is only perceived as pure nature [29,30,33,39]. In legal terms, land becomes a category of its own, separated from all interrelated resources. While water continues to be seen as an additional and necessary resource for commercial agricultural production, all other resources and the way they are interconnected are no longer of interest, be they pasture, fisheries, wildlife, veldt productions, etc. However, from an emic view (local socio-cultural perspective), land might mean something very different as I will try to show based on the research conducted

by a team involving three MA and three doctoral students and a postdoctoral researcher in areas of six African floodplains in Mali, Cameroon, Tanzania, Zambia and Botswana between 2002 and 2008 funded by the Swiss National Science foundation ([29,30,45]).

3. Elements of Emic Perceptions of Land: Insights from Research in African Floodplains

Several authors emphasize that the precolonial notion of land in Africa was shaped by numerous factors, which involve tenure systems, type of land use and what identities land generates. They argue that from a local (emic) perspective land was not based on the notion of state and market-related private property. Instead, it was always considered as a mixture of private and communal property under the governance of leading offices (e.g., elders, specialists) in more politically symmetrical situations or through leaders from more asymmetrically powerful groups. And it was related to so-called first settlement of such groups or as a consequence of the conquest of feudal or more powerful systems (see Benjaminsen and Lund 2003 [46], Toulmin 2008 [47], Peters 2013 [22]). These authors then argue that the "traditional tenure systems" we see today do no longer represent precolonial tenure but are mostly the result of imposed colonial transformations of property rights labelled "customary law" (see Chanock 2005).

The aim of this paper is not to provide a literature review on this issue as this has been done elsewhere ([28–31]) but to show insights from a research project called *The African Floodplain Wetlands Project* (AFWeP) conducted by our team that introduces some interesting elements of emic views on land in six floodplain regions in Africa (see Haller ed. 2010) [29]. These cases are of interest in the context of this paper as comparative research was based on long-term anthropological fieldwork, including participant observation, oral histories and biographies in order to understand the emic view. The team combined literature and archival research with oral history on precolonial institutions for the management of common-pool resources and produced results for the:

1. Inner Niger delta, Mali (different fishing communities, agricultural groups, Fulbe)
2. Waza-Logone floodplain, Cameroon (Kotoko fishing communities with a Sultan, immigrant Mousgoum agriculturalists, Fulbe and Arab Choa pastoralists)
3. Pangani floodpain, Tanzania (Pare-Peasant and Maasai pastoralists)
4. Rufiji floodplain, Tanzania (local hunter-gatherer, fishing and farming communities)
5. Kafue Flats floodplain, Zambia (hunting-gathering, agro-pastoralists of Ila, immigrated Lozi and Tonga)
6. Panhandle/Okavango Delta, Botswana (different hunter-gatherer groups, cattle, later on agriculture).

Regarding the emic perception of land in precolonial times, this research revealed that the category *land* is embedded in views of territory and landscape with all its resources, which are perceived as being interconnected and used for securing economic and political existence. People were concerned with a secure livelihood, as well as the political security that an area with all its resources provided. Four issues are of importance to understand what land means through this lens: (1) first-comer—late-comer relations; (2) coordinated and reciprocal use of common-pool resources and related to this; (3) spiritual landscape relations; and 4) emerging institutions for common-pool resource management (see also Haller 2019 [48]):

1. As in the cases referred to by Lenz (2006) [49] and Toulmin (2008) [47], political differentiation regarding resources and territories was based on the distinction between so-called first-comers, mainly but not always hunter-gatherer or fishing communities, and late-comers, such as agricultural and pastoral groups. Land in the narrow sense was just one aspect of something emically called an area (or a territory) with many resources. First-comers did not use all the resources, while late-comers often used other niches, leading to increased ethnic specialization in some cases (case studies 1–4) or by using the whole set of resources (case studies 5 and 6 which is a process that developed later on also in the other cases.

2. In order to mitigate economic and political risks, reciprocal resource use took place within and between people of different territories. For example, the different agropastoral subgroups of the Ila on the Kafue Flats (case study 5) had agreed upon mutually beneficial arrangements for access to fishing and hunting areas since sharing these resources reduced the risk of low catches.
3. Regarding territory tenure or property, so-called first-comers did not see themselves as "owners of the land". Instead, they saw themselves as the ones who established first contact with supernatural powers that could—if not respected—transform elements of the environment in negative ways (e.g., through drought, sickness, wild animal attacks). Often these supernatural powers were seen as spirits in the water, in the land (soil) or related to animals. Some spirits had human counterparts, so called ritual specialists, with whom they communicated regarding offerings. From the emic perception this is seen as a kind of reciprocal arrangement of give-and-take based on the notion that spirits are the actual owners and that one is not alone in the territory. Another level is made up of the ancestral spirits who grant the use of the landscapes with their multiple interrelated resources. The interaction with these powers controlling the landscapes is organized via rituals and related offerings in order to make and renew spiritual contracts on the landscape. Leaders were those first-comers who had a link to the spirits themselves or who had ritual specialists who did.
4. These leaders and specialists thus held offices of great importance and interest. They also coordinated resource use by other members of the communities as well as of late-comers who were then dependent on them. This was often based on a clear notion of seasonal availability of resources. Where no conquest took place, institutions in the form of reciprocal arrangements with neighbouring groups were common. The territory with its multiple and interconnected resources such as soil, water, pasture, wildlife and fisheries, was used in a coordinated way based on these emerging co-created institutions. In some cases, long-term agricultural production and use could develop into a kind of family property of land due to the length of time it had been used and the investments that had been made. However, the other resources of these small territories could still be used by all members of the community during the different seasons (e.g., a harvested field can become a pasture that others use). Most importantly, the territory could be given to someone else for use after negotiations. Different institutional arrangements in floodplain areas refer to groups and leaders who are responsible for complex resource use coordination, especially in floodplains where there are big differences in seasonal resource availability. Adaptation to seasonality was one driving force; others were conflict and conflict resolution. For example, the institutions established for the use of pasture, wildlife, fisheries and land use in the Kafue Flats (Case study 5) were often established after conflicts had occurred. They are based on myths and oral history but still remember and actively contribute to the establishment of a complex governance system that is working well.

The case studies also show that there is a peculiar mixture of economic rationale and power specific justification to institutional arrangements. In addition, they are combined with ecological adaptive features, fitting into the seasonal flood water advance and retreat. First-comers and more powerful late-comers tried to legitimize their presence via symbolic interaction with the supernatural beings living in the landscape as a whole or in important parts of the landscape, (e.g., on land or in water), but these spirits have further implications if not heeded. Interestingly, more powerful groups that arrived later in an area tried to marry into first-comer families or to link up with the spiritual world of the latter. Therefore, land is just one part of a belief system. In this system, people see their economic and political well-being as a central focal point which is linked to the spiritual world in relation to the environment. Regardless of differences in political systems (whether segmentary, constructed around 'big men' or hierarchical), the locally-developed models show similar forms.

It is also evident that these first-comers and late-comers were trying to find arrangements with the aim of achieving economic security and political gains for the leaders themselves. This aspect can be illustrated in the case of the Kafue Flats fisheries (case study 5). There, the Ila late-comers married into

the Batwa first-comer fishing communities and established a notion of spiritual ownership over ponds via ancestral links. These ponds are filled with water and fish during the rainy and flooding seasons. To coordinate the use of fish and to prevent free-riding, collective fishing days are agreed upon by leaders and their spiritual masters, allowing all members of the community access to fish since it is a communal resource. Fishing activities are allowed only after rituals for ancestral sprits are completed. Before the rituals and after the fishing days, fishing is not allowed in the ponds anymore. This rule is monitored and sanctioned twofold: There are patrols, and there are fines for those disregarding the dates set by community leaders. In addition, there is a monitoring institution embedded in the belief system itself. People link ancestral spirits to crocodiles that are found in the ponds after having left the main river after floods. Not to submit oneself to the rule of coordinated use after a ritual has been carried out will lead to attacks by ancestral spirits via crocodiles. This functions as a kind of supernatural sanction. There are also clear rules concerning fishing techniques based on gender differences (spears for men, baskets for women). Reciprocity in the use of the ponds is furthered by issuing invitations to members of other communities [30,50,51].

This last point is central to the study. We discovered that local groups have a clear notion of boundaries and territories, but these notions include an idea of permeability and flexibility of boundaries. This can be seen as a way to reduce risks resulting from variability in flooding patterns and consequent availability of resources. Therefore, institutions, which include notions of flexibility of use, reduce risks and fulfil an important economic aspect inherent in the general principle of minimax-strategies. However, such a way of coordinating resource governance also make sense politically as alliances are possible, theft is reduced and, most importantly, the prestige of local administrators as distributers of resources is enhanced. This is clearly the case with the Kafue Flats fisheries example but also in other instances (see cases in Cameroon (Fokou 2010 [52]), and Tanzania (Meroka 2010 [53])).

This leads us to encourage further studies in this direction. At the same time, a preliminary conclusion can be proposed. From an emic ontology and epistemology, land is part of a larger, symbolically viewed complex of cultural landscapes inhabited by spiritual beings that influence production and consumption for people, arriving at various stages in time and therefore occupying different (hierarchical) identities in this interaction. Moreover, the different resources that we view separately as outsiders are closely interconnected. This is also reflected in the institutions that often play the role of a coordinating body between the different, interconnected uses. For example, in the Waza Logone floodplain (case study 2) fisheries, agricultural practices and pastoralism have to be coordinated so as not to conflict with one another. Conflicts cannot be ruled out completely, but institutions often emerge out of conflicts as a result of conflict-resolution mechanisms. Institutions are also flexible and can be renegotiated if they do not fit a specific problem or are questioned by more powerful groups: This is a highly interesting aspect. Institutions are often the result of different bargaining power constellations. The most powerful does not simply win but has to engage in a compromise with the less powerful in order to reduce resistance that is economically not viable. More powerful people can of course devise rules that are in their interest alone but will face resistance at high costs from other users as common-pool resources are not easily defended. Therefore, it is better to share and to establish a legitimized distribution. For example, hunting institutions in the Kafue Flats illustrate this point [30,50,51].

This shows that if we focus only on land we miss all the other resource contexts and regulations in which the land question is embedded. Specifically, poorer resource users (but not just poorer resource users alone) do not only use the land. They also use the related common-pool resources and institutions that are organized around this multiple use and depend on these more than the richer resources users in order to make a living.

What does this mean, especially in the context of recent literature on land and identities by Benjaminsen and Lund eds. (2003) [46], Kuba and Lenz eds. (2006) [54], Derman et al. (2007) [55]? We see this literature not as a contradiction, but as a contribution to a better understanding of hitherto

misread customary "systems in Africa". We strongly claim that land is a political issue in Africa, but we also argue that we need a more complex perception of landscape areas with multiple uses and users. The hegemonic misreading of land in Africa (see also Fairhead and Leach 1996) [39] has huge resource management and political implications—as we will see later on—that go beyond issues of land per se but include notions of identity and politics of belonging (see Kuba and Lenz eds. 2006) [54]. We will argue that specific issues of belonging are triggered also by external influences on ideologies as outlined in the model of new institutionalism. These have become ways to legitimise inclusion and exclusion in times of externally induced scarcity (Derman et al., 2007) [55] and contestations due to processes of open access and privatization (see for example Chaveau 2006) [56]. This does not contradict the view that during precolonial times access to common-pool resources was negotiated and sometimes unequally distributed (see Derman et al., 2007) [55]. Our studies still show, however, that in this system people with less power were able to get access as well. In addition, and mainly relevant to the discourse on nature conservation, the literature shows that we are not dealing with pure nature but with cultural landscape ecosystems that were created and maintained by the described common property institutions.

Concrete analysis of fisheries, hunting, pasture and rules related to agricultural production in the six case studies reveals that marginal groups also profited from these regulations (e.g., special fishing rights and techniques for women, access to wildlife for the less wealthy, access to pasture on a relatively equal basis, the right to cultivate land in a specific territory). The right to cultivate can also take on the form of more exclusive rights that come close to what could be termed private property. However, these rights did not translate into the right to dispose of the land privately as such decisions about land and land related common-pool resources are vested in larger groups. This means that giving away land was not in the hands of these individuals but was a decision taken by the larger groups and their leaders (e.g., in Kafue Flats although land for cultivation is inherited on the basis of use rights of fathers, leaders still have the possibility to give the land to someone else if needed [30,51].

This refers to the question of formalization of land rights, and in this regard, the dichotomy between formal and informal institutions is rightly criticized in this context (see Cleaver 2007) [57]. On the other hand, local institutions do display certain formalizations. While it is made clear to everyone what basic rules are binding in a specific context, everyday practice might indicate a more flexible way of handling issues; Douglass North would call this informal. I would also argue that institutional bricolage (Cleaver 2002) [57] often happens at the informal level, while bargaining and fixing specific bricolage happens in a more formal arena when rules are revised. Actually, bricolage might not be the right term as it obscures the contested power-specific and strategic notions that are inherent in such processes.

The final issue is the one of legal pluralism that is often cited in the literature (e.g., Benjaminsen and Lund 2003) [46]. Again, based on the six comparative case studies, legal pluralism happens in a precolonial setting. This pluralism is related to the flexibility of local, seasonally-changing resource use requirements and is therefore of a different order than the legal pluralism that we see during colonial and postcolonial times

4. The Colonial and Postcolonial Disconnect

In the previous section, I outlined the different views on land from an emic perspective and their implications regarding tenure. This analysis is important in order to understand the impact of colonization on the way land and land related issues are perceived until today. The change brought by colonial administration cannot be underestimated because it was—despite all the differences in national colonial policies and formal procedures—a blueprint leading to legal pluralism and disconnections of another order.

Looking at Scott's 1998 work on the way that states see resources [58] reveals the basic perspective adopted by the colonial administrations. Paradoxically the state simplifies—as it wants to know what is at stake in order to control it—but at the same time complicates management by separating entities

of natural and social order which were originally intertwined. And according to Li (2014) [26] in a critique of Scott's views, it creates messiness. Benjaminsen and Lund are right to argue that this did not just happen with European colonial powers. They cite the example of the Dina -Code in Mali which was introduced by the Fulbe Caliphates in the 19th century. The code regulated and formalized the transhumant use of pasture in the inner Niger delta. Benjaminsen and Lund (2003) [46] do not recognize, however, that this formalization was based on pre-existing institutions regulating and mitigating access not just to pastures but also fisheries and agricultural activities (see Moorehead 1985 [59], Beeler and Frei 2010 [60]). The basic idea was thus different from what the European powers did later. While formalizing some parts of existing regulations and also dealing with them in Islamic courts in the Dina-System, the European Roman, state-related legal system divided resource use and management regulations by treating the interlinked resources under separate and different legal domains. This process was revealed in all the case studies in the AFWeP project (Haller ed. 2010) [29]. It is true that missionaries, trading companies, and later on state administrators and social anthropologists tried to understand precolonial institutions and fit them into a legal system colonial in order to capture and use them. But during the process by which traditional institutions were transformed into so-called customary rights shaped to fit the rights systems of the colonial powers, many issues were misread (see also Benjaminsen and Lund eds. 2003 [46], Berry 1993 [61], Chanock 1985 [62], Moore 1986 [63], Peters 2013 [22]). This process created three levels of pluralism and disconnections.

One is that based on a strategic and single resource-oriented focus during colonial times. Modern Roman law was introduced in areas of central importance for mining and European settler plantation agriculture, while the indirect rule (or direct rule that turned into indirect rule in the French system) was introduced in areas that were less interesting for the state. There, administration was delegated to lower levels of the so-called customary law. Neo-Marxists in social anthropology such as Claude Meillassoux and others argued that these areas were just of interest as a reservoir and recreation territories for cheap labour, to be used elsewhere and then sent back, in order to increase capital accumulation (Meillassoux 1981) [64]. Therefore, even these areas were only of interest as to set up a system that faked local but cheap governance for colonial powers. Thus, a three-layered system was created: written, "traditional" and unwritten. There was the dualism between "modern" European Roman law for land used by the state and by white private owners linked to the colonial and postcolonial state and the "traditional" but state controlled and formalized "customary" laws. The third level was made up of the unwritten rules and norms at the local level, the informal customary rules and regulations, linked to membership of a community or ethnic group [22,46,65] that partially prevailed but, for the most part, was undermined [29].

The second source of pluralism and disconnections refers to the way the state looked at resources in a fragmented way, which then later fitted market, global and neoliberal orders. Colonial and postcolonial states are not different in this regard. While precolonial systems were mostly about a specific territory as a whole landscape, including the living and the dead and mystical powers influencing all elements in a kind of local ecosystem view, the colonial and postcolonial state's view was selectively materially oriented in order to profit from or gain prestige from specific resources. An illustrative case is Tanzania—first a German and then a British colony. Both powers disconnected the landscape from its resources in order to formally use them for different purposes. One division was between white farming and protected areas, with the latter being further divided into forest reserves and game reserves. The forest reserves functioned as areas of timber extraction for the railways; while the game reserves were privileged spots for "sportsman-like hunting", reserved for British nobles and colonial administrators for prestigious habitus-like activities. Protection of such disconnected areas with the focus on just one resource, led to eviction of people and massive transformations of these former cultural landscapes. As they turned into bush and became invaded by tsetse flies, the "wild" animals moved out of the reserves and into the fields of the evicted people (see Neumann 1998 [33], Brockington 2003 [66], Meroka and Haller 2008 [67]). Therefore, the legal disconnect during

colonial times—the disconnect between land and common-pool resources—became a physical resource disconnect in these former cultural landscapes as water, fisheries, pasture, forestry were used and treated as separate units owned by the state and no longer by the local communities under common property institutions. This process manifests itself in all the case studies in the AFWeP and as well in research elsewhere in Africa (see for example Fairhead and Leach 1996 [38], Brockington 2003 [66]. The AFWeP also concluded that this disconnect was also manifest in the postcolonial administration of natural resources in the floodplains studied.

This leads to a third level of pluralism and disconnection. The states in which the floodplain studies were located (i.e., Mali, Cameroon, Tanzania, Zambia and Botswana) witnessed a massive institutional change during colonial times from common property including the governance of land and land-related common-pool resource to state property. Through this process, common-pool resources were separated legally from the cultural landscape ecosystems created by local people and put them under different departments such as agriculture, fisheries, wildlife, veterinary, water and energy, and tourism. All of these departments based, and still base, their actions on their own legislation and legal settings, leading to a disconnect in management. In Zambia for example, water rights do not consider problems related to fisheries and wildlife, but only look at energy production and irrigation for large-scale plantations (see Haller 2013) [25]. Examples such as this illustrate similar processes in all other countries and regions studied. Such disconnections also produce strife on different levels, not only creating conflicts between resource users, but also lead to different administrative units competing with each other. Again, the case of the Kafue Flats is illustrative. Here, wildlife and fishery departments are creating a conflicting plural setting for resource users as both departments claim authority over, for example, a protected area due to the presence of both fish and wildlife. As both these common-pool resources migrate due to flooding and floodwater retreat on the floodplain, management is complicated and neither local users nor state administrators really know who is in charge or which institutions to adhere too (see Haller 2013 [30]). This problem has also been studied in Southern Africa in the DARMA (*Defragmenting Resource Management*) Project led Mafaniso Hara and colleagues at the University of Western Cape (see Mlanga et al., 2014 [68]). All of these studies show the overlapping of legal norms of several distinct departments for just one resource such as fisheries. For example, in Zimbabwe, five departments have completely uncoordinated regulations on this resource [68]). Research from Zambia, Cameroon, Tanzania and Botswana shows similar findings [29].

Interestingly, these issues are not directly dealt with in the literature. Rather, the debate focuses on the "formal—informal" dichotomy or "bureaucratic and embedded" discussion, in which the argument is put forward that the distinction between formal institutions and informal norms cannot be the basis of an adequate analysis (see Cleaver 2003) [69]. However, I argue that this position misses the point because it does not reflect the relationship between historical change up to the present day, including the impact of the legal fragmentations as well as the ecological misreading of the landscape and the way social-ecological systems relate to each other (Berkes 1999 [70] makes a similar argument). Therefore, there is informality in so-called formal systems and formal processes in what are labelled informal and embedded customary systems. These contribute to institutional and legal pluralism from which actors can select based on the power constellations they find themselves in. One could, like Benjaminsen and Lund [46], critically argue that formal (and informal) colonial rule was not well enforced everywhere. That might be partially correct. Nevertheless, the new legal and formal administrative rules added up to the pluralism, even if it is not well enforced. They also provided ideological spheres of reference and can still now be strategically used by many actors.

5. The Presence and Absence of the State

The previous section illustrated how the precolonial emic view on land interlinked with common-pool resources in the AFWeP cases has been disconnected during colonial and postcolonial times and has led to new institutional pluralism. This section further tries to understand today's land issues by linking them to the states in crisis phenomenon as a further act in this drama. While being at

the centre of resource management, the African states researched in the AFWeP case studies, are new forms of territorial, fiscal and resource management entities that are often still in close contact with and dependent on the former colonial powers. Increasingly, they are also subscribing to international and global economic trade networks, which further influence the management of natural resources since these relationships produce much-needed foreign exchange that is needed to meet state infrastructure and social expenditures. The new, post-independence African states examined in the comparative AFWeP project were trying to continue with the raw material export-oriented structures they inherited from the colonizers. In all of the cases studied, states depended on one or two basic resources for cash and foreign exchange revenues. In doing so, they were trying for finance what the elites in power saw as the economic basis for financing imports in order to modernize the countries. Large infrastructure buildings and services (e.g., road networks, dams, large plantations, green revolution and agrarian subsidies) were being set up and were often financed with overseas loans with the anticipation of high revenues in the future. Between 1975 and 2000 changes in relative prices, such as increases in oil prices (imports) and decreases in the prices of other raw materials (e.g., metals, food and fibre cash crops for export) led to financial crises and weak state structures as staff salaries and infrastructure could no longer be financed.

Governments were thus soon in the position where "making a state" became expensive, while at the same time, state activities could not contribute to the project of modernization (see also Ferguson's book *Expectations of Modernity* 1999) [5]. Four out of five country studies in the AFWeP show that between the 1970s and 1990s a dismantling of the state, which had formally taken over the management of all the natural resources in the name of state property, took place. Botswana was the exception as its gains from diamond mining could be widely distributed. However, in all five countries the state had crafted huge plural complex and disconnected management systems with laws and regulations. However, due to the lack of finance, governments were financially unable to "make state". State institutions responsible for the management of all the disconnected resources could not be enforced. In most of the AFWeP cases studied, this led to de facto open access to common-pool resources.

Once again, the Kafue Flats fisheries plainly illustrate this. As many people working in the mines and in mining towns lost their jobs due to the copper price crash of 1975, they turned to fisheries in the hinterlands, such as the Kafue Flats, because fish fetched high prices in the urban centres. As the Zambian fishery department was underfinanced, understaffed and underequipped it was unable to enforce basic issues such as mesh size and closing times in the Kafue Flats. Many seasonal fishermen and fish traders (men and women) moved—and still move—to the flats. There they fish as they please, for example using fine meshed draw nets. However, the state is not only absent; in certain discourses it appears that it is also very present. For example, when local people complain to the commercial fishermen that they are unable to enforce their fishery institutions due their lack of power, the commercial fishermen refer to the fisheries as a national resource and that they, as citizens of the state, are entitled to fish this state resource. The state is thus present and absent at the same time: Absent because the state regulations are not enforced and present through the ideology of citizenship which is used as a source of legitimacy to get free access to the common-pool resource. Actors from outside the area thus increase their bargaining power in order to select the institutional setting that suits them best—de facto open access—by legalizing this choice based on the discourse of citizenship [30,50].

Similarly, powerful actors from outside the communities studied in Mali (outside fishermen), Tanzania (in-migrating peasants) and Cameroon (pastoralists through paying state taxes and immigrated peasants) choose citizenship as a statement of legitimacy to increase their bargaining power and in order to be able to select the institution which suits their economic interests best from the institutional diversity that exists. The notion of citizenship in Botswana is less important and the pressure to use common-pool resources is not as strong as in the other cases studied. In the case of the panhandle and Okavango delta, however, local people struggle over the notion of autochthony regarding the possibility to draft management plans for Community Based Natural Resource Management (CBNRM) schemes (see Saum 2010) [71].

Thus, in these cases the competing forms of institutions are a central reality as also shown by research on the issue of how land and belonging are interlinked (see Benjaminsen and Lund eds. 2003 [39], Derman et al. eds. 2007 [48], Kuba and Lenz eds. 2006 [47]). These authors refer to the notion of how identity is built and constructed in relation to state institutions, scarcity issues and the relationship between first-comers "and late-comers". Nevertheless, it is important to see how, in the context of state failure and legal pluralism, bargaining power between actors is distributed and particular institutional choices are strategically made and legitimized in a concrete setting, based on economic and political options and preferences. These options and preferences are relational and also depend on fluctuations in prices. Therefore, the new institutionalism model of Ensminger (1992) [43] tries to analyse how the basis of actors' bargaining power is influenced by changes in relative prices and also how it is influenced by ideologies and discourses to legitimate the selection of institutions such as for example the preference of private property over common property. An often-used obvious ideological dichotomy is the one between "modernity" and "tradition" [29,30], which is similar to Ferguson's "cosmopolitan" and "local" (Ferguson 1999) [5]. The discourse of modern development often justifies state or private property while the discourse of traditional way of life legitimizes the claim on common property [29,30]. The Ensminger model of institutional change [43] and the check of chosen institutions on their robustness regarding resource use (Ostrom 1990) [36] give an indication on the ecological outcome of common-pool resources depending on distribution between and further behaviour of actors (see graph 1 from Ensminger [43]).

The model of Ensminger also hints at an important element of change, which triggers many local changes: External factors transform the relative prices for resources as commodities as well as for the value of an area compared to other commodities or areas (i.e., fish for trade shows a higher price increase as labour, an area close to a river under the context of increase of agrarian prices becomes more valuable for irrigation if infrastructure as a road is build). This change impacts the way that bargaining power of local actors as well as their options and selection of institution are shaped; at this stage there is a need to identify the triggering factors in this interactive process. I would argue that changes in relative prices are one of the strongest factors bringing about change. This is the case especially in the context of global neoliberal policies with which Africa is confronted.

6. Paradoxes of Neoliberalism

James Ferguson's work on neoliberalism in Africa outlined in the book *Global Shadows* (2006) [72] illustrates the issue of a policy that tries to cut state costs by delegating management of activities to the market and to lower levels of action arenas under the state and into the private sectors. This strategy seemed to be a central remedy to cope with state debts all over the continent as well as elsewhere, e.g., in Europe. And herein lies the paradox of neoliberalism: The idea of the state that ever since colonial times had been the vessel for protecting capitalism, now seems to be too expensive to maintain and needs a cure based on the medicine of dismantling the state. In relation to Africa, the discourse of efficiency (see Ferguson 2006) [72] also develops in the direction of restructuring the state and state services as these seem to be too costly. Internalized hegemonic discourses on the waste of financial resources, on corruption of elites, and on mismanagement and inefficiency in formal legal processes merge with the notion of the state, which is a naturalized colonial construct to be changed in neoliberal ways. However, as Harvey (2005) [11] points out from a Neo-Marxist perspective, neoliberalism can be seen as a political process of "accumulation by dispossession" by which the state reduces its legal capacities and controls, which then favours the economically and politically strong elites as it creates cheap spaces for their manoeuvrings. This process of neoliberalism is highly debated in historical social anthropology and critical geography, such as Wacquant (2009) [73] arguing that the neoliberal state is a political project which re-engineers the state and strengthens its penal element. This again has to be looked at from a theoretical (formal) and practical (informal) angle, as Hilgers (2012) [74] points out, and obtains its legitimacy from the discourse of globalization, which leads to localization practices (Swyngedouw, E. (2000) [75]). This process again hides the fact that the state still encompasses its

citizens but frees itself from its duties (Ferguson and Gupta 2002) [76] as it comes under economic pressure (see Lobao, L., Martin, R., & Rodríguez-Pose, A. (2009) [77]). But these powerful actors still need the state because the state is the body that restructures the legal order to create what I would call open opportunities. At the same time, the state provides a security-net for powerful market actors and provides legitimacy for their actions, arguing that all actions are made in the name of a democratic state. To marry Ferguson and Harvey on this point, the neoliberal order in Africa helped to distribute the scarce means into fewer hands by delegating more power to the local level on the front stage, while backstage, elites are profiting (see also Pootete and Ribot 2011 [78]). This is a new form of indirect rule by which the state remains the owner of the resources but does not bear transaction costs of their management, which are delegated to the local level. This is masked by the discourse of the incapacity of the government, in terms of state structures, to provide services and that the market will do this much better. Internationally, this discourse received high support, arguing it will give governance options to the lower level, itself an issue that many critical voices from development studies have been advocating for a long time. So, there is an ideological win-win situation—efficiency and the moral legitimacy of local participation, acting itself as an Anti-Politics Machine.

An example from the wildlife sector in Zambia is illustrative. While conservation and protection of wildlife had been a cornerstone of statehood, it became a major expenditure burden which could not be upheld after the neoliberal turn from the socialist system under Kenneth Kaunda to the market-oriented system of Fredrik Chiluba in the 1990s. The Wildlife Department, a military-like state organization, was then transferred into a so-called "Wildlife Authority", exposed to partial self-funding and asked to develop business models, in which tourism sites and lodges in the national parks had to be sold to foreign companies. This move was based on the obvious inefficiency of the Wildlife Department because of a lack of funds and increasing prices for wildlife products during the copper crisis when state income fell. As with the fisheries, the economic downturn led to de facto open access to state-managed common-pool resources. Due to high prices, pressure from local and outside communities on wildlife resources as well as from big business for trophy hunting increased [30,79]. Now that the Wildlife Authority has sold lodges to international operators, there are less revenues for the state as market forces are now responsible for the management of wildlife. In line with the efficiency and moral legitimacy discourse, protected areas have become an investment ground for conservation NGOs who, under the label of participatory approaches, have started the process of so-called "green grabbing" since profits from tourism and trophy hunting do not really trickle down to local or state levels but are in private hands (see also Fairhead, Leach and Scoones 2012 [17]). This is happening on territories that had already been grabbed from local people during colonial and again during postcolonial times that contain critical common-pool resources such as pasture, fisheries and wildlife as well as veld products (see Haller 2013 [30]). Chabwela and Haller 2010 [79]) provide a detailed analysis of institutional change from precolonial to postcolonial wildlife management illustrating this process.

The general argument here is not that the state did better but that by claiming to improve and decentralize resource governance, a small group of actors are now profiting by legitimizing this institutional choice through the discourse of efficiency and moral legitimacy. To increase moral legitimacy, participatory initiatives are linked to development issues. In reality, however, these initiatives and projects are more about elite control than local control and decentralization of power (see also Ribot et al., 2006 [80], Brockington, Igoe and Duffy 2008 [81], Galvin and Haller eds. 2008 [82]). While people will participate in monitoring and sanctioning devices in the wildlife sectors, there are no tangible benefits and no real ownership rights to resources that had been alienated by the state during colonial times and still, in the last instance, remain state property. Not just in Zambia but elsewhere in the AFWeP study as well as in the literature (see Haller and Galvin 2011 [82], Poteete and Ribot 2013 [78]), decentralization of wildlife and other common-pool resources such as timber for charcoal production is not about delegating power to the local level. On the contrary, it is about following the aims of—paradoxically—a cheaper way of recentralizing governance by externalizing

several transaction costs (e.g., in community monitoring projects) to the local level (ibid, see also Faye 2014) [83].

Returning to land tenure issues, the basic turn came with legal procedures that liberalized land laws in Africa. Based on the notion that land tenure is insecure and thus no asset for secure investments, the World Bank and other trade organizations pushed the revision of land tenure rights in many African countries. This happened *before* large scale land acquisitions or Land Grabbing became an issue around 2007–2008. However, the idea based on de Soto's notion that a cheap and smart legal system for land or leasehold titles would provide enough security needed for investment and development became the paradigm to follow. In this legal discourse, investors are said "to be attracted" and will provide jobs and related benefits, leading ultimately to "development". The outcome of such processes is mixed.

Overviews by Wily (2003) [84] and Toulmin (2008) [47] point out some of the problems and show two major tendencies. In some areas, village titles provide a large part of land to a collective and, although driven by elites, they offer much better options for local governance (see for Rufiji Floodplain Tanzania Haller et al., 2013 [45]), while the other form opens avenues for private titles, be these titles for sale or leasehold titles for 40 to 99 years (for example in Pangani Floodplain in Tanzania Mbeyale 2010 [85] and the Kafue Flats Haller 2013 [30]). In this context one could argue that neoliberalism provides at least some gains to local people as their land rights are registered and acknowledged. But the issue is actually more complicated and exposes one of the paradoxes of neoliberalism. This form of decentralized recognition does not address social structures and power asymmetries in social settings, and thus privatized land can be lost due to low power and low economic capacities whereby poor landowners sell land and, therefore, their resource base. In addition, village land can be grabbed from the state by formalisation processes, creating zones on which the state has access for conservation and investments (see Bluwstein et al., 2018 [86]).

A number of examples can be used to illustrate this. As Toulmin points out [47], one needs to determine who the local owners are, which is not an easy task. As shown above, there are complicated histories of settlement and of competing rights and institutions to regulate the access of different actors and actors' groups to several resources during different times of the year (i.e., seasonality). Toulmin labels this the problem of the so-called secondary users, who lose access to many resources [47]. I will illustrate the issue with examples from Sierra Leone and Zambia.

In Sierra Leone, a large Swiss Company called ADDAX plans to develop sugarcane plantations with the aim of producing bioethanol. One of the policies regarded as best practice is that local landowners are compensated. There are indeed first-comer families among the Temne ethnic group who argue they were the first people in the area, while the late-comers were given land to use. The first-comer families, therefore, regard themselves as managers of the complex resource systems of forests and palm trees to which others (late-comers) had access based on an allocation process and on institutional settings of resource use. This access is based on a rotation system and rules for gathering wild fruits from palm trees or access to water as a common-pool resource. In this case there were common property-like institutions that regulated the access for members of a village, specifically of first- and late-comers. The government and ADDAX now tried to find out who the "land owners" were and created compensation payments for the land they "lease" from the first-comer groups, who were then labelled exclusive land owners without sharing obligations. While there is still land available, the best land has already been taken by ADDAX based on these leases. In addition, there are fruit trees on the land that has been given away, to which access is no longer possible, with only the first-comers get cash compensation for these losses (see Marfurt et al., 2016) [87]. The second case again illustrates the situation in Kafue Flats, where—based on a new land act – the president and local chiefs can give out leasehold titles for 99 years within a chief's territory. When such lands were to be allocated in the best pastures in the Kafue Flats, opposition to the procedure surfaced and created great conflicts as the powerful rich cattle owners as well as the less powerful actors with smaller numbers of cattle both were about to lose access to pastoral areas (Haller 2013) [30].

The paradox of a neoliberal order is to reduce state power while at the same time increasing state power by providing tools on all levels for elites to appropriate resources. And as power structures at local levels have transformed much since colonial times, powerful actors use whatever institution and legitimacy is available to profit from this change. Land managers in Sierra Leone thus have no problem to be seen as "traditional land owners", while chiefs in Zambia label themselves as "traditional authority" and therefore become the main actors when it comes to decisions on leasehold titles. This is then often done over the head of the people (see the title of a paper by Cotula, Vermeulen, Mathieu and Toulmin 2011) [88]. However, what is not recognized is the fact that this is based on neoliberal processes that took place *before* external land investments began to surface. It is then that the impact of the neoliberal order unfolds on land as an isolated resource: When a rise in relative prices has been experienced, it attracts not only foreign but also local investment. I argue that these investments are undermining local livelihoods as access to land related common-pool resources is fragmented. At the same time the "expectations of modernity" do not come true as there are few jobs and less income, while subsistence crop production and access to the commons is restricted and becomes impossible.

7. Commons Grabbing or What Is Wrong with Land Grabbing?

As I have tried to show in this paper, the land grabbing issue falls on already previous alienations and transformations of African tenure systems in colonial and postcolonial times, leading to pluralism, disconnections and fragmentations, which already removes the commons from people. However, I would argue that the negative effects of these processes have worsened during times of land grabbing. This is because existing asymmetries are strengthened and new ones are created as many households lose access to common-pool resources as a buffer that is important during times of crisis, while having to take higher risks in normal times to be able to make a livelihood. It is also a process in which new information technologies and formal urban knowledge represents a cutting edge, while a rural orientation loses its value and power. My main point is that in this context the label land grabbing is misleading as are large-scale land acquisitions and investments. What takes place is a process of primitive accumulation, but in a much stronger sense than originally thought of by Marx and Harvey. Studies show that despite familiar arguments advocating that common-pool resources are not so central for local livelihoods, they are, on the contrary, especially so in times of stress and crisis: The crisis that many households in Africa currently experience is already strong even without the issue of land appropriation by outsiders. Removing access to common-pool resources by undermining common property institutions leads to what we call here resilience grabbing. People struggle with the extremely high volatility of market prices for natural resources and with the stress of having to feed a family and obtain enough money to meet basic needs such as housing, education, clothing, the subsistence economy of many households is already undermined (see Haller 2003) [30]. In these cases, people try to diversify, often travelling long distances to earn money. While they are away from their home areas, their cultural landscapes can be destroyed or grabbed and common as well as adpative and transformative capacity [1] is removed from local people. This renders them (smallholders, women and the elderly) extremely vulnerable to additional stresses such as sickness, climate variability or what is labelled "climate change". It leads to a young generation of people who have no future perspective as they have lost membership of the commons and access to common-pool resources, even if they are well educated, as they do not belong to the elite. If we speak of commons grabbing leading to resilience grabbing, and not just land grabbing, the issues become clearer as it adopts the local perspective as also illustrated by an Ila agropastoral farmer on the Kafue Flats in relation to fisheries:

> "*If I have a problem (financial) or not enough food, I go to the flats and get some fish! But now I cannot get fish anymore, because it is all taken away. Or there is sugarcane, a land-owner or a land for wild animals (protected area). So, I just go hungry*!" (interview with author, December 2003, Mbeza, Kafue Flats, Zambia)

In the opinion of less powerful local people this process is undermining livelihood options as it restricts their access to a wide base of resources that are centrally important in times of need. Therefore, it is not just land that is taken away. Using the label of land grabbing or LSLA leads us into the trap of the anti-politics machine of development that does not match with local views.

8. Where to Take It from Here

The main argument in this article is, of course, at odds with the idea of a booming Africa with which I began this paper. It is instead the view of the doomed continent which is, of course, only one side of the story. The other side—and this is the answer to the question of where to take the debate—is to clearly analyse how local actors view this process, view the deals and conceptualize aspirations. It might well be that at the beginning of a land alienation or investment process, many local people hope for jobs and basic development facilities such as schools, health posts and secure water supplies and therefore might highly favour such an investment. But on the other hand, research shows that these promised developments do not come that easily and quickly, while access to vital resources is often lost immediately. It is interesting to see, then, what type of strategies and resistance local actors adopt in order to buffer the problem of the commons grabbing which in turn leads to resilience grabbing. This is then vested in strategies to change and devise their own institutions that might lead to a bricolage (Cleaver [57]) but also to a strategic selection of options based on bargaining power and possibilities within institutional pluralism through the strategy of institution shopping.

It will be important to study such processes and to discuss what the dominant strategies are to regain resilience via adaptation and transformability [1], using and maintaining cultural landscapes via common property institutions. Communal titles and mapping of resources, new discussions at the local level about institutions for the management of resources (e.g., by-laws, local conventions) might be an important way forward. I do not speak in favour of formalization but of true participation. Despite local political asymmetries, most actors would thus gain a sense of ownership of the institution-building process, a process which is called constitutionality. This term refers to processes of bottom-up institution building in which local actors, despite differences in power relations, find a way to get a sense of ownership in the crafting of institutions. Contrary to approaches such as environmentality (Agrawal 2005) [89], based on Foucault's governmentality transforming local actors into environmental subjects, a new approach called constitutionality is based on empirical studies of such processes and argues that real local participation anticipating power-asymmetries between actors and creativity for setting up rules addressing resource problems is the key to sustainability (see Haller et al., 2016 [90], 2018, [91]). Newer publications based on social anthropological research covering cases of impacts of European investments on land and related commons also show differentiated reactions to commons and resilience grabbing, reaching from small scale reactions ("weapons of the weak") to open resistance and bottom-up institution building (Haller, Breu, de Moor, Rohr and Znoj (eds.) 2019 [92], Haller et al 2019 [93].

Studying such processes can also lead to policy-driven ideas on how to support local resource users from commons grabbing and to strengthen resilience of their livelihoods and their cultural landscape ecosystems.

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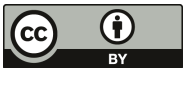

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Pastoral Resilience among the Maasai Pastoralists of Laikipia County, Kenya

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Abstract: This paper addresses pastoral resilience by drawing out the coping strategies and mechanisms utilized by the Maasai Pastoralists through a food system approach, based on the study findings of an anthropological study of pastoralism as a food system in Laikipia County, Rift Valley, Kenya. The co-existence and interactions of pastoralism as a food system with other types of food systems in Laikipia, such as large-scale horticulture, justified the selection of the study site. This paper is guided by the specific objectives aimed at establishing actors and their roles, and describing the institutional settings and changes that sustain the continued practice of pastoralism. Using a new institutionalism approach, the paper focuses not only on the actors and their roles but also on how internal and external forces regulate access and use of common pool resources (CPRs) resulting in food sustainability within the food system amidst climatic challenges and cyclic humanitarian crises. We argue that this has an impact on the food system that continually defines and redefines the actors' roles and institutional settings and changes (formal and informal rules, regulations, values and norms) that in turn affirm the value of pastoral economies and benefits accrued to a wide range of actors beyond the community and leading to pastoral resilience. Data collected through in-depth interviews amongst pastoral households identified actors and their roles in pastoralism in the household with a total of 50 households being conveniently sampled. Key informant interviews with key stakeholders in the food system described the institutional settings and changes and also identified actors and their roles in pastoralism. Three focus group discussions based on age and gender, established the actors and their roles and described institutional settings and changes to supplement data collected from interviews and unstructured observations aimed at giving a better description of the actors and their roles and also point to observable institutional settings and changes within and outside the community group ranches. The findings reveal that actors in the household, state, non-state, and service providers have developed varied coping strategies and mechanisms that sustain pastoralism. The study also identified institutional settings and changes that promote pastoral resilience, notably, private land ownership patterns, co-management of livestock markets, commercialization of herding, decentralization of livestock services, holistic management of pasture and the water-shed management plans. As a result, increased scholarship and advocacy in regards to the concept of co-management of livestock markets, are recommended as a means of understanding the pastoral resilience that the food system exhibits.

Keywords: pastoral resilience; co-management concept; decentralization; holistic management; water-shed management plan; commercialization of herding; Common Pool Resources (CPRs)

1. Introduction

Globally, pastoralism, as a food system, is practiced in the rangelands that cover 25–45 per cent of the earth's land surface area with two-thirds of these rangelands found in Asia (36%) and Africa (30%) and being used in common. These rangelands, whether warm or cold, have variable and often harsh climates and are sparsely populated with limited common pool resources (CPRs) especially water and pasturelands (Reid et al. 2014 [1]; Dong et al. 2011 [2]). Pastoral cultures relies heavily on livestock rearing which play a very important role in terms of livelihoods, social capital, and as an insurance against disaster (World Initiative for Sustainable Pastoralism, WISP, 2007:2 [3]). Previously, pastoralism was understood as a stepping-stone in socio-economic evolution between hunter-gatherers and a sedentary agricultural lifestyle. However, it has proved a highly innovative production system and a livelihood that has evolved to adapt to climatic and environmental conditions that limit agricultural expansion and other impacts and stressors (Norwegian Refugee Council, NRC, 2014:10 [4]). Currently, pastoralism continues to survive and remain productive within the rangelands in the midst of environmental stresses such as droughts and floods through various actor roles, institutions and knowledge systems that showcase pastoral resilience (Hesse, 2009 [5]). Mobility among the pastoralists allows for extensive utilization of rangelands as common pool resources through the full use of culture and its attributes (Kaye-Zwiebel and King, 2014 [6]).

In Africa, pastoralism takes up 66 per cent of the continent's lands for pastoral production as it is considered to be the most efficient use of rangelands such as the Arid and Semiarid lands (ASALs) of Kenya (NRC, 2014 [4]; Idris, 2011 [7]). According to Little and McPeak (2014) [8], pastoral resilience as a concept draws special concerns and relevance to pastoralism on two issues: climate change with a particular concern for how to build resilient communities in the face of increasingly extreme weather events and humanitarian crises, especially those that can be traced to the most recent drought-and conflict-induced disasters experienced in the Horn of Africa. The WISP (2007:2) [3] acknowledges that the rangelands in the Horn of Africa support a pastoral economy that is based mainly on the production of milk, meat, blood, hides and skins as well as provision of services such as traction and transportation. In Kenya, the pastoral groups such as the Maasai pastoralists inhabit Arid and Semiarid Lands like Laikipia County which are geographically located in the north, East and South of the country and in total account for 36 per cent of the total population which is around 14 million people (GOK, 2014) [9]. The pastoralists continuously face environmental stresses as they constantly navigate the hot and dry climate of the ASALs in search of pasturelands and water sources (Pavanello, 2009) [10].

In the country, 11 counties are clustered as arid, 19 counties as semi-arid and 6 counties as having pockets of arid and semi-arid climatic conditions (ILRI, 2008) [11]. In addition, it is estimated that over 60 per cent of all livestock in Kenya is found in the ASALs and pastoralism employs 90 per cent of the local populations in the ASALs and accounting for nearly 10 per cent of the Gross Domestic Product (GDP) nationally (GOK, 2008) [12]. Farmer and Mbwika (2012) [13] also acknowledge that the market for meat consumption is not only structured in regards to income with a majority coming from the middle class but also pastoral meat and other livestock products find their way into markets of the two large cities in Kenya due to the high demand of the livestock and its products. Moreover, Kenyan meat supplies from pastoralists have been able to reach the Tanzanian market within the East African region and, internationally, the United Arabs Emirates (UAE) and current trends show that new markets are coming up in Qatar, Oman, Kuwait, Somalia and Egypt. This study therefore was aimed at establishing the actors and their roles in pastoralism and describing the institutional settings and changes of pastoralism as a food system.

2. Pastoral Resilience among the Maasai Pastoralists of Laikipia County

In Kenya, the Arid and semi-arid lands (ASALs) constitute about 84 per cent of the total land and are populated by about 20 per cent of the country's population (Idris, 2011 [7]). Bobadoye et al. (2016:120) [14] acknowledges that the ASALs are the most vulnerable regions to climate change and

other natural hazards in the country with a huge impact on livestock rearing, small-holder agriculture and tourism, which are the most dominant sources of livelihoods in these areas. According to Idris (2011:26) [7] pastoralism is practiced in 75 per cent of the ASALs which are largely populated by nomadic pastoral communities like the Maasai pastoralists of Laikipia County in the rift valley region, who rely primarily on their livestock as a source of livelihood and collectively these regions constitute the most marginalized parts of the country. Ouma et al. (2012:91) [15] add that the root causes of most of the crises facing the pastoralists who inhabit the ASALs, in the recent past, have been occasioned by climate variability and change and as well as natural and man-made related factors which have led to recurrent droughts thus leading to water shortages, conflicts over land access and use, and the disruption of the vegetation cycle in these regions that they occupy with limited common pool resources (CPRs).

Bobadoye et al. (2016) [14] allude to the depletion of CPRs within the ASALs as occasioned by prolonged dry spells, drought events and other hazards have for a long time been the lead to severe economic and food security risks as the hazards make it difficult for pastoral communities such as the Maasai pastoralists to maintain their assets and have timely responses to disasters leading to food sustainability of pastoralism as a food system. Ouma et al. (2012) [15] thus argue that, as a result of these repeated severe droughts, pastoralists continue to endure catastrophic losses of livestock, which is their capital and savings, during the drought events.

However, Idris (2011) [7] illustrates that pastoralists have the ability to successfully assess and manage risks occasioned by the vulnerability that they face in the ASALs from climatic hazards, poverty, conflicts, and diseases that make them shrewd managers of risks and leads to pastoral resilience. Limited literature exists on who the actors are and what roles they play in pastoralism as well as how formal and informal institutions (rules, regulations, norms and values) operating within pastoralism as a food system are continuously in a transition from fit to misfit and back to fit again. This paper therefore seeks to provide more insights and add to existing literature on how pastoral resilience among the Maasai pastoralists of Laikipia County is evidenced by establishing the actors and their roles as well as describing the institutional settings and changes that result in the development of coping strategies and mechanisms resulting in the continued sustenance of the food system. These coping strategies and mechanisms are relied upon by actors in the household levels, the involvement of state, non-state and service providers as actors in pastoralism within the commons and outside the commons, the development and use of organizations and associations as actors as well as the transformation of institutional settings and changes utilized in pastoralism.

3. Methodology

Study Site

This study was conducted in Laikipia County, Rift Valley, Kenya. The county is located in the central part of Kenya and it is roughly demarcated by Mount Kenya to the East and South-east, the Aberdares Range to the south and south-west, eastern rift valley to the west, Karisia Hills to the northwest, Mathews Range to the north, and Buffalo Springs National Reserve and Samburu National reserves to the Northeast (Butynski and De Jong, 2014) [16]. It is also one of the 14 counties in the rift valley region and it is bordered by Samburu county to the north, Isiolo County to the north-east, Meru county to the East, Nyeri County to the south-east, Nyandarua and Nakuru counties to the south-west and Baringo county to the west (GOK, 2013) [17] as shown in Figure 1.

Geographically, the county has five administrative units, namely, Laikipia East, Laikipia North, Laikipia Central, Laikipia West, and Nyahururu sub-counties and it is the 15th largest county in the country by land size covering an area of 9700 square kilometres (GOK, 2014) [18]. In Laikipia County 90 per cent of the land is deemed too dry and thus unfit for cultivation, less than 2 per cent of land is deemed highly viable for agriculture, 65 per cent of land is defined as wildlife habitat while 38 per cent of land is comprised of relatively intact, contiguous, and natural habitat (Butynski and De Jong,

2014) [16]. In addition, the county also consists of a rangeland plateau with a varying altitude of 1500 to 2611 metres above sea level at Ewaso Nyiro basin in the north and Marmanet forest. In the North the mean annual rainfall is estimated to be 40 cm while in the south-west it is 120 cm (GOK, 2014) [9,18].

Figure 1. Administrative map of Laikipia County inset the map of Kenya (Source: Munyeki, 2013 [33]).

4. Methods

4.1. Study Population and Sampling Procedure

The study population consisted of Maasai pastoralists as the Household level actors, state actors, non-state actors, service providers as actors, and organizations and associations as value chain actors in the food system. The unit of analysis was the community that was actively involved in pastoral activities and gained part of their household livelihood through the food system.

The sample consisted of 20 men and 30 women. The proportion of women was higher because they were readily available at the household level. This study collected purely qualitative data and relied on convenient sampling in selecting informants. Secondary data were collected from available literature on the Maasai pastoralists in Laikipia County, actors and their roles, and the institutional settings and changes of pastoralism.

Interviews using in-depth interview guides were conducted with the Maasai pastoralists as actors at the household level. a total of 50 Maasai pastoral households were sampled from within the community group ranches and outside the community group ranches in the vast Segera ward. In total, 25 pastoral households were sampled in Ilpolei group ranches while another 25 Maasai pastoral households were sampled in the vast Segera ward based on the willingness and availability of the pastoral households. This elicited information on the specific objectives establishing actors and their roles in the food system. Other interviews with state, non-state, service providers and organizations and associations as actors were carried out using key informant interview guides to reduce information on establishing the actors and their roles and describing the institutional settings and changes in

pastoralism. Other data collection methods used included: 3 focus group discussions based on age and gender with men, women and youth were conducted. The discussants were purposively selected from the community households that had not participated in the In-depth interviews. The inclusion of men and women focus group discussions was based on the discussants being 25 years and above and also in a recognized marriage union within the community. Participation for the youth focus group discussion comprised of young men, *morans*, aged 21–25 years of age. The discussants generated knowledge to address the actors and their roles in the pastoral food system and also alluded to informal and formal institution settings and changes that operate within the food system. Unstructured observations were also used to give insights into the observable institutional settings and changes of the food system and the level of physical interactions teasing out the coping strategies and mechanisms that sustain pastoralism as a food system resulting in food sustainability for the community, region, nation and multinationals at large.

This county's scarce and unreliable rainfall patterns, notably in Laikipia North and Laikipia East sub-counties make it difficult to practice large-scale agriculture (Ameso et al. 2017) [20]. As a result, the two sub-counties are largely pastoral zones where nomadic pastoralism is a major source of livelihood for the inhabitants as shown in Figure 2 [21].

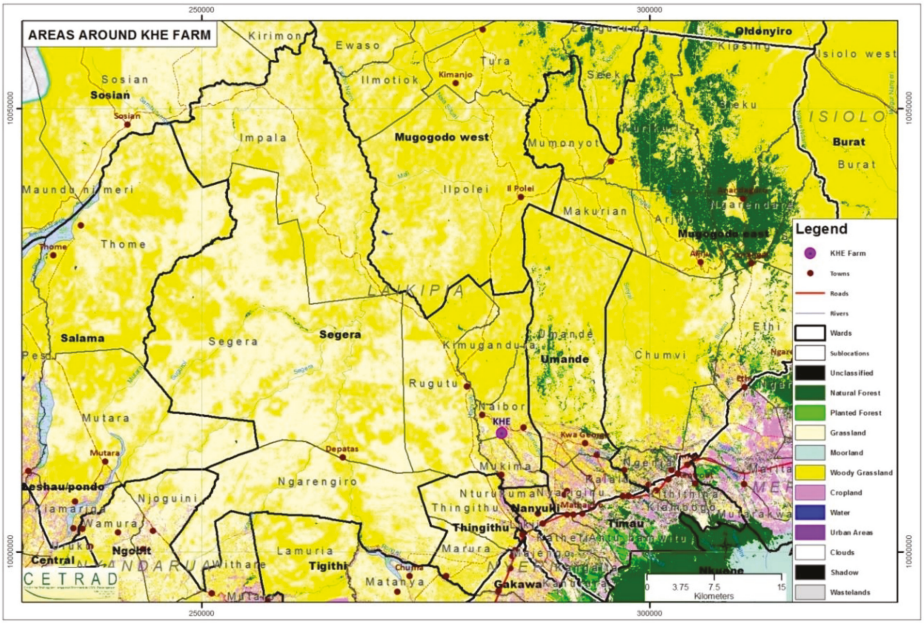

Figure 2. Map of the study area: Laikipia North sub-County.

4.2. Data Processing and Analysis

The qualitative data obtained from In-depth interviews, key informant interviews and focus group discussions were recorded, transcribed, and translated into English. Data obtained from unstructured observations and captured in field notes were coded and organized into text for analysis. The two sets of qualitative data were then sorted and interpreted in relation to the research objectives, to provide general interpretations of the findings, indicating how thematic areas and issues interrelated.

5. Findings

Actors and Their Roles in Pastoralism

The household among the Maasai pastoralists is the basic unit of production, distribution, packaging and consumption in the pastoral value chain. It is also responsible for age and gender division of labour in pastoralism to guarantee food sustainability, risk management and resilience. At the household level, various actors have varied roles that they play in pastoralism that guarantee pastoral resilience. Household heads are one such group of actors in pastoralism. They are the men among the Maasai pastoralists who are considered to be the sole owner of the pastoral livestock and the overall-decision makers hence have full control of livestock activities as the main source of livelihood. They are tasked with the overall role of herding livestock thus they have the power to define access to pasture and water for livestock. As the overall decision makers they are capable of delegating their herding role to *morans* and instructing them on where to graze and water the livestock especially in the commons.

Currently, the study found that the men among the Maasai pastoralists are leaving for town centers in search of formal employment. In order to sustain the continued practice of pastoralism, the men are not only delegating their duties to the *morans* but also they are hiring herdsmen, fellow Maasai pastoralists with limited education and who remain behind in the commons (community group ranches) and other Maasai settlements outside the commons of Mutirithia, Rumuruti in Laikipia north sub-county. The herdsmen receive a monthly pay of between 5000–7000 Kenyan shillings to herd the household livestock in the absence of the household heads and *morans*. Moreover, in the 13 community group ranches found in the Maasai reserves, the herdsmen not only receive a monthly pay but also are accommodated with their immediate family members by the hiring pastoral family and become part of the household level actors.

The household heads also manage livestock health through spraying, dipping and injecting of the livestock after they purchase the necessary veterinary medication to combat livestock disease like *East Coast Fever* (ECF), *pneumonia*, *Anthrax*, *Foot and Mouth disease* (FMD), and *Mastitis*. It was reported by one household head that:

> *. . . We(men) are the ones who are responsible for injecting and dipping the livestock especially the cattle because when it comes to injecting especially the cattle these cows and bulls, it is very hard for women as cows and bulls are strong with tough skin and such livestock is left for the men to treat. This is because men can easily control them since they have the muscles and can subdue the livestock (Male, 31 years, IDI, Ilpolei Group Ranch).*

The household heads are also involved in the sale of livestock as they make the final decision on which livestock should be sold and when it should be sold. In the sale of livestock, cultural significance of color is also observed by the household heads. The study was informed that the white and black coloured goats were valued as a source of blessings through the ability of the goats to reproduce quickly and thus regarded as a source of wealth. Moreover, the *Irkinyango* clan among the Maasai pastoralists of Laikipia values the brown coloured cattle as a source of endless wealth and thus cannot be sold off quickly without having reproduced at least five times.

The study established that selling off such coloured livestock without them having reproduced was equated to inviting poverty into one's household. The men as household heads also decide on when livestock should be slaughtered for household consumption but also allow for continuous extraction of other food components from the livestock, namely, blood and milk. Household heads in special circumstances also perform other roles that are meant to be performed by the women and other pastoral members. For instance, the study was informed that men milk the livestock in the absence of women and the girl-child who are traditionally supposed to milk the livestock twice a day (dawn and dusk). As men grow older and assume the elder's role in the family, at the household level, they still participate in pastoralism by giving constant advice to the *morans*, men and even herdsmen on the

appropriate and available pasturelands and watering points to access and use. This however, happens in the community group ranches where these elders understand the geographical stretches of their group lands and to avoid conflict advice their *morans*, men and herdsmen on the appropriate areas to graze.

Women at the household level coordinate livestock hygiene by cleaning the livestock sheds regularly. They are also tasked with identifying and separating the injured and sick livestock allowing for the nursing of injuries and the treatment of sick livestock. The study was made aware of goats that are separated and treated for partial blindness after the consumption of the invasive and inedible *Opuntia* plant species. Women also process livestock products such as milk into fermented milk for future consumption. They also process the milk cream through heating and condensation to extract cooking oil. The extracted oil is also used as medicine by the said women who administer it together with special herbs to their children to prevent them against coughs and influenza. The women also preserve meat that is slaughtered at the household level by smoking and drying. The study was informed that the meat can remain preserved and good for consumption for 20–30 days. However, the study found that women currently in other households have taken over household heads roles, especially in families that are single-parent headed households and in households where the man has left for the town centers in search of formal employment. The women hire and pay the herdsmen, purchase veterinary drugs and inject, and spray the livestock.

In the community group ranches, where CPRs are shared communally most men are polygamous and thus have more than one household and several compounds that they call home. In most cases, these men as tradition dictates, with time, move from their first wives households into newly established younger wives households. As a result, the study established that first wives guarantee the continued practice of pastoralism in their households by assuming the household head's roles. They also delegate livestock rearing activities from production, distribution, processing and packaging to their household members based on age and gender. They are also bestowed with the overall decision of whether or not household livestock should be sold and who among the male children will inherit which type of livestock.

Other actors in the household who carry out various roles but lack decision making capacity in livestock rearing that guarantee the continued production, processing, distribution, packaging and consumption of livestock and its products are *morans*. The *morans* herd the livestock, provide security to the livestock during the day and night against wild animals and intruders, slaughter livestock meant for household consumption and also administer veterinary drugs to livestock as part of the livestock health management role. As a result of, the commercialization of herding, herdsmen make certain that livestock have access to proper pasture and water. The herdsmen also administer veterinary drugs to household livestock in the absence of the men of the household, help in fencing the livestock sheds and also slaughter household livestock. This was illustrated more by an excerpt from a youth focus group discussion:

> *Livestock are beneficial as they create employment for men and morans, who are unable to go into towns and get formal employment due to limited education levels. Those who remain behind and have no livestock are being employed as herdsmen by those who have left for town centers, in search of formal employment. More often than not, herdsmen are those men who dropped out of school due to one reason or another. But for those who have finished secondary school education especially for morans, they leave for town centers in search of office jobs. (Youth FGD, Males, Ilpolei Group Ranch).*

The young boys who are about 8–10 years of age begin to herd small stocks (calves, lambs and kids) and they also assist their mothers in milking livestock. a male informant from Mutirithia area in Segera ward, when asked about the roles of young boys had this to say:

> *Young boys who are of age and who have not undergone initiation help in milking the livestock. They also herd the young goats and sheep. Young boys who are old enough as from 8–10 years*

and above graze the livestock. They also help in cleaning the livestock sheds. (Male, 28 years, IDI, Mutirithia).

The study also learnt that young girls mostly complement the woman of the household in dispensing their duties. They separate the small stocks from the larger stocks to allow for milking. They also fetch water and clean the livestock sheds as well as count the livestock as they are brought back from the grazing fields.

6. Organizations and Associations as Actors in Pastoralism

The study was informed of organizations and associations that were directly and indirectly involved within and outside the community group ranches in encouraging the practice of pastoralism. The study was informed of Livestock Marketing Authorities (LMAs), which emphasized on the adoption of a core co-management concept of livestock markets. This concept allowed for increased participation of pastoralists in livestock marketing and management of the markets' infrastructure in the pastoral counties of Isiolo, Samburu, and Laikipia. In the County of Laikipia, the Laikipia Livestock Marketing Authority (LLMA), a community-led organization was found that liaises with the County government of Laikipia to collect livestock sales tax and encourages equitable distribution of the said tax during market days in the ratio of 1:1. The organization through its branch leadership which includes a chairman, supervisor, and other senior members of the community selected to serve in the organization's leadership, is found in every available livestock market in Laikipia County acts as the custodian of the sales tax left to the community.

The LLMA leadership in its wisdom retains the revenue allocation left in its possession and later ploughs it back into agreed upon and prioritized community projects that have received public acceptability. For instance, the study established that in Kimanjo market the LLMA had agreed to plough back the revenue allocation into bee keeping projects, hay production projects, building of slaughterhouses in the market, rehabilitation of run-down cattle dips, building market stalls, educating the pastoralists on the adoption of new drought resistant breeds of livestock and rehabilitation of the roads leading to the livestock market in Kimanjo. An officer of the authority echoed these sentiments:

The fifty per cent that is collected as tax during market days and left to the community through the authority is used differently; ten per cent is used to pay salaries of clerks and other authority employees. Twenty per cent is left with the authority as savings while the remaining twenty per cent is used on community initiated projects such as giving bursaries to school going children in the community like here in Kimanjo, investing in bee keeping activities, hay production projects, and building of slaughterhouses. Out of the same amount some is used in improving the community's infrastructure to allow for access to trade areas like available livestock markets. (Male, 37 years, KII, Kimanjo).

Community ranch management groups are another set of actors that encourage the practice of pastoralism in the commons. They are associations founded by members of the available 13 community group ranches found in Laikipia North sub-county of: *Ilpolei*, *Kijabe*, *Lekuruki*, *Makurian*, *Ilgwesi*, *Morupusi*, *Kurikuri*, *Munichoi*, *Musul*, *Tiamut*, *Koija*, *Ilmotiok* and *Nkilorit*. The community group ranches were registered in the late 1970s such as Ilpolei community group ranch that was registered in 1976. The role of the community ranch management groups is to regulate the use of available common pool resources especially pasture and water through advocating for the adoption and utilization of the concept of holistic management of grazing lands locally referred to as the *Olopoleli* concept.

The *Olopoleli* concept gains mandate and implementation support through the community group ranch constitution that zones the communal lands into grazing, settlement and conservation zones. The concept stipulates that grazing land zones should be divided into various parts and some of these parts should be set aside for future grazing during the dry seasons and in the wet seasons the grazing lands that had previously been in use should be enclosed and set aside to allow grass to grow.

The community ranch management groups also take up the lead role in providing alternatives to limited CPRs. The study was informed that the management groups like that of Ilpolei community

group ranch led by the chairman, are authorized to make agreements with private ranches such as Oljogi during the dry seasons to allow for pastoral livestock to graze in the private ranches that have access to permanent river waters and constant pasture availability. This is done at a fee of 200 shillings per cow or bull after a grazing zone within the private ranches has been identified and terms such as the provision of three herdsmen from the community group ranch to herd the livestock have been agreed upon. The agreements struck for access to pasture and water also allow pastoral livestock to gain access to constant vaccination drives, livestock health management plans and also pay the herdsmen a monthly fee of 7000–8000 Kenyan shillings that will be done at the expense of the private ranch owners.

Livestock trade which is the back of the pastoral economy in Laikipia County has found support from pastoral initiated credit associations. These community-led financial institutions, notably, Nasaruni rural Sacco provides money transfer services and loans to actors who frequent the livestock markets. Nasaruni rural Sacco an initiative of pastoral women in Kijabe community group ranch began in 2008 as a financial service organization for pastoral women but by 2013 it had grown into a fully fledged Sacco. In its current position as a Sacco it provides financial services to the Maasai pastoralists in Laikipia County, as well as to other pastoral groups found in the neighbouring counties of Isiolo and Samburu. The financial institution offers development, educational and emergency loans to pastoralists with livestock being used as collateral. The Sacco takes a picture of the said livestock as evidence of the available collateral before disbursing the loans.

The pastoralists are also required to be part of one of two groups; one comprising of 5–8 pastoralists who can guarantee one another as good neighbours, *Kikundi cha Mkopo* (KCM) and another a collection of at least 3 KCMs with a membership of close to 30 pastoralists who live in the same village and know one another well enough. The development loans are issued to pastoralists who would like to build permanent housings with iron-sheet roofings and move away from the grass-thatched housings. The educational loans are issued mostly in the month of January to cater for tuition fees of pastoral children, when livestock trade is low and the prices of livestock are unfavorable. In instances, where urgent medical care and other unforeseen circumstances occur, the Sacco issues emergency loans. Laikipia Permaculture Centre (LPC) is another organization as an actor in pastoralism that the study found to be advocating for holistic management of pastoral lands and strict observation of the carrying capacity of the rangelands.

6.1. State Actors in Pastoralism

The continued practice of pastoralism in Laikipia County as a food system is also pegged on to the involvement of national and county government actors who: regulate, process, distribute, provide services and add to the number of users and beneficiaries of pastoral trade and products. Police officers are national government employees found in the pastoral regions and mandated with providing security to pastoral actors especially in livestock markets. Their sole responsibility is to guarantee free and fair trade for livestock buyers and sellers. Through the County Market officials, the county government of Laikipia is represented in the pastoral economy. They are employees of the county government, previously of the municipal council of Laikipia. They are charged with the sole responsibility of collecting sales tax in livestock markets from livestock buyers and sellers.

The study was informed that they collect 30 Kenyan shillings from livestock buyers and sellers per sheep and per goat, and they also collect 200 Kenyan shillings per cattle bought or sold. They also sit down with the Laikipia Livestock Marketing Authority management and share the sales tax collected and make certain that the half that is meant for the county government of Laikipia is safely secured and taken to the County coffers. The County market officials are aided by Livestock counting clerks in sales tax collection in livestock markets. The livestock counting clerks are employees of the LLMA.

Veterinary officers are also employees of the county government who provide livestock health management to the food system. They conduct regular vaccination drives in the event of notifiable livestock diseases, train the pastoralists on proper purchase and use of veterinary drugs and impose

possible quarantines. They operate in pastoral regions and the slaughterhouses within the county where they make certain that the livestock brought for slaughter by actors in pastoralism meet the necessary requirements before they are slaughtered and released to the public for county and national level of consumption.

In livestock health management, the veterinary officers conduct livestock disease surveillance in the pastoral regions along two main stock routes and within the livestock markets where buying and selling of pastoral livestock takes place. In Laikipia north sub-county, the study was informed that the two main stock routes were those used by the Maasai pastoralists in search of water and pasture for their livestock during the dry seasons. The first stock route moved from Kirimon to Kimanjo then to Ilpolei in the pastoral commons into Kimkandura and Endana and finally reaching Mount Kenya or the Arbedare ranges. The second stock route began in Kirimon and moved to Rumuruti outside the pastoral commons and from there into Nyahururu sub-county of Laikipia before ending up in the much greener Arbedare ranges.

Livestock production officers of the county government of Laikipia train pastoralists on proper animal husbandry methods and ensure that the carrying capacity of the rangelands is observed. They also advise the pastoralists on which drought resistant breeds to keep, and the better veterinary drugs to use. When it comes to the livestock trade among food system actors, the livestock production officers advise the pastoralists on the need to form Livestock Marketing Authorities (LMAs) to ensure they get better prices for their livestock. They also work with the Maasai pastoralists on rangeland management to ensure they deal with the menace of receding rangelands caused by the invasive plant species of *Opuntia.*

Another national actor is the Agricultural Sector Development Support Programme (ASDSP). They work with the Maasai pastoralists to ensure that their products value chains are created with their input. They also advice the Maasai pastoralists on how to increase the market value of their livestock and livestock products through the use of quality inputs in livestock rearing like dewormers. They also discourage the pastoralists from having an overreliance on purchasing inputs from stockists and other open air market vendors of veterinary drugs with poor storage. They also talk with the pastoralists on formation of marketing associations like LLMA and promote electronic marketing of livestock and their products as a measure of guaranteeing a better market value for the sale of pastoral livestock and products.

6.2. Non-State Actors in Pastoralism

Non-governmental organizations within and outside the pastoral commons of Laikipia county regulate and provide services to pastoralism that encourage its growth. *Regenesis limited* and African Wildlife foundation (AWF) are two non-state actors who work with the Maasai pastoralists to strengthen their financial position by helping the pastoralists save money from their pastoral activities. The two organizations have worked with the pastoral women of Kijabe community group ranch and led to the growth of Nasaruni rural Sacco from a financial service organization in 2008 to a full-fledged Sacco in 2013.

The Regional Pastoral Livelihood Resilience Project (RPLRP) is a World Bank funded resilience project hosted by the department of Livestock production in the County government of Laikipia that works to eliminate the invasive plant genus of *Opuntia.* The study was informed that the project was initiated in late 2015 and began full operations in 2016 with an aim of establishing the hazards that pastoralism in 14 arid and semi-arid counties such as Laikipia, Isiolo, Turkana, Samburu and Wajir face. The project uses the *Community Managed Disaster Risk Reduction Assessment* (CMDRRA) to get Maasai pastoralists to identify the hazards that they face. The study was informed that CMDRRA listed *Opuntia* invasive plant genus as one of the main hazards that limits pastoralism and needs to be dealt with.

The African Conservation Centre (ACC) is another actor in pastoralism that encourages the practice of livestock rearing and trade. It focuses on livelihood projects aimed at improving the

livestock breeds that the Maasai pastoralists keep in Laikipia and Narok Counties as well as Amboseli and Maasai Mara conservancies. In Laikipia County and predominantly in the Maasai reserves, the organization is working towards improving availability of pasture by emphasizing on the adoption of the *Olopoleli concept*. Moreover, the organization is on the forefront, working with women groups such as Twala women group to build gabions to reduce soil erosions in the commons and encourage the retention of water through the water-shed management plan.

6.3. Service Providers as Actors in Pastoralism

Agro-vets are one type of service providers who contribute to the health of the pastoral livestock by providing ready veterinary drugs to Maasai pastoralists within and outside the commons. They are found in livestock markets of Doldol, Kimanjo, and Naibor with stalls in which they operate in. Others are peripatetic and they frequent the county of Laikipia from neighbouring counties of Nyeri and Meru to sell off their veterinary drugs during market days.

Food merchants such as local butchers, hoteliers, and milk vendors provide a ready market for pastoral products, namely, milk and meat. They sell the products in their raw form to residents of the town centers found within the pastoral regions and also as ready-to-consume products to frequent actors in livestock markets who make stopovers in the town centers of Juakali and Naibor outside the pastoral commons and in Ilpolei town centre in the pastoral commons.

Livestock brokers are another group of actors whose goal in pastoralism is purely profit-maximization. These young pastoral men and women are actively involved in livestock trade by purchasing livestock from fellow pastoralists at a lower price and rearing the livestock for awhile before reselling them at a higher price in livestock markets, to butchers within the town centres or butchers at the slaughterhouses such as Nanyuki Slaughterhouse in Laikipia County and, Huruma and Dagoretti slaughterhouses in Nairobi City county.

Livestock buyers are business persons who frequent the livestock markets in Laikipia County to purchase pastoral livestock. These livestock buyers are non-pastoralists who come from as far as Nyeri, Murang'a, Meru and Nairobi counties. They purchase livestock from the Maasai pastoralists in livestock markets with profit-maximization as a motivational factor. They process and package the livestock products through slaughterhouses and distribute the meat and other livestock products to their customer base in butcheries, supermarkets, food outlets, hotels, and security, health and education institutions with which they have pre-existing business agreements. Some of the products have specific markets based on the concentration of consumers. The study was informed of Eastleigh, South B and South C as designated markets for camel meat consumption inhabited by residents of the Somali ethnic group in Nairobi City County. Livestock buyers work hand-in-hand with livestock transporters who provide transport services to the former. They ferry the purchased livestock from the pastoral regions to desired designations like Endana and Nanyuki town in Laikipia County as well as to Nyeri, Murang'a and Nairobi City Counties and towns like Karatina.

7. Institutional Settings and Changes as Coping Strategies and Mechanisms in Pastoralism

Changes in formal and informal rules, regulations and norms governing the practice of pastoralism have enhanced pastoral resilience in Laikipia County among the Maasai pastoralists within and outside the pastoral commons. Changes in actor roles have been experienced amongst household level actors to varying degrees but institutional transformations have emerged as coping strategies and mechanisms ensuring the continued practice of pastoralism. The study was informed of changes in primary actor roles. The study found that household heads left their primary role of herding livestock in pastoralism as they opted to leave for town centres in search of formal employment while education for the *morans* changed their primary role in herding livestock. However, in order to cope with these changes in primary actor roles that threaten the survival of pastoralism, institutional changes within the Maasai pastoralists have allowed for the outsourcing of herding roles to herdsmen at the household level for a monthly fee. Other leadership household head roles' have also been delegated to women who have

taken control as livestock owners and authority figures. In Maasai pastoral households that cannot afford the services of herdsmen, women have also taken up the role of herding as well as livestock health management.

Coping strategies and mechanisms by the Maasai pastoralists have also been witnessed in regards to pasture. The pastoral regions occupied by the Maasai have over the years been vulnerable to prolonged drought spells and other hazards such as the outgrowth of the invasive *Opuntia* plant species in the commons. To bounce back, from limited pasture supply in the commons, the Maasai pastoralists are relying on set down formal and informal rules and regulations established in their community group ranch constitutions. The constitutions have zoned pastoral lands into grazing, settlement, and conservation zones and this guarantees preservation of given pasture lands for future use through the emphasis on the use of and adoption of holistic management of pasturelands. Moreover, to ensure that the enshrined rules and regulations are followed, the community group ranch management and elders have sanctions and punishments in place for offenders. The study found that for first time offenders who take their livestock into the restricted and reserved pasturelands for grazing they are given a warning but for second time offenders they are forced to part away with a he-goat as a fine for grazing in restricted zones and reserved pasturelands. For third time and repeat offenders legal actions which involves notifying the local administration is taken and a jail term is a possible outcome.

In the pastoral commons, the Maasai pastoralists also hire pasture fields from neighbouring private ranches like *Oljogi*, *Impala*, *Olgarama*, *Olpajeta*, *Lenaisho* and *Oldega*. Other Maasai pastoralists are re-investing the money from livestock trade into private land ownership outside the commons to guarantee continued access to pasture for their livestock in areas like Mutirithia in Segera ward.

Outside the commons, the Maasai pastoralists cope with limited pasture constrains by purchasing more than one plot in areas such as Mutirithia in Segera ward. They fence the plots and utilize one after the other on a rotational basis for grazing. In other areas such as Karionga in Segera ward, the pastoralists hire grazing plots available from non-pastoralists at a monthly fee of between 7000–8000 Kenyan shillings. Other pastoralists sneak their livestock into neighbouring privately owned ranches to graze as a coping strategy and mechanism. The large livestock is sneaked into privately owned ranches at night while the small stocks are sneaked into these ranches during the day. This is done to avoid the small stocks from being predated upon by the wildlife found in private ranches.

Water shortage is also another hindrance to the practice of pastoralism. To cope with water shortage, the Maasai pastoralists in the commons who rely on seasonal rivers like Twala River make informal agreements with private ranches through their group ranch chairmen for their livestock to have access to water when they are grazing in the private ranches. Another strategy is the dependence on dams constructed through private-public partnerships between private ranch owners and county and national government departments. The study found that *Oljogi* private ranch had partnered with the Ministry of Irrigation and built a dam for the Ilpolei community group ranch. Other partnerships between the community group ranch management and conservation based non-governmental organizations such as the African Conservation Centre, has allowed for the building of gabions to reduce soil erosion within the community group ranches through the water-shed management plan.

Outside the commons, the Maasai pastoralists rely on water dams to meet the water needs for their livestock in areas such as Mutirithia. In other regions of Segera ward such as Karionga, pastoralists rely on boreholes dug by their agricultural neighbours and they purchase water at a fee of 50 Kenyan shillings per 20 L jerican. However, other pastoralists rely on the permanent water supply of river Nanyuki to meet their livestock water demands.

With devolution, pastoralism has stood out as a very important revenue generator for the county government of Laikipia. As a result, the sales tax collected in livestock markets has increased from 20 Kenyan shillings per goat or sheep to between 30 or 40 Kenyan shillings per goat or sheep. The sales tax collected per cattle sold has also increased from 100 Kenyan shillings before the dispensation of the county government and its involvement to 200 Kenyan shillings per cattle. The increased revenue

collection has been attributed to the co-management policy and concept that has been picked up in the management of livestock markets.

With the dispensation of County governance in Laikipia there has been a sharp increase in the cost of livestock vaccinations from 70 Kenyan shillings to 150 Kenyan shillings and the responsibility of livestock health management has been relegated to individual Maasai pastoralists. However, despite all this setbacks in livestock health management, pastoralists are developing organizations and associations such as Laikipia Livestock Marketing Authority that are geared towards providing quality inputs through providing readily available veterinary medications for pastoral livestock through building of veterinary drug stalls that are operated by qualified veterinary officers.

8. Discussion of Findings

8.1. Actors and Their Roles in Pastoralism

The study identified actors along the value chain (production, processing, packaging, distribution and consumption) in the household, state, non-state and service providers in the food system. This is concurrent with, Young et al. (2012) [22], who regard pastoralism as a livestock production system that encompasses numerous extensive interests across sectors, disciplines, states and non-state groups. The actors identified were found to play different but complementary roles along the value chain within the food system. This is similar to Ferraro and Andreatta (2012) [23], who acknowledge that pastoralism sustains a wide-range of actors through the raising of domestic animals and also uses them for transportation and trade. Similar sentiments are echoed by Young et al. (2012) [22], who posit that pastoral livestock production makes a significant contribution to securing the livelihoods of actors within and beyond the food system.

Bonvillain (2013) [24] posits that, among the pastoralists, at the household level, rules regulating gender roles exist allowing for access to livestock products. For example, the study established that milking is a woman's role and for young girls who are above 10 years of age. Additionally, within the Maasai community a strict division of labour that is organized on age group and gender roles ascribed to by all members exist. As a result, primary producers in the food system were identified as heads of households (men), women, *morans*, elders, young boys and girls, and herdsmen who were found mainly at the household level. Similarly, Bee et al. (2002) [25] agree that men in the Maasai community are heads of the household, owners of livestock and traditionally responsible for security and provision of medical care to the livestock. Additionally, Blench (2001) [26] adds that men herd and sell meat animals within the food system. Kituyi (1990) [27] also points out that in line with tradition, the responsibility of slaughtering in the household is always retained by the household head, who has the overall responsibility of deciding who or what to be slaughtered and in most cases he delegates the roles of slaughtering to a moran. However, the study established that in addition to the *morans* being delegated the slaughtering role; the same role can also be delegated to herdsmen by the household head or by the women at the household level, who are in-charge of their households. This is in line with FAO (2017) [28], which acknowledges that pastoralism relies on a list of strategies at the household level to address labour shortages such as the joining with other households in cooperative herding and watering, taking in impoverished dependants or borrowing a child usually from close kin, expansion of the household through marriage and more recently the hiring of labour for herding, herdsmen.

For women in the household, they are not only responsible for milking but also herding the small stocks and young livestock while at home, cleaning the livestock sheds and also processing milk through fermentation process and also extracting cooking oil from the milk cream. This is in line with Morner (2006) [29], who acknowledges that women in pastoral communities are normally assigned the right to milk, conduct dairy processing and beyond that they may or may not sell milk but usually have control over the proceeds. Additionally, Ferraro and Andreatta (2012) [23] posit that oil extracts from milk among the pastoralists can be used to prepare vegetables that the pastoralists get from exchanges with non-pastoral actors.

The *morans* are tasked with herding, slaughtering selected livestock for household consumption, health management of livestock and provision of security by the household heads. Similar findings are shared by Morner (2006) [29], who states that *morans* in the Maasai community, search for new pasture for their livestock, defend and protect their livestock from wild animals and rival tribes and support their parents in pastoralism generally. Additionally, Bee et al. (2002) [25] add that *morans* grant security for the community and educate the young ones on matters related to animal husbandry, resource use, and good comportments and more crucially, they move with livestock in search of pasture and water.

In the household, the young boys begin to learn livestock responsibilities through introduction at a tender age. They are introduced to herding of calves, kids, and lambs near their homes but as they get older, 10 years of age and above, they begin to herd the larger livestock. According to Hauff (2003) [30] young boys only herd livestock by strictly adhering to grazing schemes given to them by elders and household heads. Similarly, Tarayia (2004) [31] acknowledges that at an early age, the young boys, herd calves, lambs and kids close to their home compounds. According to Morner (2006) [31] when boys are about 5 years of age, their fathers take the responsibility of teaching them on how to take care of their livestock herds and by the time they are 10 years of age and above, the boys are tasked with the main responsibilities of larger livestock.

For organizations and associations as actors, they are involved in reinforcing community participation in pastoral activities like in livestock markets as well as in developmental projects like rehabilitation of cattle dips. As a result, employment and credit access among the food system actors has increased remarkably and more returns from livestock rearing trickles down to the primary actors. Bee et al. (2002) [25] concurs that such involvements with organizations and associations not only maintain the position of pastoralism as a major source of subsistence, at the household and community level, but also act a major income creator for the community at large.

Service providers as actors, most notably, food vendors trade in livestock products, also provide livestock inputs like veterinary drugs to control livestock diseases and manage total livestock health. Others engage in the constant trade of pastoral livestock such as butchers, hoteliers and livestock brokers. According to Lengoiboni et al. (2011) [32] livestock provides pastoralists not only provide sustenance at the household level but also through constant exchange of livestock products and livestock sales, and the food system provides a means of financing basic needs.

8.2. Institutional Settings and Changes in Pastoralism

The management of CPRs especially pastures and water in the food system is governed by actors with differing bargaining powers and positions through formal and informal institutions, namely, rules, regulations, values and norms. With time, changes in roles of some primary actors such as household heads have changed due to education and the desire for formal employment. The resultant effect has been women assuming temporal powers and positions of household heads who have left for town centers in search of formal employment. Moreover, women have also been bestowed the power to hire and pay herdsmen to take up roles left behind by *morans* as the community embraces formal education. According to Kaye-Zwiebel and King (2014) [6] institutions dictate the utilization of extensive rangelands and the uptake of food system activities as they are an outcome of customary polycentric governance systems and social networks that allow not only for the proper management of CPRs but also the responsibilities of individuals. Similarly, Tarayia (2004) [31] highlights that among the Maasai, for generations, they have had customs regulating occupation of land that is strictly governed by natural laws that give out the rights to control and use CPRs. Haller (2013) [33] adds that followers and kinsmen make certain that they monitor the pastures and water access and use. Sanctions are then issued to those who access the CPRs without gaining proper user rights.

9. Conclusions

In summary, the study established that there are different actors found along the value chain with varying decision making capabilities and bargaining powers in the food system. At the household

level, the men are the ultimate decision makers and are also the sole owners of the livestock who decide on the use of livestock and their products, and the access to and use of CPRs. Women have limited decision making capabilities while the *morans*, young boys and girls, and herdsmen lack decision making capabilities.

Additionally, changing actor roles' is a current phenomenon in the food system, with household heads and morans who are leaving for urban areas in search of formal employment and education, respectively. Women are now taking up the roles previously reserved and performed by the household heads and *morans*, by hiring herdsmen for the latter and assuming decision making capabilities of the former.

The study has also established that actor roles' are being defined and redefined by formal and informal institutions (rules, values, norms and regulations). As a result, the study found that value-chain actors, in the household, state, non-state, and service providers as actors as well as co-management policy and water-shed management plans are vital in regulating and providing services for the food system.

10. Recommendations for Further Studies

From the study, with regards to actor roles, value chain actors with different bargaining powers and varying roles exist within the food system, in the household, community and beyond. In the household, actors' roles are defined and redefined by formal and informal rules, regulations, values and norms operating within the food system as producers, processors, packers, distributors and as consumers. Therefore, there is a need for broader studies targeting larger sets of the study population, to elaborate on the food system actors', their roles and effects of institutional settings and changes.

Secondly, alterations in the formal and informal management of CPRs like pasture, water and land necessitate changes in rules, regulations, values and norms governing access and use of resources within a devolved system of governance. The emergence and restructuring of various actors and their roles to fit within the new constitutional dispensation and power structures and still remain relevant and sustain the persistent utilization of pastoralism as a food system thus need to be examined further.

For policy concepts like co-management, water-shed management plan, and holistic management of pasturelands as well as decentralization of livestock services need to be further examined to understand how such informal and formal rules, regulations, values and norms interact and merge into highly adaptive and coping mechanisms that contribute immensely to pastoral resilience. Additionally, advocacy for the adoption of such policies by other larger sets as a way of promoting pastoral resilience within the food system is highly recommended.

Further studies should be conducted with some public-private partnerships like the Regional Pastoral Livelihood Resilience project, a project of the World Bank working in collaboration with national and county governments to eradicate the *Opuntia* invasive plant species in pastoral regions and as a result, promoting pastoral resilience. Moreover, the community centered approaches like the *CMDRRA* used in search of an initiative emphasizes the need to examine pastoral resilience from a people centered approach, hence amplifying the position of pastoralism as a domestic food system.

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Impact of Government Policies and Corporate Land Grabs on Indigenous People's Access to Common Lands and Livelihood Resilience in Northeast Cambodia

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Abstract: Cambodia has become a principal target of transnational (and domestic) land grabs over the past decade, mostly in the form of economic land concessions (ELCs). The northeastern part of the country—where the majority of Cambodia's indigenous people reside—is a particular hotspot. In this article, we discuss three policy mechanisms that the Cambodian government has employed to extend and legitimize land exclusions in the name of national economic development through the example of two indigenous villages in Srae Preah Commune, Mondulkiri Province. First, we show how the allocation of two ELCs has deprived indigenous communities of their communally managed land. Second, we examine how communal land titling processes have failed to provide indigenous villagers with effective legal mechanisms to counteract ELCs and land encroachment by internal migrants. Third, we elucidate how the promotion of cash crop production contributed to livelihood and land use transitions from a reliance on forest resources in 2003 to a dependence on cash crops in 2012 to a struggle to remain resilient amid a slump in crop prices in 2018. We conclude that the combination of these policies has undermined communal ownership and livelihood resilience under a situation of limited exit strategies.

Keywords: land grabbing; resilience; commons; land concessions; communal land titling; Southeast Asia

1. Introduction

Large-scale land acquisitions and leases for agro-industrial, mining, and tourism projects have affected hundreds of thousands of smallholder farmers and communal landholders in Southeast Asia, with indigenous people and ethnic minority groups most at risk (Borras & Franco 2011 [1]; Kugelman & Levenstein 2012 [2]; Pearce 2012 [3]; Zoomer & Kaag 2014 [4]; Neef & Singer 2015 [5]). Cambodia is arguably a major hotspot of transnational and domestic land grabs, which occur mostly in the form of Economic Land Concessions (ELCs) and occupy a total area of more than two million hectares, with up to 800,000 people affected by land conflicts, dispossession, and forced displacement (Neef et al., 2013 [6]; ADHOC 2014 [7]; Oldenburg & Neef 2014 [8]). The massive scale of land grabs and the violence surrounding their implementation have been met with various forms of resistance by the rural population. These have ranged from spontaneous protests, counter-violence, and petitions to more sophisticated forms of NGO-led advocacy resistance and the use of transnational networks (McLinden Nuijen et al., 2014 [9]; Neef & Touch 2016 [10]; Young 2016 [11]; Verkoren & Ngin 2017 [12]; Lamb et al., 2017 [13]; Schoenberger 2017 [14]).

As a post-colonial and post-conflict country, Cambodia has a particularly chequered land legislation history. During the Khmer Rouge Regime from 1975 to 1979, private land ownership

was abolished, and all cadastral documents were destroyed (Un & So 2011 [15]). The long period of civil conflict that followed was marked by unregulated movements of people, land possession by occupation, and state-sanctioned allocation of large-scale forest concessions under the 1992 Land Law (Oldenburg & Neef 2014 [8]). With international financial and legal assistance, a new Land Law was enacted in 2001, which introduced new property rights categories, including 'state public land', 'state private land', 'economic land concession (ELC)', and 'communal land title (CLT)'. The latter category was supposed to formally acknowledge the communal land rights held by the country's 24 distinct groups of indigenous (i.e., non-Khmer and non-migrant) people, primarily inhabiting the northeastern part of the country. Yet their territories largely overlapped with 'state public land', most of which the Cambodian government has subsequently reassigned as 'state private land' and then allocated to foreign and domestic investors in the form of ELCs. Meanwhile, communal land titling—a protracted process involving several ministries—has benefitted no more than 20 out of over 500 indigenous village communities nation-wide to date (Milne 2013 [16]; ODC 2018 [17]).

Research has shown that the Cambodian government has used its land policies and regulations to legitimize land exclusions and commons enclosures under the name of national and economic development, often in collusion with bilateral donors and multilateral financial institutions (Neef et al., 2013 [6]; Beban et al., 2017 [18]). Neef (2016) [19] argues that land grabs and dispossessions in Cambodia occur by 'government design' rather than by government oversight. In this article, we will look at how ostensibly distinct government policies have actually worked together to deprive indigenous communities in northeastern Cambodia of their communally managed natural resources, thereby making them reliant on volatile cash crop markets and precarious wage work. More specifically, we look at three ways through which the government has pursued its controversial policies and regulations, namely (1) the indiscriminate allocation of ELCs in indigenous territories and protected areas, (2) the sluggish and incomplete registration of CLTs as a policy for indigenous land reform, and (3) agricultural development through promotion of cash crop production.

This article discusses first how two ELC companies in the villages of Srae Ampil and Pukong in Srae Preah Commune, Mondulkiri Province, affected communally managed land. Second, we examine how the government's 2001 Land Law and policies to promote and protect communal land titles have been rendered ineffectual by the lack of political will and the countervailing forces of other government priorities. Third, the article will demonstrate how the government supported policy to encourage cash crop production of cassava and cashew led to livelihood and land use transitions from a reliance on natural resources in 2003 to a reliance on cash crops in 2012 to a struggle to remain resilient amid slumping cash crop prices in 2018.

Our study is the first one that examines the impact of land grabbing on indigenous people in Cambodia over an extended time period of several years, which allows an in-depth analysis of long-term livelihood transitions and changes in community and household resilience. Our mixed-methods approach combines quantitative and qualitative data to allow triangulation of our findings.

2. Background

Mondulkiri Province in northeast Cambodia is largely inhabited by the Bunong indigenous people. For centuries they have effectively used the natural resources of their upland forest environment. Since the 1990s, the opening up of the Cambodian economy has had far reaching consequences for the province. Forest concessions and illegal logging, economic land concessions (ELCs), corporate mining concessions, the unregulated hunting of wildlife, and rapid in-migration have diminished the rich natural resources of the province. As of September 2015, 33 ELCs were approved covering 211,317 hectares or nearly 15 percent of the provincial arable land for the cultivation of rubber, cassava, and plantation trees (ODC [20]). As natural resources become more circumscribed, indigenous people have been forced to make adaptations to maintain their livelihoods (McAndrew & Oeur 2009 [21]).

Rapid population growth has exacerbated the exploitation of natural resources. Mondulkiri's population more than doubled from 32,407 in 1998 to 72,680 in 2013 (NIS, 2013 [22]), due mainly to Khmer in-migration. Notably, the share of the indigenous population in Mondulkiri Province declined from 71 percent in 1998 to 39 percent in 2013 (Asian Development Bank 2000 [23]; Backstrom et al., 2007 [24]; NIS 2009 [25]; NIS-IP Survey 2013 [26]).

The establishment of ELCs and in-migration are closely linked. Net out-migrations occur mainly from the central areas of Cambodia where population densities are high and agricultural land is scarce (Chheang & Dulioust 2012 [27]). Government policy encourages displaced and landless populations to resettle in peripheral provinces such as Mondulkiri and promotes ELCs in these areas as opportunities to generate revenue and create jobs locally (ibid). Landless migrant farmers are often contracted upon arrival by agricultural companies to clear land. Many then go on to encroach upon open and degraded forest areas and ostensibly 'unused' or 'non-occupied' land near the concessions. These are inevitably located within indigenous domains. Conflicts often arise between the in-migrants and the concession holders over boundary intrusions, but also between the in-migrants and indigenous people over encroachment into ancestral territories (Chheng & Dulioust 2012 [27]).

Substantial investments in ELCs in northeast Cambodia have taken place in parallel with the government-supported conversion of smallholder subsistence farming into crop production for the market. Smallholder cultivation of rubber, cashew, and cassava has in turn precipitated a move away from swidden farming to the production of crops on permanent farms (Fox et al., 2008 [28]). In Mondulkiri, cassava production increased dramatically from 546 tons in 2001 to 89,993 tons in 2007, and to 157,505 in 2013. Likewise, the harvested area of cassava in the province rose from 52 hectares in 2001 to 5806 hectares in 2007 and to 10,271 hectares in 2013 (MAFF, 2008 [29]; MAFF 2013 [30]). This sharp increase reflected a change in cassava cultivation from a food crop to an industrial crop with multiple uses such as animal feed and bioethanol. The high export demand for cassava resulted in rising market prices for the crop locally, albeit with some volatility in recent years.

As Bunong indigenous villagers struggle to adapt to the rapid depletion of their natural resource base, progressive legislation enacted in Cambodia since 2000 has provided a legal framework for preventing further decline. The Forestry Law of 2002 recognizes and guarantees the traditional user rights of local communities to collect forest by-products. The Land Law of 2001 enables indigenous communities to gain communal titles to their traditional lands and protects the rights of indigenous communities, formed as legal entities, to use and manage these lands, even before their full ownership rights have been recognized through a communal title. This renders the sale of indigenous land outside the community illegal. However, amid increasing rates of indigenous land alienation, the government has lacked the political will to implement communal land titling (Analyzing Development Issues 2010 [31]). As of 2018, 20 indigenous communities—of which nine are located in Mondukiri Province—had received communal land title certificates (ODC 2018 [17]). In July 2012 the government halted all communal land titling processes under the so-called Order 01. The Order intended to expedite the issuance of private land titles, and thousands of student volunteers were recruited to demarcate lands that had been in conflict with ELCs. This not only formalized prior alienation and fragmentation, it rendered communal and individual titles mutually exclusive and thereby accelerated land commodification (Milne 2013 [16]). Order 01 has been referred to as the 'leopard skin' policy, under which individually owned agricultural plots—like the dots in a leopard skin—are located in a wide expanse of economic land concessions and state public land (Milne 2013 [16]; Oldenburg & Neef 2014 [8]).

3. Methods

This article draws on a mixed-method approach comprising panel data from household questionnaire surveys, in-depth interviews, and participant observation. Household livelihood surveys were conducted in 2003, 2012, and 2018. Based on random samples of 25 percent of the respective population, these surveys were conducted in all six villages of Srae Preah Commune. This commune

was chosen because of its unique location between two wildlife sanctuaries and the prevalence of two major economic land concessions. Srae Preah Commune comprises five villages, Srae Preah, Pucha, Ochra, Pukong and Gati (Figure 1). Administratively, Srae Ampil village is located in Srae K'tum Commune. However, in 2002 local officials maintained that Srae Ampil village of contiguous Srae K'tum Commune was about to be incorporated into Srae Preah Commune, hence Srae Ampil was included in the original 2003 study. While the transfer never materialized, the researchers in successive 2012 and 2018 studies continued to consider Srae Ampil village as a part of Srae Preah Commune for comparative purposes. The authors of this article likewise continue to do so. At the time of the original survey in 2003 an all-purpose road was being built to the capital town of Sen Monorum which was seen to precipitate social change in Srae Preah Commune.

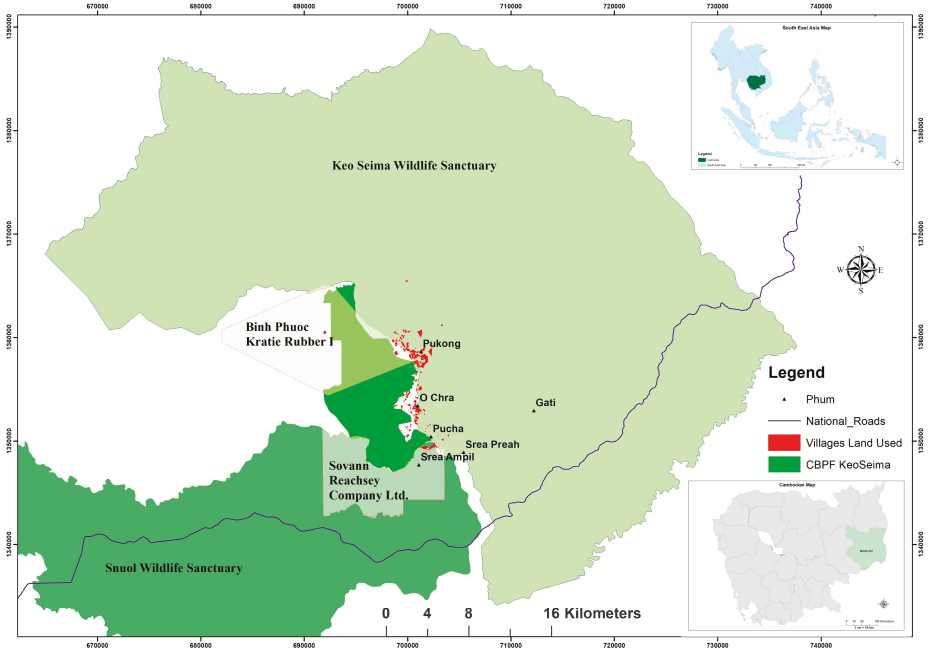

Figure 1. Land use demarcations in Srae Preah Commune. Source: Wildlife Conservation Society's (WCS) Village Land Use GIS Map (2018) [32]; ODC: Economic Land Concessions [20].

In 2003, under leadership of the second author, 74 households were interviewed from a total commune population of 316 households; in 2012, 106 households were interviewed from 430 commune households by a team led by the first author while she was working for a local NGO; and in 2018, 170 households were interviewed from 669 commune households under leadership of the first author. She made an initial visit to the six villages before the final survey was conducted in 2018 to obtain household lists from the household record books provided by the village chiefs and inform the local authorities and village elders about the study objectives and fieldwork schedule. Household lists provided by the commune and village chiefs were validated and updated through spot mapping. Both Khmer and indigenous Bunong families were randomly selected from the household lists. Since the survey questionnaire focused on livelihood experiences, all household members aged over 15 years were encouraged to attend the interview. For Bunong respondents, indigenous Bunong research assistants were recruited to ask the survey questions primarily in the Bunong language and record the responses in Khmer.

The qualitative case studies discussed in this article focus on Srae Ampil and Pukong villages. The first author and her research assistants sought permission from local authorities, including commune and village leaders before starting the fieldwork. A total of 31 in-depth interviews with 16 men and 15 women were conducted. The criteria for the selection of respondents for the in-depth interview were (1) earning their living predominantly from farming, (2) having lived in the village more than one year prior to the in-depth interview, and (3) being knowledgeable about previous land disputes with ELC companies or forest encroachment. Participation was based on informed and voluntary consent. Among the 31 in-depth interview respondents, nine had participated in the household livelihoods survey 2018 and another nine respondents had been involved in both the 2012 and 2018 studies. The in-depth interviews were conducted by the first author in Khmer. Bunong research assistants helped to facilitate translation from the Bunong language to Khmer when needed. Participant observation was employed to understand perspectives of the respondents in relationship to their land ownership title and agriculture practice. The first author and her research assistants spent about two weeks in each of the two villages to build trust with research participants and village elders. To minimize the risk of cultural misrepresentation and misunderstanding, frequent consultations with Bunong research assistants and village elders were held during the stay in the villages.

Data from the household survey were analyzed by using descriptive statistics. The data were disaggregated by gender and type of household wealth (better-off, above poor, poor, and very poor households) and cross-tabulated among relevant variables to examine their associations. Data from different sources, and primary and secondary data, were triangulated where appropriate.

The in-depth interviews were audio-recorded, transcribed, and translated into English by the first author. Responses were classified by themes emerging from the transcripts. The analysis of the in-depth interviews was based on themes developed in the field and emerging from the transcripts.

4. Results

This section is divided into three parts. The first part examines how the ELCs in the villages of Srae Ampil and Pukong encroached upon common lands of indigenous people and how the conflict resolution processes unfolded. These are the two villages in the commune whose common lands have been most affected by the establishment of ELCs. The second part scrutinizes the impacts of the 2001 Land Law and policies that aim to ensure tenure security of indigenous communities through the Communal Land Titling scheme. The final part discusses livelihood transitions and land use change as a consequence of government policies that encourage crash crop production. This last part will demonstrate how the livelihoods in Srae Preah Commune have been transformed from a natural resource reliance (2003) to a dependence on cash crops in 2012 and the subsequent struggle of communities and households to remain resilient against the backdrop of the cash crop price decline in 2018. The first and second parts draw on the findings from the in-depth interviews and participant observation conducted in 2012 and 2018, while the third part compares the results from the household livelihoods surveys organized in 2003, 2012 and 2018.

4.1. The Pursuit of Economic Land Concessions

The two case studies of Srae Ampil and Pukong villages affected by two distinct ELCs are based primarily on the in-depth interviews conducted in 2012 and 2018. The case studies examine the corporate land incursion on common land through the government's development strategy to attract foreign and local investment on its natural forest. This part also illuminates processes and strategies of conflict resolution. Newspaper articles and NGO reports were examined to verify the events and dates described by the respondents during the in-depth interview.

4.1.1. The Case of Sovann Reachsey Company Limited in Srae Ampil village

In December 2010, Vietnam-based Sovann Reachsey Company Limited was awarded a 6525 hectare concession for 90 years to develop an agro-industrial plantation for rubber and other crops. The land is located within Snuol Wildlife Sanctuary which borders Snuol District of Kratie Province and Keo Seima District of Mondulkiri Province. The company's initial operation affected approximately 500 hectares of forestland inside Srae Ampil village (Table 1).

Table 1. Summary of events related to communal land titles and ELCs in Srae Ampil and Pukong villages.

Theme	Srae Ampil	Pukong
Indigenous Community	2009: NGO (DPA) supported the village to establish itself as a community for CLT registration.	2009: NGO (DPA) supported the village to establish itself as a community for CLT registration.
ELC	2010: Sovann Reachsey Company was awarded an ELC on 6525 ha inside Snuol Wildlife Sanctuary which affected about 500 ha of forestland in Srae Ampil.	2011: Binh Phuoc Kratie Rubber I Company was awarded an ELC on 8926 ha inside Seima Biodiversity Conservation Forest which affected about 2000 ha of forestland in Pukong.
Illegal Logging	2011: Illegal logging was perpetrated by individual loggers and loggers associated with the ELC company.	2013–2014: Illegal logging was perpetrated by individual loggers and loggers associated with the ELC company.
Forest Patrol	2011–2014: A forest patrol was organized	2013–2017: A forest patrol was organized.
Protest	2011: At least two protests were organized by Srae Ampil villagers against the company's operation.	No protest of villagers.
Media coverage	2011: Villagers contacted a local newspaper and NGOs working in the area.	2013: A six-member NGO committee was formed to support the villagers and investigate the conflict.
Forest encroachment	N/A	2014: Forest encroachment took place by Khmer and Cham villagers and powerful government officials.
Conflict Resolution with ELC companies	2015: Final conflict resolution reached: the company compensated villagers in cash for the land which had already been cleared and cut. A total 250 ha from the concession plan was transferred to the villagers.	2014: Final conflict resolution reached: the company compensated the resin trees owners in cash for the resin tress that were cut by the company.

Source: Authors' compilation from in-depth interviews in 2012 and 2018.

Srae Ampil village, established in the late 1980s, is primarily inhabited by Bunong people, followed by Stieng and Khmer. The villagers have traditionally relied mainly on non-timber forest products (NTFPs), including liquid and gum resin, and paddy rice cultivation as their main livelihood sources. Since the village is located in a protected area bordering Srae Preah Commune and Snuol Wildlife Sanctuary, no formal ownership to their land is acknowledged by the law. However, because this village is predominantly composed of indigenous people, namely, Bunong and Stieng, according to the Land Law 2001, it is eligible to apply for a CLT that would allow them to occupy their land resources collectively. In 2010, with the support from a local NGO (Development and Partnership in Action-DPA), the village was officially recognized by the Ministry of Rural Development (MRD) as an indigenous community. This formal recognition constituted Stage 1 of the CLT registration.[1]

[1] The process of communal land titling is described in detail in Section 4.2 below.

This was followed by the establishment of a community management committee, in which the members of the community elected a leader.

After receiving the ELC license, the Sovann Reachsey Company did not inform the villagers about their investment plan or the land area to be affected. The company sub-contracted a local company to clear land and hired loggers to cut timber inside its designated area. However, the villagers maintained that the logging occurred inside the forestland of the community. By 2012, more than 2000 resin trees had been cut. In response, the management committee of the community formed groups to patrol their forest.

Further to patrols, the villagers organized protests and contacted media outlets and NGOs for help. Forest patrols were not effective in stopping illegal logging, especially when loggers were associated with the company. Frustrated by this failure, the villagers organized two major protests. In the first protest held in May 2011, the villagers confronted the company's workers while they were clearing the land in the community forest. The company asked the military police to intervene. The police came and arrested three villagers and accused them of damaging the company's equipment. In the second protest that took place in October 2011, village households gathered at the contested area and stopped the company's workers from cutting logs and clearing the land. The villagers demanded that the district authorities resolve the conflict by demarcating the land clearly and by putting a stop to illegal logging.

During the protests, villagers contacted NGO staff and asked them to witness the confrontation. Radio and newspaper outlets also came and reported on the protests. An American radio network (Radio Free Asia–RFA) regularly broadcasted the news. The community leader's strategy was to publicize the protests and attract the authorities' attention. Patrol teams would take pictures of illegal logging operations and send them to the media to broadcast. In an interview in 2012, a male community leader stated: "*We called . . . [the district governor and commune leader] but they did not respond. When the RFA interviewed some of us, the district governor and commune chief came to the village and pleaded with us not to report to the RFA. Before we contacted RFA, we had asked the authorities to intervene two or three times. But there was no action. If we had not asked RFA to broadcast the news about the conflict, the local authorities would not have intervened.*" (San, male, community leader, Srae Ampil, 2012).[2]

In response to the strong local resistance movement, the company agreed to suspend its land clearing operation in 2012. However, the logging still continued. Moreover, land clearing inside the community forest of 500 hectares was started in 2012 by both local people and military officials. Local people reported that environmental officials did not allow them to clear the land as it was a protected area. Military police officials raided the area and forced them to leave. In the meantime, however, several military officials cleared the land inside the conflict area for their own benefit.

A conflict resolution process was started with the company in 2014. The elected community leader and members of the management committee reported that they were contacted by the company representatives to seek informal negotiation. The district governor also contacted the community representatives to discuss negotiation strategies. In 2015, the final agreement was reached when the company agreed to demarcate the land boundaries and share half of the contentious land area with the community. The company also promised to pay for the loss of the land amounting to 250 hectares, provide employment opportunities to the villagers, and construct a village road. Moreover, the company agreed to offer financial support for a spiritual ceremony as requested by the village elders. The remaining 50 percent of the land amounting to 250 hectares was distributed to the village households. In 2017, the final compensation for the lost land was paid and the land distribution to the village households was completed. The company then built a canal that surrounded its land boundaries.

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[2] All respondents' names are pseudonyms to protect their identity.

Before the final conflict resolution was reached, solidarity and cooperation among the community members were strong. The community leader observed that the committee members frequently convened meetings with the villagers to share information about the negotiation results and consulted with them about strategies. This collegial relationship broke down after a disagreement on the final solution. A total of 10 of the 75 village households refused to accept compensation from the company and continued the protest to reclaim their land. Meanwhile, another six households claimed that their neighbors had occupied plots that were supposed to have been delivered to them.

Despite its promise to provide employment opportunities, the company ended up employing only a small number of villagers. Five of the committee members were hired as full-time security guards and 10 other villagers were hired as seasonal workers on banana and rubber plantations. The committee members hired as guards resigned after working for the company for about two years. They complained that the company frequently delayed payment of their salaries, paid them only once every two or three months, and added extra working hours without providing overtime pay.

4.1.2. The Case of Binh Phuoc Kratie Rubber 1 Company Limited in Pukong Village

Binh Phuoc Kratie Rubber 1 Company, a subsidiary of state-owned Vietnam Rubber Group (VRG), was granted an 8926-hectare ELC in 2011 for rubber plantations.[3] The ELC land, located inside Seima Protected Area and Biodiversity Conservation (SPA),[4] affected Srae Preah and Srae Chhouk Communes in Keo Seima District. In Srae Preah Commune, about 2000 hectares of forestland in Pukong village were affected (Table 1).

Pukong village, established in 1940, is predominantly inhabited by Bunong with a sizeable minority of Khmer migrants who moved into the village in the late 1990s. The villagers have depended on the collection of NTFPs, including liquid resin, swidden farming, and paddy rice cultivation as their main sources of livelihoods. Since the village is inside the core zone of SPA,[5] in 2006 an international NGO, Wildlife Conservation Society (WCS), assisted the Forest Administration (FA) to create a Community-Based Production Forest (CBPF) that covers the village and two other villages of Srae Preah Commune (Figure 1). A management committee of the CBPF was created and a forest extraction plan was developed. However, since the CBPF is inside the protected area, the Forestry Law of 2002 prohibits any extraction of forest resources. Concurrently, in 2009 DPA supported the villagers to establish itself an indigenous community so that it could apply for a CLT. By 2012, the village reached Stage 2 of the community land titling process. Yet, by early 2018, the village was still struggling to reach the final stage.

As in the Srae Ampil case, the company did not conduct any consultation meetings with the villagers upon receiving their license. The villagers said the ELC sub-contracted a local company, which was well-known for engaging in the logging trade and presided over by a powerful tycoon, to cut trees inside its land area. The local company, however, expanded its logging into the CBPF and transported the logs to the ELC's designated area to make them legal for export (NGO Report, 2015 [35]).

Since 2012 with support from WCS the villagers have conducted patrols to protect their CBPF. The patrol teams often encountered logging workers and confiscated their equipment. Consequently, they faced death threats by armed forces recruited by the sub-contracted company to guard its logging

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[3] The company land size was reduced to 5100 hectares in 2012 by an inter-ministerial committee led by the Minister of Environment.

[4] The Seima Protected Area (SPA) and Biodiversity Conservation which was under the Forestry Administration (FA) of the Ministry of Agriculture, Forestry and Fishery (MAFF) was changed to Keo Seima Wildlife Sanctuary (KSWS) under the management of the Ministry of Environment (MoE) in 2016.

[5] For management purposes, the protected area was divided into four zones for sustainable management, namely (1) a core zone which is a high-value forest area where access to forest resources or swidden cultivation is restricted, (2) a conservation zone, (3) a sustainable use zone, and (4) a community zone (ODC Website [33], WCS REDD+ Program Monitoring and Evaluation Report, 2018 [34]).

operation. In response, the village representatives lodged a complaint against the illegal logging and the destruction of resin trees in the CBPF to the provincial governor. No action was taken by the provincial governor but a few days later, the district governor issued a letter to the company, instructing them to confine the logging to the ELC's land area. Nevertheless, the logging activities were further expanded between 2013 and 2014. Further to forest patrols, the villagers contacted some news agencies to publicize the illegal logging and demanded an intervention from the government.

In 2013, a group of six local NGOs formed a special committee to investigate the complaint and provide support to the villagers. A series of activities were organized and facilitated by the committee, including consultative meetings between company staff and the villagers, and press conferences. Meanwhile, the villagers continued to conduct patrols. However, because of the involvement of military personnel, the community members said they did not have the motivation and capacity to patrol without the support from WCS or officials from the Provincial Department of Environment (PDE). The forest patrols, albeit done regularly, yielded limited success.

Unlike the Srae Ampil villagers, the Pukong villagers did not organize any protest. In 2014, the ELC built a canal that surrounded its land area. They did this by carving out about 500 hectares of land designated by the Forest Administration as a dense forest and which included the villagers' spiritual ground. Despite the boundary demarcation, illegal logging and land encroachment inside the CBPF continued at an ever-larger scale. In the same year, the 500-hectare land area returned by the company was occupied by two powerful military officials. Additionally, about one hundred hectares of the CBPF were cleared by more than 100 Khmer and Cham households who were former ELC workers.

In 2017, in response to the continuous land encroachment inside the CBPF and the ineffectual forest patrols, a group of villagers cleared the land along the border of the CBPF next to the ELC. However, they were expelled from the area by PDE officials who, on the basis of the Forestry Law of 2002, declared that land clearing or occupying land inside a protected area was not allowed. Frustrated with the inability to expand their farmland and the failure to stop land encroachment, some villagers continued to work on their existing farms although with a shift to cash crop cultivation of cashew nut and cassava. Others took the risk to secretly clear land inside the protected area. In a 2018 interview, an NGO staff member maintained that between the years 2013 and 2017 the deforestation rate in the CBPF was 44 percent. This meant that during this time over 5000 hectares of the CBPF had been cleared and occupied.

4.2. Promulgation of Communal Land Titling Program and Impacts on Indigenous Communities

This section discusses the government's Land Law of 2001 and the challenges that indigenous communities face to complete the final stage of the CLT process. The discussion draws mainly on in-depth interviews from 2012 and 2018 and from previous studies on the subject matter.

4.2.1. The Communal Land Titling Program under the 2001 Land Law

The Land Law of 2001 adopted by the Royal Government of Cambodia includes a provision aimed at giving indigenous peoples' tenure security through Communal Land Titles (CLTs). The recognition of customary land use of indigenous people stated in the law has been regarded as a significant step forward to promote the respect of indigenous people rights in Cambodia. It entitles them to collective ownership on their traditional lands including residential land, agricultural land, and the reserve land for swidden farming (Backstrom et al., 2007 [24]). Moreover, Article 23 of the law provides a precise legal definition of indigenous communities as legal entities for communal land ownership (Brown et al., 2005 [36]). However, the law alone was not sufficient to grant CLTs until the government issued a sub-decree on the Procedure of Land Registration of Land of Indigenous Communities in 2009 (RGD, 2009 [37]). It provides a clear procedure and guidelines starting from the registering of indigenous communities to the issuance of CLT certificates. The process involves three stages and needs the recognition and approval by three different ministries. First, an interested village must establish itself as an indigenous community and be recognized by Ministry of Rural

Development (MRD). Second, the indigenous community must develop community bylaws and a management committee, and then register itself as a legal entity with the Ministry of Interior (MoI). The third and final stage involves registering the already measured land with the Ministry of Land Management, Urban Planning and Construction (MLMUPC) in which CLT certificates will be issued (ODC Website [38]). All three stages involve various inter-ministerial committees and take several years to complete.

Srae Ampil and Pukong villages have been engaged in the process of acquiring CLTs since 2009 with the support from NGOs. As of May 2018, Srae Ampil village had just completed the measurement of communal land, while Pukong village had completed the measurement in 2017. However, both villages have not yet received CLT certificates.[6] The process of CLT land registration in the two villages has been delayed because of land conflicts with ELCs. In Srae Ampil village, the land measurement was conducted for a second time in April 2018 after the final conflict negotiation with the Sovann Reachsey Company was completed. The process of land registration has been further complicated by the fact that the requested CLT area is located within a protected area. The government needs to issue a sub-decree to convert the requested land area from the status of 'state public land' into 'state private land'. Only then it can be legally awarded (cf. Baird 2013 [39]). The land areas of both Srae Ampil and Pukong villages are located inside the SPA and therefore it will take a long time to complete the final procedures. With the process of CLT land registration delayed, opportunities remain for further land encroachment within the communal land area and outside the communal land area (Ngin & Diepart 2016 [40]).

Of note, large land areas outside of the CLTs are under the legal status of 'state public land'. In Srae Ampil village, 750 hectares are registered as forestland while in Pukong village more than 10,000 hectares are designated as forestland under the status of 'state public land' (Table 2). This raises the question of whether land under the category of 'state public land' will be granted to the future use of indigenous peoples or reserved as common land for environmental protection (cf. Baird 2013 [39]).

Table 2. Type of Village Land Use, As of May 2018.

Type of Land Use	Srae Ampil	Pukong
Household Population (hh)	115	89
Land under CLT (ha) of which	523	392
Residential land	46	24
Farmland	214	122
Paddy rice fields	115	65
Reserve land	134	162
Spirit forest	7	8
Burial ground	7	11
Forestland not under CLT (ha)	750	17,328
Total arable village land size (ha)	1273	17,720

Source: DPA GIS Map of Srae Ampil (2018) [41]; and WCS GIS Map (2018) [32].

In Pukong village, nearly 1000 hectares of state public land inside the CBPF have been cleared and occupied by individual land encroachers and powerful elites. In Srae Ampil Commune, a villager expressed his concern that the forestland near the Keo Seima mountain would also be encroached when population in the village increases.

[6] In Srae Ampil village, the whole process of communal land titling including the initial establishment of indigenous community has been solely supported by a local NGO, Development and Partnership in Action (DPA). To reach the final stage of land registration (measuring land, issue a community land use mapping, and convening meeting with member of committee) costs approximately USD 4000 (personal communication, 2018). In Pukong, DPA and WCS provide the support.

4.2.2. Communities Shifting Perceptions about CLT

Local people expressed mixed opinions about the potential benefits of CLTs. Some villagers thought that CLTs provided some benefits to their community, while others disagreed. One committee member from Srae Ampil asserted that CLTs both ensured communal land ownership and supported indigenous peoples' ways of life. He maintained that with collective titles, poor households would likewise retain the ability to collect non-timber forest products and would not have to rely solely on permanent farms that required financial investments in crop cultivation. He argued:

> *"The communal land title is important to us because it allows us to protect our community forest, and maintain our culture, tradition and beliefs. I do not want to lose it . . . It is also helps poorer families. Without the community, we cannot protect our community forest, and the poorer families cannot earn from forest resources . . . We protect the forest not only for our own benefit, but for the benefit of the poorer families in the village."* [Soktha, male committee member, 2018, Srae Ampil]

A management committee member of the indigenous community in Pukong village maintained that once the community received the CLT, it would be able to stop land encroachments because the boundaries of the community land would be officially recognized by the government's institutions. He stated:

> *"I still think that we must unite as one community . . . If we stay together as one community, our voices and actions will be stronger to stop the forest encroachment. I am still optimistic that sooner or later we can stop the forest encroachment."* [Bunna, male committee member, 2018, Pukong]

At the same time many villagers have become increasingly frustrated with the prolonged process of CLT land registration. They are unsure whether they will eventually be able to receive the full benefits from the CLT. Given the continued expansion of land encroachment, an acting community leader in Pukong lamented:

> *"Villagers) are upset about losing forest lands due to forest encroachment. They have been waiting for the CLT certificate for a very long time. Some of them do not understand the meaning of state public land and state private land. The villagers thought that all the land area in Pukong village belongs to Pukong villagers . . . In reality, the land belongs to the state and is under the management of the state, not under the community."* [Sao, male, acting community leader, 2018, Pukong village]

Notably, the enthusiasm about continuing the CLT registration process has been significantly dampened since companies and in-migrants have encroached upon and occupied common land. Without opportunities to clear new land for swidden cultivation, the villagers work intensively on their permanent farms, now converted from subsistence cultivation to the production of cash crops (see Section 4.3 on livelihood transition). The capacity to expand farmland and crop cultivation entails capital investment and having private land titles instead of the CLT is viewed by some as a better strategy for securing loans.

As a mother of three and wife of a former community leader in Srae Ampil argued:

> *"I would rather have a private land title. I cannot use the communal land title certificate to borrow money from the banks [i.e local microfinance institutions]. But, with a private land title . . . I can borrow money and use the land as collateral. I can borrow and repay as much as 1 or 2 million riels. I could get this amount immediately with a private land title."* [Kyao, female villager, 2018, Srae Ampil]

Over time the perceived benefits of registering for the CLT has changed for several villagers that were interviewed. In 2012, during the initial stages of the CLT registration process, there was strong enthusiasm for CLTs in both villages. People viewed the CLTs as an opportunity to conserve both communal lands and forest lands. For example, a community leader interviewed in 2012 expressed his preference for the communal land titling process in this way:

> *"After the community is formed, no villager is allowed to sell land to outsiders. In the village, there is still a large area of unoccupied land, but it will be kept for distribution to community members in the future. Forest areas will be kept as a land reservation for villagers who are landless or for new families."* [San, male villager, 2012, Srae Ampil]

However, when this same respondent was interviewed again in 2018, he expressed his strong discontent with the protracted community land titling process. He said that he felt powerless to defend communal natural resources in the village. By that time, the deal had been struck with the company and the remaining part of the communal forest had been equally distributed to the villagers. Furthermore, some villagers had already sold their share of the land to Khmer and Cham in-migrants.

At the same time this respondent maintained that if land had not been distributed to individual villagers, outsiders or powerful military officers would have come in and taken over the land. He lamented:

> *"I am disappointed that we do not have the power to take action to protect our own resources. Some land areas have been allocated to the community, but powerful people have hired workers to cut down big trees in our community forest, and we could do nothing to stop them from destroying our resources."* [San, male villager, 2018, Srae Ampil]

Similarly, Pukong villagers perceived in 2012 that having a CLT would be a good way to secure land ownership for the community. At that time they had not experienced corporate incursions but were nevertheless concerned about land encroachments. As one respondent said at the time:

> *"Many villagers have concerns about future land encroachments if the collective land title will not be issued to them in the near future."* [Sao, male villager, 2012, Pukong]

This perception had changed in 2018 when it became clear to Pukong villagers that they were not able to stop corporate land incursions and forest encroachments that had occurred in their community since 2014.

Interviewed again in 2018 this same respondent stated:

> *"Forest encroachment is the issue affecting trust and integrity in our village. It contributes to the breaking down of community solidarity. These days I go from house to house to collect thumbprints [attesting to the request for the CLT]. Some villagers tell me that they do not want to provide their thumbprint as they do not have trust in the communal land title."* [Sao, male villager, 2018, Pukong village]

In sum, the government policy of prioritizing the allocation of ELCs over the registration of CLTs has led to changes in the communities' perceptions about communal land rights and caused internal divisions regarding the further courses of actions to defend natural resources that were once managed collectively.

4.3. Government Support for Cash Crop Production and Livelihood Transitions from 2003 to 2012 to 2018

As outlined in Section 2, the Cambodian government's aggressive promotion of ELCs in Mondulkiri Province took place concurrently with government support for the conversion of smallholder subsistence farming into cash crop production. Both policies served to promote Khmer in-migration. In only six years, from 2012 to 2018, the household population in Srae Preah Commune had increased by 56 percent. This did not include a group of about 170 Khmer households who had taken up residence on communal lands in O'chra village and a group of more than 100 Khmer and Cham households in Pukong village. Both of these groups were not yet officially registered in the village family record books.

Overall, government support for cash crop production in Srae Preah Commune—along with the government's incoherent and controversial land policies—contributed to dramatic livelihood

transitions and land use changes. This in turn resulted in the dispossession from land and forest resources, a reliance on cash crops, land commodification, land concentration, social differentiation, and economic inequality. In this section we present findings and analysis which support this argument. We draw on the 25 percent random sample household surveys that were conducted in 2003, 2012, and 2018 (see McAndrew et al., 2003 [42], Hak et al., 2015 [43], and Hak et al., 2018 [44]).

In Srae Preah Commune the principal livelihood transition to emerge from 2003 to 2012 was the shift away from the reliance on forest products, hunting, and trapping to the cultivation of cash crops such as cassava and cashew nuts for the market (Table 3). This resulted in more households being involved in upland farming and the expansion of upland areas under cultivation. That noted, in 2012 upland farm sizes varied greatly among cultivators underscoring that households benefited unequally from the cash crop market. On average, the better-off households cultivated much larger upland parcels and had substantially higher earnings from cash crop production than did other income groups. By comparison, the very poor households had the smallest upland farms and the lowest earnings from cash crop production. Similarly, the better-off households cultivated larger wetland areas and had higher earnings from paddy production than did the other groups.

Table 3. Shares of different income sources in total average household income Srae Preah Commune for the years 2003, 2012, and 2018 (in percent).

Source of Income	2003	2012	2018
Cultivating crops	24	51	26
Raising pigs and poultry	13	4	11
Collecting forest products and hunting or trapping	49	32	26
Fishing	3	2	2
Handicrafts and trade	5	3	15
Wage work	6	8	20
Total	100	100	100

Source: McAndrew et al., 2003 [42]; Hak et al., 2015 [43]; Hak et al., 2018 [44].

In 2003 food and other products gathered from the forest—including hunting and trapping—accounted for 49 percent of total household income. This underscored the reliance of Srae Preah households on forest resources for their livelihoods. By contrast, in 2018 food and other products gathered from the forest accounted for only 26 percent of total household income. The diminished contribution of forest resources to household incomes was largely the result of a rapid decline in liquid resin tapping as a major source of household earnings. Remarkably, total household income from the collection of liquid resin plummeted from 28.4 percent in 2003 to only 4.0 percent in 2012. Notably, the very poor households with the smallest upland farms earned more proportionally from gathering forest products in 2012 than did most other income groups.

The opening up of lands for cash crop production and paddy rice cultivation spurred economic growth, but at the cost of exacerbating the threat posed to forested areas and household livelihoods reliant on forest resources. Meanwhile the rapid adoption of cassava as a boom crop raised concerns of its own. Reliance on cassava production made indigenous households more vulnerable to the exigencies of the market economy. Critically, though perhaps less well understood, the pursuit of cassava cultivation had consequences for social differentiation. As noted above, income earned from cassava cultivation was related to upland farm size. Better-off farmers cultivated larger upland areas and earned more from cassava production than did other income groups. In the previous five years, better-off households had likewise augmented their holdings, buying up more upland than other income groups.

The accumulation of land in the hands of better-off households threatened to result in the dispossession of smallholders, potentially to the point of landlessness. While cassava production created opportunities for agricultural labor, very poor households in the commune earned proportionally less from wage work than did most other income groups. Moreover, the very poor

households, like the other income groups, earned little or nothing from trading and migrant remittances. This revealed that livelihood opportunities and exit options for the very poor households remained limited. Loss of upland farms and access to forest resources would, no doubt, leave them further displaced and marginalized.

In 2012 the prospects for economic development in Srae Preah Commune looked promising. Poverty levels had dropped from 63 percent in 2003 to 43 percent in 2012 as cash crop production of cassava and cashew nut emerged to offset the declining earnings from forest products.[7] The transformation of swidden agriculture from household subsistence cultivation to the production of cash crops for sale in the market was all but complete. While the 2012 study acknowledged the vulnerability of cash crop cultivators to the volatility of cassava prices, the sharp decline in cassava earnings in 2018 was unforeseen.

From 2012 to 2018 household earnings from cultivating crops dropped from 51 to 26 percent (Table 3). Specifically, cassava earnings dropped from 19.6 percent of total annual household income in 2012 to 9.4 percent in 2018. Again, this sharp decline in earnings from cassava production was completely unexpected. Clearly the rapid household population growth from 2012 to 2018 did not translate into a comparable increase in cassava earnings. The decline in total cassava earnings resulted from a drop in the percentage of sample households cultivating cassava and from a drop in the percentage of overall earnings from cassava production itself. Increasingly, upland farmers in Srae Preah commune were dissuaded from investments in cassava production due, in part, to cassava root damage from excessive rain, to volatile cassava prices, and to higher production costs. As a consequence, the incipient cash crop cassava boom evident in 2012 never fully materialized. Of note, the Gini-coefficient of 0.45 for the sample households in 2018 was much higher than the Gini-coefficient of 0.38 calculated for the sample households in 2012. This indicates that income inequality among Srae Preah households had become more severe.

Overall, the principal livelihood trends taking place in Srae Preah Commune from 2012 to 2018 were a decline in earnings from cassava and wet-rice production, a more widespread and organized involvement in the illegal timber cutting, increased earnings from handicraft and trade, and a greater reliance on wage work. The rapid rise of the household population in the commune from 2012 to 2018 increased pressure on land and forest resources and constrained overall economic growth. Without government enforcement of the provisions of the land titling program, indigenous access to ancestral lands deteriorated noticeably and successful livelihood transitions among indigenous households remained elusive.

5. Discussion

Our findings confirm that ELC investment, which converts forestland into agro-industrial plantations, is a form of 'commons grabbing' (Haller 2016 [46]) that has profound impacts on livelihood resilience, particularly among those groups that depend on communally managed forest resources for their subsistence. The ELCs in both Pukong and Srae Ampil adversely affected indigenous people who used to access forest resources as their main source of livelihoods. As a consequence, the villagers' reliance on forest resources has declined, but their dependence on commercial crops has dramatically increased (Hak et al., 2015 [43]). In furtherance, the leopard-skin policy which was developed after the government granting ELCs to strengthen implementation of ELCs and avoid land grabbing by concessionaires has created space for land control by powerful elites and those affiliated to them.

[7] Figures for 2003 are based on the poverty line of 1036 riels per capita per day for rural areas set by the Ministry of Planning (MoP) and the United Nations World Food Programme (WFP) (2003). Figures for 2011 are based on World Bank estimates of the poverty line of 4422 riels per capita per day for rural areas (World Bank 2013 [45]). Since the poverty line for rural areas in 2003 by the World Bank was unavailable, the authors refer to the poverty line in 2003 set by the Ministry of Planning (MoP) and the World Food Program (WFP).

The Pukong villagers were not able to claim back the dense forest and their spiritual ground as it was subsequently processed for land ownership by military police officials.

The two villages took different responses to the land grabbing by concessionaires and adopted different strategies for livelihoods changes. Apparently, the villagers of Srae Ampil took outright resistance against Sovann Reachsey Company in 2012 which resulted in a favorable solution in terms of land restitution. Through their protest and submission of a petition which attracted temporary media attention, the Srae Ampil villagers reached a final conflict resolution with monetary compensation and employment opportunities from the concessionaires. Yet, they lacked an effective mechanism of monitoring the actual implementation of the company's promise and their localized social movement dissolved after they reached a final agreement. In 2018, they have given up their efforts and changed to a tactic of acceptance and accommodation to land grabbing. They have increased the intensity of cash crop cultivation on their permanent farms which in 2016/17 was hit by the cassava price downturn and resulted in loss of profits for the smallholder farmers.

In contrast, Pukong villagers did not show significant resistance against the concessionaire. Instead, they secretly expanded their farmland into protected areas for cash-crop cultivation. Following Scott's (1986) [47] notion of 'infrapolitics', the Pukong farmers took a form of covert resistance to land grabbing. Since they were not able to attract attention from the authorities in dealing with land encroachment, they took the risk of clearing land in protected areas although they knew that it was illegal. Yet their actions yielded limited or no results, and they were left more vulnerable to land grabbing because they had no power to resist encroachment by military officials and internal migrants.

These findings add to the nascent body of literature that suggests that resistance to land grabbing in rural Cambodia takes mostly the form of community-based, localized struggles, which Baird (2017) [48] calls 'contingent contestations'. Indigenous farmers adopt various strategies in response to the loss of their common land, but mainly in an unstructured, unplanned and sporadic manner (Neef & Touch 2016 [10]). This lack of coordination tends to lead to unanticipated outcomes, even when it involves ostensibly 'successful' land restitution.

On the surface, the tenure reforms that were instigated under the 2001 Land Law seem to have provided new opportunities to indigenous communities to defend their communal natural resources. Yet, in fact, the government's lackluster implementation of the CLT policy—while at the same time aggressively pursuing the allocation of ELC—diminished their common land and spurred land grabbing by local elites and in-migrants. This paradox of the CLT policy reveals the contradiction explained in the theory of evasion (Biddulph 2011 [49]). The CLT policy was originally intended to provide formal resource ownership to indigenous communities so that they can secure their tenure rights and exclude non-indigenous people from encroaching on their ancestral lands. However, the government's forest policy and the leopard-skin policy under Order 01 has converted large portions of their communal land to community-based or state-public land, which has paved the way for encroachment by external forces. As a consequence, land concentration in the indigenous communities has intensified and the resilience of the more marginalized groups in the villages has weakened. In a study of two villages, Travers et al. (2014) [50] assert that leadership capacity within indigenous communities is crucial to protect communal land from encroachment by outsiders and market forces. They found that weak leadership could not ensure land security for indigenous members, leading to land exclusion by market forces (cf. Hall et al., 2011 [51]). However, in Pukong it was the power relations within and outside of the community that created barriers to tackle the land encroachment although market forces could play some role in the context of cash crop cultivation. While we are supportive of the basic principles of communal land ownership, in the case of Cambodia it is increasingly obvious that CLT is not a genuine process to ensure land ownership of indigenous people, but rather another exclusionary power that opens the way for indiscriminate commons grabbing.

Our findings also indicate that the government's agricultural strategies on permanent farms have made indigenous farmers vulnerable to market price volatility. This has caused income inequality, land concentration, and social differentiation within the indigenous communities. Our 2003 and 2015

studies describe how corporate ventures in Srae Preah Commune have led to indigenous villages being dispossessed of land and forest resources and reveal how the exclusionary effects of market integration inhibit indigenous residents from participating in certain types of wage work and from becoming entrepreneurs and traders, thus relegating them to a status of semi-proletarians and compromising their livelihood resilience. These results support De Koninck et al.'s (2012) [52] findings from long-term studies in Southeast Asia that the impoverishment of significant numbers of people involved displacement from land and other productive natural resources in the face of rapid wealth generation. This has been brought about by capital-intensive extractive ventures, combined with displaced people's lack of access to other agrarian and non-agrarian livelihood opportunities. Vandergeest & Rigg (2012) [53] pursue this discussion further and reiterate that where exit options are limited, vulnerability to marginalization and displacement grows as does impoverishment induced by commercialization and resource extraction. We affirm the position of Vandergeest & Rigg (2012) that where exit options are stymied or of poor quality, the governance and allocation of land and natural resources remain critical for resilient local livelihoods. This is particularly the case in upland areas inhabited by indigenous people who have been marginalized in part due to their ethnicity.

The accumulation of land in the hands of better-off households threatens to result in the dispossession of smallholders potentially to the point of landlessness. While cassava production created opportunities for agricultural labor, very poor households in both communes earned proportionally less from wage work than did most other income groups. Moreover, the very poor households, like the other income groups, earned little or nothing from trading and migrant remittances. This indicates that livelihood opportunities and exit options for the very poor households remain extremely limited under these dramatic changes. Loss of upland farming opportunities and access to forest resources would, no doubt, leave them further displaced and marginalized. As a result, the weakened livelihood sources would make them more vulnerable or less resilient to environmental changes or natural hazards. Our case studies confirm that commons grabbing is a form of "resilience grabbing" whereby livelihood adjustments cannot adequately compensate for the dramatic loss of common pool resources that have sustained previous livelihoods options (cf. Haller 2016 [46]; Marfurt et al. 2016 [54]; Dell' Angelo et al. 2017 [55]). Moreover, this form of "resilience grabbing" involves both livelihoods and culture. As noted by McAndrew (2000) in a study of indigenous villages in neighboring Ratanakiri Province, land takeovers *"have not only diminished natural resources necessary for sustaining livelihoods, they have also debilitated cultural and social resources needed to deal with the exigencies of change itself* ([56], p. 50)."

6. Conclusions

This article has argued that the Cambodian government incoherent laws and policies on ELCs and CLTs undermined indigenous people's access to common land. The ELCs in the two villages did not provide significant benefits to local people in terms of employment opportunities and poverty alleviation as expected in the government's proclaimed goals of long-term investment in agriculture. They in fact further diminished communities' forest resources through logging and forest clearance. Indigenous villagers are being restrained from accessing their common land by the government laws and policies such as the Forestry Law of 2002, which prohibits land clearance inside protected areas. Yet, their common land was encroached upon by corporations, powerful elite, and landless in-migrants. Consequently, indigenous farmers used different strategies to demand compensation for the loss of their common land, including outright resistance and ostensible accommodation.

Further, our study provides evidence that the CLT policy facilitated 'resilience grabbing' by weakening indigenous communities' livelihood sources and thus their abilities to cope with present and future environmental disturbances. The policy did not provide indigenous people with an institutionalized instrument to counteract land grabbing by the ELCs, local elite and in-migrants. Likewise, the ELCs did not provide monetary compensation or jobs to the local communities. Instead, the companies employed Khmer in-migrants who exacerbated communal land grabbing. The loss of

common resources upon which indigenous livelihoods used to rely severely weakens their adaptive capacity and ecological resilience.

Moreover, the ELC-influenced policy drive for cash crop production in the study commune resulted in further livelihood transitions and land use changes that culminated in income inequality and social differentiation. This cash crop trend pushed the transitions of indigenous people's livelihoods relying on natural resources (in 2003) to livelihoods relying on cash crops (in 2012) to livelihoods struggling to be resilient in the face of price downturns (in 2018). While the crop boom stimulated economic growth, the practice exacerbated the diminishing state of forest and land resources. This process, driven by the state-sponsored market economy, also resulted in economic inequality. While the better-off households substantially improved their income through amassing more land, poor households earned very little or even suffered losses from their cash crop cultivation. This widening income inequality and social differentiation is likely to further reduce economic and social resilience among the indigenous communities.

With limited exit strategies, poor indigenous farmers will continue to be threatened with commons grabbing and ensuing "resilience grabbing" by market forces of land commodification. In the face of external threats (including intrusions by in-migrants) and increasing pressure on access to land and forest resources, there is definitely a need to strengthen transnational social movements and human rights advocacy and implement land titling strategies that benefit the poorest and most vulnerable groups in rural Cambodia. Otherwise indigenous people's land areas will continue to recede and the success of their livelihood transitions will remain precarious at best.

To conclude, this article reveals that land grabbing adversely affects communal solidarity and local governance effectiveness. It also demonstrates how commons grabbing—including land sales within the indigenous communities—undermines livelihood resilience and limits the capacity of indigenous people to deal effectively with policies and strategies implemented by much more powerful forces. The Khmer-dominated Cambodian government continues to operate with a different understanding of law, legality, and conflict resolution, and multinational and domestic corporations (through the acquisition of ELCs) wield tremendous economic and political power to pursue their interests with impunity and at the expense of customary landholders. While this article has tried to determine the various ways in which commons grabbing affects the resilience capacity of indigenous people, there are still knowledge gaps with regard to the role of gendered social relations in responding to and accommodating commons grabbing. This will be an important area of future research.

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Article

Resilience of Traditional Livelihood Approaches Despite Forest Grabbing: Ogiek to the West of Mau Forest, Uasin Gishu County

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Abstract: This paper is a summary of the findings of research work conducted in two case studies in the Rift Valley, Kenya. This study used the Neo-Institutional theory to interrogate how the rules and regulations (institutions involved) of the agrarian reform process in Kenya are constantly changing and helping to shape the livelihoods of social actors around Mau Forest. The first case study—Ndungulu, is a settlement scheme where the Ogiek ethnic community were resettled between 1995 and 1997 after the land clashes of 1992. The second case study is the Kamuyu cooperative farm, a post-colonial settlement scheme owned by a cooperative society that was founded in 1965 by members from the Kikuyu ethnic group. This study employed qualitative data collection methods intermittently between 2012 and 2017 for a total of two years. A total of 60 interviews were conducted for this research. Thirteen (13) of these were key informant interviews with experts on land. The qualitative interviews were complemented by participant observations and nine focus group discussions. The qualitative data from the interviews and focus group discussions were transcribed, coded and analyzed thematically. Observations documented as field notes were also analyzed to complement the study findings. In this paper, the challenges, bargaining position and power play between social actors and government institutions implicated in the agrarian reform process in Kenya has been brought to the forefront. For instance, due to the structural issues that date back to the colonial period, the Ogiek have found innovative ways to maintain their daily existence (e.g., maintaining traditional methods of apiculture in Mau Forest). However, constraints in accessing forest land has resulted in them taking desperate measures, namely; selling off land to the Kalenjin in what is called "distress land sales". On the contrary, the neighboring Kikuyu have maintained their land ownership status despite recurrent ethnic clashes that have occurred during general election years.

Keywords: forest land governance; Mau Forest; Ogiek; institutions; land grabbing; Community Land Act and customary law

1. Background

Ethnic conflict over land in the Rift Valley, Kenya is largely brought about by the land reform resettlement policies starting from the colonial era [1]. The British colonial government was responsible for reinforcing the adoption of land as private property as opposed to communal land ownership practised by native Africans. Land was cleared to pave way for developments such as the construction of the railway [2], ([3] p. 271). This led to the acquisition of African lands through the Crown Land Ordinance of 1915, the imposition of English tenure through individualisation and the transformation of customary land tenure systems [4–6]. This was notably in the Rift Valley, as well as central province also known as the "white highlands"; areas that were climatically suited for the British settlement and large-scale plantation

(coffee, tea and pyrethrum) farming [5–9]. At the dawn of independence in 1963, ex-settler farms were available on the land market through a "willing buyer", "willing seller" arrangement [10].

This paper presents the changing institutional arrangements of land in pre and post-colonial regimes in Kenya and how this has challenged the resilience of Ogiek as actors within the Ndungulu settlement scheme. The study compares the Ogiek, to other dominant actors such as Kalenjin and neighboring community of the Kikuyu. The latter have been resilient despite ethnic clashes, due to an enabling political environment. Furthermore, according to [11], Kikuyu, men "*muthuri*" were always working towards wealth accumulation, gentrification and respectability. These Kikuyu cultural beliefs may have contributed to the thriving Kamuyu cooperative farm discussed later. Other actors include a community forest association called '*Leinguse peace and conflict management association*', a local peace committee, a non-state actor; Mercy Corps non-governmental organization (NGO), the Assistant Chief's office (state actor who oversees informal land sales), and the African Court for Human and Peoples' Rights (ACHPR), an international court. The interactions between formal and informal actors is against the backdrop of a seemingly enabling domestic legal[1] environment (enactment of 2016 Forest Conservation and Management Act and 2016 Community Land Act, discussed later in this article).

The land claims of Ogiek have been politicized from the colonial era onwards [12]. The institutional change from common property ownership of land and related resources to private and or state ownership is at the core of agrarian reform in Kenya. According to [13], p. 7, "Institutions are seen here as formal and informal 'rules of the game'. Constrains, norms, values and rules in the community, govern the said 'rules of the game'. These motivate the intra community dynamic (notably each of the three communities in this study has its own set of rules and norms) with regard to structure. Interactions within the community are related to the following factors; generation of wealth (economic) and maintaining social harmony (collective action)". Amongst the Ogiek, these interactions are extended to protecting and conserving the Mau Forest (sustainable resource use).

The skewed redistribution of land in the Rift Valley, has consequently created tension between three major categories of social actors; the 'so-called pastoralists[2]', see [14], such as Kalenjin sub groups [15], "forest dwellers" such as the Ogiek of Mau forest [16], and so-called "immigrant guests[3]" [17], such as the Kikuyu ethnic group who traditionally are agriculturalists [18]. The eviction of the Ogiek is documented since colonial time. Firstly, the Carter Commission in 1932 failed to acknowledge minority communities like the Elgon Ogiek, Mau Ogiek and Sengwer [19], thus requiring them to integrate into acknowledged ethnic communal land areas. Secondly, the post-colonial government gazetted the forests and forcefully evicted Ogiek from the forest land [20].

Furthermore, the Constitution and the 2016 Forest Conservation and Management Act[4] vests tenure in the Kenya Forest Service (KFS)[5], albeit in trust for the nation. A combination of factors

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1 For example, in Kenya there has been reform in land laws rather than policies to encourage social transformation ideologies on equality and equity. Taking land ownership for example, the Constitution of 2010, National Land Policy of 2009 and Land Act 2012, Land Registration Act of 2012 all promote land ownership anchored on formal title as the defining feature of property relations. However, this co-exists with and is constantly in tension with broader and dynamic social processes and institutions that shape property relations by constantly balancing between various competing claims and values, rights and obligations. The Community Land Act 2016 takes these factors into account.

2 In this study, I categorize Kalenjin as 'pastoralists' because pre-historically, they were pastoralists [14]. In addition, prominent Kalenjin leaders such as Deputy President William Ruto, addresses his Kalenjin community as "pastoralists" in public functions, to show the importance that the community places on livestock keeping. Notably, over the years, the Kalenjin have gradually interacted with Bantu speaking communities and have adapted arable farming and livestock keeping [15].

3 I also use the term "immigrant guests" because during the 2007 post-election violence, it was used to refer to Kikuyu who have migrated into the Rift Valley, see Jenkins, 2012 [17].

4 In Part IV (No.31), the new Forest Conservation and Management Act simply states that "all public forests in Kenya are vested in the service.". This leaves a loophole in the rights of those communities that consider forestland as ancestral land. Alden Wily (2018, p. 667) [21] argues that "complainant communities understandably consider the privatization of forest reserves as removing their forested community lands yet further from their grasp".

5 The Kenya Forest Service is a semi-autonomous agency set up in 2007 to conserve, develop and sustainably manage forest resources for the country's socio-economic development. It is managed by a board of directors drawn from both the private and public sectors that has the mandate to oversee the development of the entire forest sector. The Kenya Forest Service also regulates the harvesting of firewood by issuing licenses to any persons interested in the wood fuel from the forest.

including but not limited to; the Ogiek's misunderstanding of the role of KFS, scarcity of land in Rift Valley and land grabbing have led to tensions near Mau Forest. All of these factors have contributed to recurring ethnic conflicts, especially among the aforementioned categories of communities and have resulted in thousands of displaced families. Furthermore, given the progressive legal environment in Kenya with regards to enactment of the Community Land Act 2016 and Forest Conservation and Management Act 2016, it still remains only to a certain extent that the Community Land Act can secure community forest land rights. Alden Wily (2018) provides an excellent analysis on how in some instances, the Forest Conservation and Management Act 2016 makes it difficult for communities to retain traditional forests as their land [21].

2. Pre-Colonial Land Arrangement between Ogiek (Ndorobos) and other Communities

The abundance of land was a main feature of pre-colonial land tenure systems in Kenya. The autochthones, otherwise known as indigenous communities, such as Maasai [22], and Ogiek [23]. (Ndorobo) were the original land owners in Rift Valley and central province respectively The 'Ndorobo' had what, Kitching (1980) [24] terms as the "honey barrel" rule. He states that "Ndorobos" regarded all forest areas in which they hung their honey barrels as "theirs" and therefore foreigners in an area inhabited by the "Ndorobo" would be subject to the hunter-gatherer rules of the 'Ndorobo' [24], pp. 282–283. The Ndorobo thought of themselves, and were regarded as Ndorobo, as long as they hunted and gathered. People classified themselves and others in terms of subsistence patterns and allegiance [25], p. 112[6].

This transfer of land rights between natives and outsiders within the framework of customary law has been documented by Chauveau, et al. [26] p.14 as a widespread practice in West African societies. Chauveau, et al. terms this as '*tutorat*'[7] and states that it existed within the context of abundance of land and low population densities. The bilateral relationship between the *tuteur* and stranger is mediated by society. It is socially sanctioned and put into effect by the village authorities. The institution of *tutorat* is found in most non-market transfers such as 'inadequate loans and gifts' to individuals or groups of outsiders received into local communities [26].

In the context of pre-colonial tenure systems in Central and Rift Valley provinces of Kenya one could say that the Ndorobo (Ogiek) were the *tuteurs* of the Kikuyu. In the early 1900s records show that Kikuyu were entering into land transactions with neighboring communities in an amicable[8] way unlike the Nandi who raided their neighbors to conquer land. Similarly, in South Rift Valley, the Maasai [28] ethnic group were the *tuteurs* of the Kalenjin.

In the case of 'Ndorobo' and Kikuyu, women played an important role in the pre-colonial land arrangements. Chauveau et al. (2006, p. 16) [26], illustrates how the *tuteur*[9] (an official representative of a lineage group) could not challenge the bundle of rights granted to his tenant, neither could he impose new obligations without the agreement of village authorities. The only expectation was that the beneficiary, in the case of Kenya (the Kikuyu who had been *tuteured* by Ndorobo) had to respect the host's taboos, live in the village and adopt social and economically acceptable attitude.

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[6] Haugerud [25] has argued that in Central province of Kenya in the nineteenth century was made up of people with a long history of relations through trade, migration, marriage, clientage and adoption. Neither commercialization nor wealth was unknown in Central Kenya during the nineteenth century.

[7] Chauveau, et al. [26] p. 14 defines the term *tutorat* as "the reciprocal social relations that develop when a stranger (or group of strangers) and his family are received into a local community for an indeterminate period, which may span generations. Transfers are effected through the transfer of land rights between a customary land owner '*tuteur'* who is either a native or autochthone. The institution of *Tutorat* was embedded in client patron-relationships and socio-political relationships".

[8] See Leakey (1952, p. 4) [27].

[9] A type of collective tutorat at the village level (i) where the bilateral relations between *tuteurs* and strangers are entirely mediated by the social and political organization of the local society. A type of collective inter-village tutorat (ii) where the customary rules that determine relations with communities settled on the lands of an older village are same as those that define the relationships between a newcomer and his *tuteur* at village level. A type of individualized tutorat (iii) where the bilateral relationship between *tuteur* and stranger is very strong and seems relatively autonomous of the social and political organization of the local society. (Chauveau et al., 2006, p. 16) [26].

Kershaw (1997, p.19) [18] illustrates that these reciprocal social relations were realized between the Kikuyu and Ogiek (also referred to as Ndorobo), through mixed marriages. These pre-colonial land agreements and arrangements are important for this study because they show how customary law is malleable and dynamic. This echoes the work by Joireman, 2011 [29] and Chanock, 1985 [30].

3. Debates on Ogiek's Right to Ancestral Land

3.1. Why Examine Conflict in Relation to Settlement Schemes and Landownership in Rift Valley?

The root cause of conflict in the Rift Valley is attributed to the occurrence of high in-migration under a land tenure regime whose sole adjudicator, allocator and arbitrator of rights is the government of Kenya [9], p. 73. This is what Boone (2014) [9] terms as a 'statist' land regime. Ethnicity forms an interesting theme for discussing insecurity of land tenure in Kenya which has 42 ethnic communities. However, what seems to be ethnic-led conflict may actually be constructed through what Brubaker (2004) [31] has termed as ethnic groupings. Theories on constructivism and ethnicity debates form the bulk of literature about the land question in Rift Valley, Kenya. Many scholars [32–35] have argued that what exists is politically driven ethnic conflict whose negative impact may be greater than that of moral ethnicity.

The most recent statistics made by the then Office of the Prime Minister[10] in 2009 show that through a series of forest excisions and encroachment, some 107,707 hectares representing approximately 25 per cent of the Mau Complex area, has been converted to settlement and farmlands over the last 15 years. Through the excisions of 2001 alone, 61,586.5 hectares of forest in the Mau Forests Complex was to be converted to settlements. This research study aimed at ensuring that the arguments were not lost in the 'Kalenjin" versus Kikuyu ethnic-conflict rhetoric. The study sought to interrogate and situate the precarious land tenure arrangements negotiated by different ethnic groups existing in the same geographical space. The study illuminates the underlying intra and inter community land rights dynamic experienced by Ogiek, Kalenjin and Kikuyu. This is because the sub groups of Kalenjin are from areas that are in close proximity to the Ogiek who have settled in Ndungulu.

3.2. Salient Debates

To date, scholarly explanations for agrarian processes have dealt with social categories based on economic classes; namely "peasant", "farmer", and "worker". These have left out the Ogiek who are hunter-gatherers, from the agrarian reform process because they do not fit in the aforementioned mode of classification. This has invigorated the debates on indigenous people's rights; thus, advancing the argument that indigenous communities are best placed to care for the natural resources, notably the forests. The competing sides, one strongly rooted in the belief of tragedy of the commons versus the customary practices of forest husbandry (indigenous knowledge systems, (IKSs) that is advocated by conservationists is what has led to renewal of interest in indigenous groups as conservationists. Theories on political ecology have also helped to reinforce these arguments. In addition, indigenous way of life is associated with communal subsistence.

Much of the debates on land rights for indigenous groups such as Ogiek have been reinvigorated and driven by international NGOs such as Survival International and a local NGO; Ogiek Peoples Development Programme, while others through international organizations such as Minority Rights Group in Europe and International Union for the Conservation of Nature (IUCN) *Whakatane* mechanism, see [36]. Regardless of the geographical location, the salient features within these debates revolve around two concepts; indigenous knowledge and natural resource management.

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[10] Report of the Prime Minister's Taskforce on the Conservation of the Mau Forest complex. http://www.kws.go.ke/content/mau-forest-restoration-publications.

The reason why the belief in mutual benefit between indigenous communities and forests has gained ground is because; first, various theorists of political ecology echo the principals behind this belief. By marrying two disciplines namely; Political economy and cultural ecology, renowned anthropologists [37–39] were able to lay the foundation for the theory of political ecology. This theory illuminates the importance of local, minority and indigenous knowledge. Further, it underscores the importance of environmental impact on cultural processes within the political and economic contexts.

In other debates, that link indigenous people with conservation efforts, the tone has been nostalgic. For example, authors like Davis and Wali (1994) argue that the indigenous knowledge systems (IKS) that indigenous people in Latin America have maintained over the years are the link to sustaining "mother earth" in a time when tropical forests are facing destruction [40], as well as climate change [41][11]. In addition, anthropologists are also advancing theories on why communities are better placed to conserve the so-called protected areas such as forests [42].

The second reason why the Ogiek have gained popularity within these debates can be attributed to the fact that the indigenous way of life is associated with communal subsistence. This is seen as the antithesis of land-grabbing[12] schemes whose foundation lies in individualized land tenure approach. However, not everyone agrees with these reason that advance the restitution of ancestral land and 'commons' to indigenous groups. More so, their ownership claims on fertile and productive areas such as Rift Valley and the forests. Using the example of the Maasai in Tanzania, Hodgson (2011, pp. 8–9) illustrates how external factors such as international NGOs and advocacy networks that have a transnational mandate compete against nation state to push ethnic groups to positioning themselves as 'indigenous' [22]. The reasons for this may vary.

Authors such as Médard (2008)[13] and Branch et al. (2010) argue that there is an economic incentive behind the interest in being identified as a minority group [23,43]. According to Branch et al. (2010, p. 187), the first incentive is the financial returns in selling off the land acquired through these indigenous court claims [43]. The second incentive is to get access to resources from international[14] Institutions that provide funds as well as create awareness about the authenticity[15] of their "indigenousness". A counterargument has against these sort of generalizations. Wachira (2008, pp. 85–87) argues that looking at the situation of indigenous communities from a capitalist standpoint fails to take account of the fact that, while a community may have adopted a modern way of life, that in itself does not make that community unable to maintain its cultural and traditional practices [44].

4. Materials and Methods

4.1. Theoretical Framework

This study is anchored on the neo institutional theoretical framework. According to Ensminger (1998, pp. 1–2), Neo-Institutionalism is the study of how institutions affect the behavior of individuals and how individual behavior affects the evolution of institutions: pivotal to these relations is the role of incentives [45]. The approach enabled the study to focus on the role of the state and external economic, political, demographic and technical changes and how these influence prices for goods and the terms of trade (changes in relative prices) in relation to the land related institutions in the study

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[11] Speranza et al. (2009) correlates the usefulness of African indigenous knowledge systems and modern science for enhancing food security and climate change adaptation in Kenya [41].

[12] Land grabbing is seen as part of the wider, large-scale land acquisition schemes to be embraced by African governments.

[13] Médard (2008, pp.81–98) argues that the Ogiek of Mount Elgon or from Mau forest areas claim to be the autochthons of Rift Valley and are reclaiming forest land because of the potential benefits of owning highly fertile land in Rift Valley and not necessarily to revert back to their hunter-gatherer customary land administration system [23].

[14] http://www.survivalinternational.org/news/10119.

[15] The detailed information on the "indigenousness" of the Ogiek can be found on various websites such as the http://www.ogiekpeoples.org/.

area. The relative prices then have an influence on the local level and lead to changes in informal, local institutions, organization, ideology and bargaining power of the different actors [46].

4.2. Local and Topographic Characteristics of Uasin Gishu

The area being researched is located in Kesses constituency, Uasin Gishu County in the Rift Valley province of Kenya as highlighted in Figure 1 below. Kesses is one of the six constituencies[16] in Uasin Gishu County and has a population of 135,979 (Census 2009) and covers an area of approximately 299 square kilometers. The entire 3784 sq. km. of Uasin Gishu is arable land. It is estimated that about 2354 sq. km. of the land area is considered to be high potential whereas about 1430 sq. km. is medium potential. There is neither marginal nor irrigated land in the district. Forest reserves occupy around 6100 hectares. The forests are Timboroa, Cengalo, Nabkoi, Lorenge, Kipkurere and Kapsaret (NEMA, 2013, p. 14) [47][17].

The two farming communities of Ndungulu (Ogiek and Kalenjin ethnic groups) and Kamuyu (Kikuyu ethnic group) are the case studies, see Yin, 2003 [48], for this research and are located in Lainguse sub-location of Ol'Leinguse[18] [49] location, Kesses constituency. Kesses is bordered to the north by Soy and Moiben whose residents are mainly from the Kalenjin sub ethnic groups of Keiyo and Nandi. In the south it is bordered by Tinderet, where the dominant ethnic group is the Kipsigis, while to the west, it is bordered by Nandi in which the dominant ethnic group is the Nandi. To the East it is bordered by Ainabkoi where there is a mix of Kalenjin subethnic groups and some Kikuyu settlement schemes.

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[16] There are other constituencies namely Ainabkoi, Kapseret, Moiben, Turbo and Soy. There are three local authorities namely Wareng County Council, covering the widest area with 21 wards, Eldoret Municipal council with 15 wards and Burnt Forest Town Council with 6 wards.

[17] Statistics from the NEMA report were published before the establishment of county system of local governance. Uasin Gishu district is now called Uasin Gishu County.

[18] According to the Kenya National Population Censu, 2009 [49], p. 145, the area of Ol'leinguse is 132 square kilometers, with a population density of 122. A total of 7983 are male, while 8122 are female. There are 3177 households in the Ol'leinguse location.

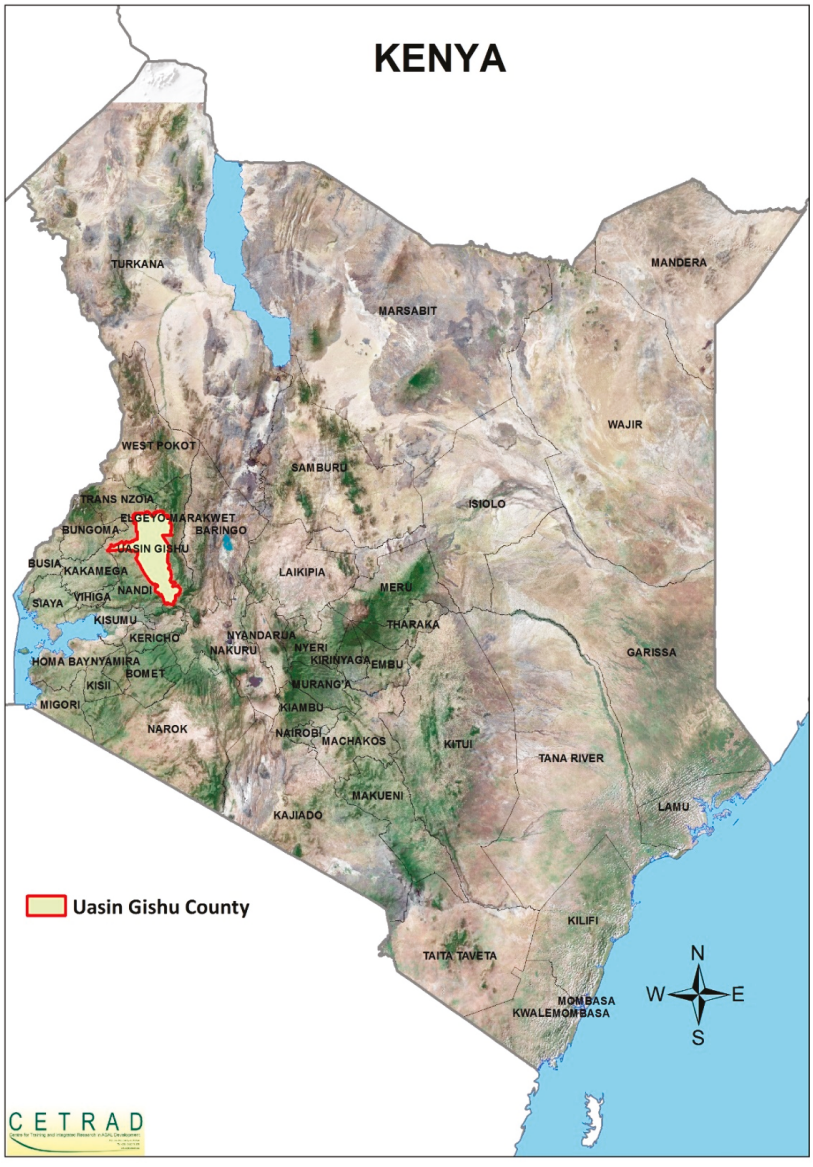

Figure 1. Study area is specifically Burnt Forest, situated in Uasin Gishu County.

Figure 2 below shows Burnt forest commercial center situated along the Eldoret-Nairobi highway. The settlements schemes are situated near the forest areas in the center of the map. They were excised off the Tinderet and Ainabkoi forests (all part of the larger Mau Forest ecosystem). Forest cover has marginally reduced because of land fragmentation as is depicted in the image. The remaining forest areas, especially Kapilat, is used for ceremonial purposes such as male and female circumcision (done less and less over the years) among Ogiek and Kalenjin. In addition, traditional harvesting of honey as well as indigenous medicine is carried out by the Ogiek community.

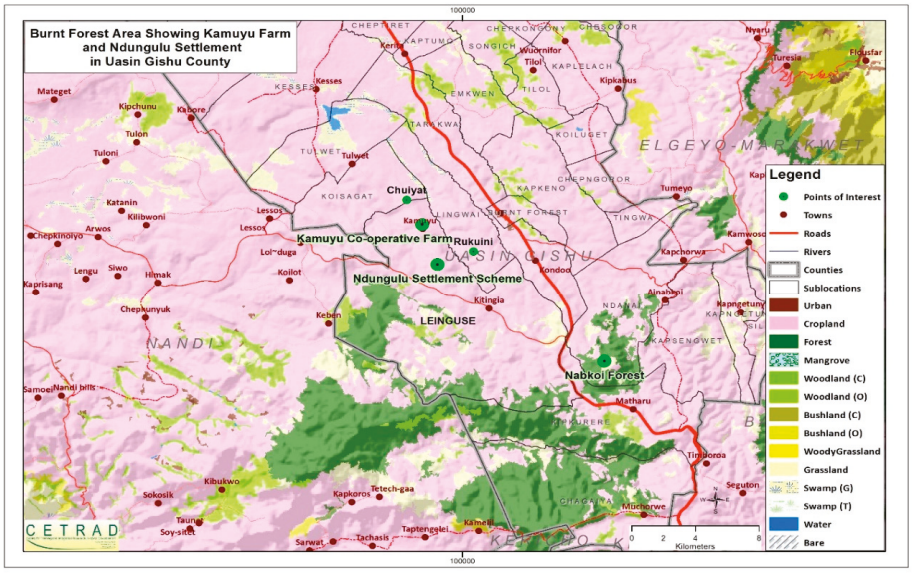

Figure 2. Map of the Burnt Forest Area showing Kamuyu farm and Ndungulu settlement.

4.3. Description of Study Area: Ndungulu

Since 1992, Kenya government began resettling Ogiek in Rift Valley, however there exists tensions between Ogiek and so called "cousins" (Kalenjin sub ethnic groups) who are settled in these areas. As highlighted in Figure 2, Ndungulu settlement scheme is officially registered in government records as Cheboror Farm Number 24,644 [47], p. 35[19]. The word "*Ndungulu*" stands for 'salty water springs' in Maasai language. According to field interviews in 2017, Ogiek elders aged between 70 and 85 years of age, stated that the area was a watering point for Maasai cattle. Notably, both case studies of Ndungulu and Kamuyu are in *Ol'leinguse*[20] location, the smallest government-controlled administrative unit of *Uasin Gishu*[21] County. The "Ndorobo" or Ogiek were resettled on these 740 hectares[22] farm as compensation for being evicted from the neighboring forests. These include; *Bureti* (Nabkoi Forest) *Cheboror* (Cenghalo Forest), Kipsangany, Sereng'onik Forest, Kipkurerek, and *Ngatipkong*[23] (Kosabei forest). There are five villages on Ndungulu namely; *Tachasis*, *Koibeiyo*, *Lengut*, *Tulwet* and *Kaptaragon*. Asis means God in Ogiek language. The village that is named *Tachasis* is situated on the highest altitude point on the settlement farm and receives the first ray of sunlight in the morning. For the Ogiek, God is associated with the sun. The other villages represent municipalities that are found bordering forest land where Ogiek had been evicted from before being resettled at Ndungulu. See details on Table S1 in Supplementary Materials for this article.

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[19] This report was published before the establishment of county system of local governance [47]. The former Uasin Gishu district and its environs is now referred to as Uasin Gishu County.

[20] Ol'leinguse is a Maasai name.

[21] Uasin Gishu is a Maasai name. The area was inhabited by Maasai before the colonial period.

[22] The 2009 Report of the Prime Minister's Taskforce on the Conservation of the Mau Forest complex gives a figure of 788.3 hectares as the land given to Ogiek, while NEMA report gives it as 740 hectares.

[23] According to the Complainants' Submissions on the Merits, Court Document submitted to the African Court on Human Rights and Peoples Rights. It states that the Ogiek from *Kipkurere* were evicted in 1986 and forced to live in a small village *Ngatipkong*. This was part of the evidence used by the Ogiek "complainants" in court proceedings for the African Commission on Human Rights and Peoples Rights *Vs* Republic of Kenya. Communication No. 006/2012. Which helped them win the case on 26 May 2017. http://minorityrights.org/wp-content/uploads/2015/03/Final-MRG-merits-submissions-pdf.pdf

4.4. Description of Study Area-Kamuyu

Kamuyu co-operative farm, as highlighted in Figure 2, is officially registered as (Lainguse/Kiptenga Block 1 and 2) at the Ministry of Lands and settlements. There are three villages namely; Forest, Mbarakira and Njabini. Those who live in "*Forest*" neighbor the Matharu forest. Those who live in *Mbarakira* village say that there was a dense woodland of mbarakira trees that were cleared to make way for settlements. Mbarakira is the Kikuyu name for *trychocladus ellipticus*, an indigenous tree that grows in the Aberdare range forest and mainly along waterways [50]. Those that live in *Njabini* are mainly immigrants from Njabini municipality in Nyandarua County, which is a former homeland for Kikuyu.

> As an elder shareholder described ... "*At the dawn of independence in 1965, a group of 233 Kikuyus and 7 Kalenjin from the Nandi sub group bought the Kamuyu land that was about 6000 acres. However, after the land clashes of 1992, the 7 Kalenjin were forced to leave and their land bought from them. The 1965 land deal was a tripartite agreement brokered between the lending Bank, the co-operative and DC MacLeod, a white British colonial settler. The Kikuyu buyers nicknamed him "gichaga" because he used to quarrel with everybody. Some called him 'Kiguru' because he walked with a limp. The farm was sold at 1,000 Kenya shillings per share including the farm equipment. At the time, Kamuyu was formed, the Kikuyu were rearing pigs, poultry and cows as common investment. All members were entitled to a maximum of 3 acres for personal use. The rest was used communally and the proceeds re-invested through their co-operative committee to offset the bank loan that was used to purchase the land*." Interview with a 75-year-old male shareholder of the Kamuyu Cooperative society.

The Kamuyu name unites these Kikuyu shareholders. Kamuyu is adopted from a municipality found in Nyeri, a former homeland of the Kikuyu. Some of the founders of Kamuyu farm were former *Mau Mau* freedom fighters from Nyeri who had been jailed in Manyani and Naivasha for long and when they returned to their homelands in Nyeri, their land had been given to sympathisers[24] of the colonial government [6], p. 242. Some ex-Mau Mau, who were well adjusted to forest husbandry had obtained jobs as forest wardens in the government ministry at the dawn of independence [51]. Another bulk of Kikuyu settlers, mainly from an area called *Njabini* in Kinangop constituency of Nyandarua County, had been plantation workers earning a living from planting pyrethrum or coffee in the white highlands occupied by British settlers.

> "*After purchasing the farm from the white owner in 1965, the members of Kamuyu Co-operative farm decided to demarcate the land in 1980's after the bank loan was settled. That marked the end of community activities such as planting maize and pyrethrum. Before demarcation every member had a share of 3 acre each and the rest was for the society, afterwards, every member was entitled to at least 7 acres. The good fertile areas were referred to as the 'special'. Those who obtained the sloppy areas were given 8 acres each, those who obtained the sloppy and rocky areas were given 9 acres each while those who obtained the sloppy, hilly and rocky areas which were had to plough were given 10 acres*". Excerpt from key informant interview, Kamuyu Cooperative society.

4.5. Study Design, Data Collection and Analysis

This study utilized the ethnographic approach that included an array of qualitative methods to allow for in-depth long-term exploration of the study subject. A total of 47 in-depth interviews, 13 key informant interviews, participant observation and 9 focus group discussions were carried out intermittently over a total of 2 years between 2012 and 2017 in the study area. The in-depth interviews

[24] Rich and educated Kikuyu men were recruited as surveyors and clerks, giving them some leverage in the land consolidation program. For instance, collaborators tended to favor people who had supported the government while discriminating against Mau Mau fighters and their sympathizers when allocating land. [6], p. 242.

were comprised of Ogiek, Kalenjin and Kikuyu. The key informant interviews targeted experts on land issues while the focus groups were comprised of both men and women from the three communities. In each case study, one FGD was held jointly (men and women). The rest separately convened either men or women.

Purposive and convenience sampling were employed in the selection of the study participants. The communities were selected based on firstly, the conflict that has been prevalent in the area of Uasin Gishu, Rift Valley during elections periods. A second criteria that was used for selection was based on the predominance of agriculture as an economic activity (maize, pyrethrum and wheat farming) in Uasin Gishu. Thirdly, was their willingness to participate in the study and their geographical accessibility. The qualitative data from the interviews and focus group discussions were transcribed, coded and analyzed thematically. Observations documented as field notes were also analyzed to complement the study findings.

4.6. Study Limitation

The findings are not to be used to generalize[25] the situation of ethnic conflict in Rift Valley as homogenous rather, some aspects were singled out being specific to different categories of ethnic groups depending on (i) the pre-colonial land tenure systems and (ii) current landownership patterns. For this research, the transcripts from interviews and focus group discussions are detailed[26].

5. Findings and Discussions

This section highlights findings anchored on the neo-institutionalism theory to highlight the institutions and changes faced by the Ogiek as actors in navigating the formal and informal agrarian reform institutions in gaining ownership to their ancestral forest land in Kenya [29]. According to the authors of [13], p. 9, there are always competing institutions; those developed by the government, and are categorized as (formal) and those embedded within the culture of the local community (informal institutions) [13]". Institutional settings both formal (Chief's office) and informal (norms and values of Kikuyu, Kalenjin and Ogiek) around Mau Forest, play a major role in land ownership and redistribution. For this study, these 'rules of the game' are characterized by the following: (i) Devolution, land reforms and the role of National Land Commission (NLC), (ii) The role of the assistant Chief's office in the adjudication and arbitration of "distress" land sales, (iii) Contestation of traditional versus modern ways of sustaining Ogiek livelihoods (Ogiek, assistant Chief's office and NGOs), (iv) Contestation of access and use of Mau Forest between Ogiek and Kenya Forest Service, and lastly (v) Resolving land issues in an enabling political environment; the Kikuyu approach. The following section will elaborate on the aforementioned "institutional settings".

5.1. Devolution, Land Reforms and the role of the National Land Commission (NLC)

Institutional restructuring for land reform, according to Boone et al. (2016, p. 1), has been realized through the establishment of the National Land Commission[27], which has been devolved at county level to, Environment and Land court, as well as the County Land Management Boards [52]. This is a welcome step in adjudication and arbitration of land matters in conflict areas such as Rift Valley. The challenge remains in the (i) cost of seeking adjudication and (ii) ethnic representation at the

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[25] Yin (2003, pp. 10–11) states that the second limitation with case studies is that they provide little basis for scientific generalization. A question often posed is "How can you generalize from a single case?" However, Yin states that, as with experiments and surveys, case studies are generalizable to theoretical propositions and not to populations or universes [48].

[26] The third limitation of case studies, according to Yin, is that they take too long and result in massive unreadable documents. This is because of ethnographic and participant observation methods involved. However, this all depends on the timeframe of the investigator and the aims and objectives of the study [48], pp. 10–11.

[27] Land Control Boards are now been abolished since the establishment of the National Land Commission (NLC) in 2012. However, the NLC will set up new land boards committees at local level that preside over all land matters, that will include the one-third representation by women as required by the new constitution.

executive board level. For example, the Land Management Board (LMB) for Uasin Gishu County has offices in the urban town of Eldoret. Those who live in the rural farming areas have to incur transport costs and additional court fees when seeking redress in Eldoret.

For this study, the issue of ethnicity and ethnic groupings is important. One may argue that a precedent may have been set in promoting ethnic bias in the selection of county level officials for land administrative structures such as land committees. For example, Uasin Gishu County has several other ethnic groups such as Kikuyu and Ogiek. Yet on 6 November 2014, six members (3 men and 3 women all from Kalenjin ethnic group) were sworn in as the new Land Management Board (LMB) for Uasin Gishu County[28]. However, the LMBs were later revoked by the Land Laws (Amendments) Act, of 2016. A major improvement that has been realized is that there is gender equality on the land boards and this has created an enabling environment for women to bring forward their land adjudication, registration and ownership issues. This is a step forward from the old structure of land boards[29] which were often male dominated and had a woman who doubled as the secretary and tea girl[30].

In addition, the Kenyan government has made progress in creating an enabling legal environment for communities interested in registering land under communal land tenure, through the introduction of the Community Land Act (CLA)[31] in October 2016. According to the CLA, community land will be held under customary, leasehold and freehold tenure systems. Customary[32] law will be used in the adjudication and administration of the community land. However, at national level, there are still some challenges. A Communal Land Registrar has not been appointed. In addition, the *regulations* for the Communal Land Act which were formally announced as being available in 2017, have not yet been made available [21]. One may argue that, at local level, clan-based community land certificates are available and viable under the Community Land Act of 2016 and it is up to the community to decide how to define its community land area. However, findings from the research area show that despite a sound legal framework, sometimes dominant communities can use the land policies in unlawful ways and reverse legal gains. This is evidenced in the informal land sales occurring on Ndungulu settlement scheme highlighted below.

5.2. The Role of the Assistant Chief's Office in Adjudicating and Arbitrating over "Distress" Land Sales

The Ogiek in Ndungulu settlement scheme have found an innovative way to raise money to maintain their daily existence. Despite the fact that they (Ogiek) were resettled by the government on this land, they now circumvent the state machinery such as lawyers, land surveyors and administrative officers, to enter into binding land sale agreements irrespective of the formal law. The chief's office is a formal provincial administrative institution and the Chief is appointed from central government[33].

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[28] http://uasingishu.go.ke/.

[29] In most communities in Kenya, land adjudicators and arbitrators were men. This pattern was mirrored in the structure of land committee and board members. The justification used for a formal institution was simple-women's participation in this process has been almost non-existent in the past. 'Customary law' was used as the reference point [53], p. 39.

[30] When the researcher began data collection in 2012, the Kesses Land Board which had jurisdiction over the Ol'leinguse location where the case studies are situated, was all male. The members stated that is was "gender compliant" because the secretary Ms Rael Lamai, was always present at meetings to take notes and to kindly serve them with tea.

[31] This was an improvement of the Trust land Act, which was more attune to the governance of ranches by pastoralists. The CLA is envisaged as a big win for communities which value the communal land tenure systems. In the CLA, "Community" has been defined to mean a consciously distinct and organized group of users of community land who are citizens of Kenya and share any of the following attributes: common ancestry, similar culture or unique mode of livelihood; socioeconomic or other similar common interest; geographical space; ecological space; or ethnicity. The constitution of a community is therefore not limited to ethnic lines as is the case with the current practice. The reason for this new clause being that ancestral land claims would balkanize the country into ethnic enclaves.

[32] The term "customary land rights" is defined to mean rights conferred by or derived from African customary law, customs or practices provided that such rights are not inconsistent with the Constitution or any written law.

[33] Contrary to the arguments made by [9], pp. 64–68, on "neo-customary" land regimes in Africa, the context is different for Ol' leinguse location. Unlike other countries such as Ghana (Affou et al., 2007) [54], and South Africa (Rangan and Gilmartin 2002) [55], whose ethnic groups have well defined structures of chieftaincies, the ethnic groups in the area of Uasin Gishu did not have chiefs as land administrators. This position was adopted from the colonial period, by the post-colonial government.

However, the assistant chief[34] is a local appointee who is voted into office by the local population. The research study established that the Ogiek are able to make written agreements through the office of the assistant chief, with non-Ogiek for the sale of small portions (known as points) of land. These Non-Ogiek include Tugen, Kipsigis, Nandi and Keiyo from neighboring counties of Baringo, Kericho, Nandi and Elgeyo Marakwet respectively. The same pattern has been documented about the Ogiek settled on Tinet [56] settlement scheme. As described by the Assistant Chief of Ol'leinguse location "*I do not like to see Ogiek selling off land and becoming poorer every day, however they voluntary come to me and request me to adjudicate over these land sales between them and non-Ogiek because it is cheaper for them to ask for my services rather than engaging a land surveyor*" (KII, assistant Chief, Ol'leinguse). The sales are precarious because the Ogiek do not have tittle deeds for their land. These distress land sales often occur whenever they are faced with a financial problem. In addition, one may argue that these sales occur because the settlement scheme is not under communal land tenure, therefore the community does not have an 'umbrella' association that could mitigate poverty and prevent these kinds of sales. Which is why the 2016 Communal Land Act is a welcome step.

Distress land sales take place under pressure of poverty, usually with a likely long-term negative effect on household economy. Many Ogiek households were more engaged in "buying" and "selling" of small portions of land such as a tenth of an acre which is called a "point" and would cost 15,000 Kenya shillings. Delville, (2003, p. 91) [57] who observed the same in West Africa calls this "*institutional innovation*". He argues that it occurs because the land market has not harmonized the statutory law requirements with the needs of people in rural areas. The transaction costs for seeking legal justice when entering a land sale agreement are too high in comparison to the size of the land that is being acquired. These informal land sales are carried out notwithstanding that the Ogiek do not have tittle-deeds to the land [56].

The Ogiek who were settled between 1995 and 1997 are eligible to apply for a tittle deed for the whole 740-acre farm but not individually. Therefore, to be able to pay, they must collectively raise 1.5 million Kenya shillings. So far, by 2017, a total of 960,000 shillings has been collected. As explained by a Kalenjin couple who have bought land from Ogiek, "*the Ogiek are too poor to jointly raise that fee for title-deed registration. If it was up to us (non-Ogiek) we can raise money through our other agricultural activities in Moiben or Nandi*." Therefore, the study noted that, the Kalenjin have alternative sources of income unlike the Ogiek. For example, some of them had their "ancestral"[35] land elsewhere which could provide them with the capital which they use to purchase the land from Ogiek.

These distress land sales have implications on security of land tenure for other household members such as wives and children. These kinds of land sales are organized locally and often finalized in drinking places, usually by men. Women do not have control over these sales and frequently do not know about them until they see their husbands with money. During focus group discussions, women voiced their concerns about these land sales, but are hesitant to confront their husbands, for fear of beatings at home.

5.3. Contestation of Maintaining Traditional Versus Modern Livelihoods (Ogiek, Chief's Office and NGOs)

Another social economic activity that highlights how dominant ethnic communities may override the interest of minority groups in settlement areas is evidenced through a beekeeping project captured in Figure 3. In 2012, The United States Agency for International Aid (USAID) provided a grant of 1000 US dollars through Mercy[36] Corps, to enable the Ndungulu settlement peace[37] committee to purchase the necessary

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[34] At the time of the interview in 2012, the Assistant Chief, a Kalenjin, had held this position since 1989 and was relied upon as the "institutional memory" for the land sales.

[35] Sub ethnic community of Nandi are from Nandi county, the Kipsigis are from Kericho county, Tugen are from Baringo county and Keiyo from Elgeyo Marakwet counties.

[36] Mercy corps has many projects in Uasin gishu on peace. There are passionfruit for peace in Olare that is in the north, then goats for peace in Kesses, then in Cheptiret there is a rehabilitated market for peace, a poultry project in Chegeiya and a bridge project in Matharu.

[37] Information derived from a key informant interview in 2012, with a Peace Monitor at the Ministry of Internal affairs, District Commissioners office, Uasin Gishu county, Eldoret town.

beehives and harvesting equipment for the project. After the post-election violence of 2007, peace committees were established in ethnic sensitive areas to implement the alternative dispute resolution mechanism at grass root level. The choice for selecting a beekeeping project by the peace committee for residents of Ndungulu was based on the fact that the traditional way of beekeeping is seen as a forest-fire hazard by Kenya Forest Service authorities. When the researcher visited the area in 2017, the project had been abandoned and the Ogiek elders referred to it as "*hiyo mzinga za watu wa agriculture*" in Kiswahili, which can be translated as "those beehives for agriculture extension workers".

A repetition of mismatching the modern versus traditional economic livelihood approaches of Ogiek community may likely occur in future because of two recent historic events. Firstly, the international court ruling of May 2017 Ogiek. Secondly, the loopholes in the Community Land Act (CLA) 2016. The implications of these two issues are discussed below.

On 26 May 2017, a court ruling[38] by the African Court for Human and Peoples' Rights (ACHPR) located in Arusha, Tanzania declared that the Ogiek have a right to gain ownership to their ancestral land. According to Alden Wily (2018, p. 666) [21], the ACHPR found that the Kenya Government had violated the rights of the Ogiek under various Articles of the African charter. Further, that the Mau Ogiek had occupied the land since time immemorial and were entitled to occupy and use their lands. While the court acknowledged that this possession might be restricted for a public purpose, it found no evidence that the Ogiek presence was the main cause of severe environmental degradation and encroachment. The legal challenge here is that the same institution that took away the forest land rights from Ogiek by gazetting all forest land and mandating the Kenya forest service to manage it, is now expected to give back the land. Already, it has been observed through national media (Star)[39] that the government is likely to compensate the Ogiek rather than restitute their ancestral land to them.

Figure 3. Bee-keeping[40] project on Ndungulu settlement scheme.

[40] Picture taken by Jemaiyo Chabeda.

[38] http://en.africancourt.org/images/Cases/Judgment/Application%20006-2012%20-%20African%20Commission%20on%20Human%20and%20Peoples%E2%80%99%20Rights%20v.%20the%20Republic%20of%20Kenya.pdf.

[39] The Star interview: We've restored 850k hectares of degraded forests by involving communities-PS. https://www.the-star.co.ke/news/2017/06/22/interview-weve-restored-850k-hectares-of-degraded-forests-by-involving_c1579273.

As much as the enactment of the 2016 Community Land Act is a welcome step for communities that are interested in communal land tenure, there are some legal loopholes that can affect minorities such as Ogiek. For example, at County level [21], p. 669, points out that, "Draft regulations under the Act fail to specify the responsibility of counties to investigate which communities are affected by a development and to insist upon compensation through procedures involving those communities from the outset". At local level, there is a risk that this pattern of sidelining minorities such as Ogiek, will continue within the context of Community Land Management Committees proposed through the Community Land Act. In the event that for the sake of a "development" project, the county governments propose that Ogiek enter into communal land ownership agreements with other communities such as the neighboring Kalenjin, they may eventually be dominated at the executive level such as in the Community Land Management committees (CLMCs). In addition, lack of autonomy within land management institutions might give rise to further marginalisation if the membership is skewed towards a particular ethnic group.

To maximize on the use of the Mau forest for traditional apicultural practices, there needs to be a horizontal transfer of knowledge (between Ogiek east of Mau forest and Ogiek west of Mau forest) about marketing networks. The Ogiek in East Mau Forest living in Marishoni, have well-defined networks of marketing their honey[41]. However, the Ogiek in Ndungulu sell their honey in small quantities to herbalists and beer makers locally. They do not have enough access to forest land to produce as much honey as their counterparts. There are already global markets in place through organizations such as slow food[42] which the Ogiek can tap into. One may argue that, through such networks, poverty levels can be decreased among the Ogiek and prevent them from carrying out distress land sales.

5.4. Contestation of Access and Use of Mau Forest (between Ogiek and Kenya Forest Service)

The Ogiek owes its international privileged identity as an "indigenous" community, see [58], to its specific materiality of beekeeping. In proving that Ogiek are out to protect the forests rather than exploit the resource, a report (2012)[43] was submitted to the African Court for Human and Peoples Rights. In it, there are various indicators that were used to point how Ogiek took "extra care" in the way they harvest, store and use honey. The main focus was on the way the Ogiek apply their indigenous knowledge, see Semali and Kincheloe, 1999 [59], of the forest to sustain livelihoods in their various government sanctioned settlement schemes, such as Ogiek residing west of Mau Forest i.e., those in my case study of Ndungulu settlement. The Ogiek want to claim up to 30 distinct community land areas over the Mau forest ecosystem. They have been able to identify these areas through an intensive territorial mapping exercise that began through the KIFCON[44] project and recently through the compilation of an atlas of Ogiek peoples' ancestral territories (OPAT)[45].

However, the Ogiek have a tense relationship with the Kenya Forest Service whom they view as limiting their access to their ancestral land i.e., forests, due to the introduction of community forest associations. In many countries in sub-Saharan Africa, participatory forest management or

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41 https://necofakenya.wordpress.com/2012/11/16/socio-economic-development-traditional-knowledge-and-biodiversity-protection-of-the-ogiek-community-mariashoni/.

42 https://www.slowfood.com/new-dawn-ogiek/.

43 According to the Complainants' Submissions on the Merits, Court Document submitted to the African Court on Human Rights and Peoples Rights. This was part of the evidence used by the Ogiek "complainants" in court proceedings for the African Commission on Human Rights and Peoples Rights Vs Republic of Kenya. Communication No.006/2012. Which helped them win the case on 26 May 2017.

44 Kenya Indigenous Forest Conservation Project (KIFCON) 1992. A consideration of strategies for settlement of the Okiek Ndorobo of South west Mau Forest, Ministry of Environment and Tourism, Nairobi.

45 An Ogiek People's Ancestry and Territories (OPAT) Atlas for the Ogiek of Eastern Mau was published in 2011. With help from the discussions among Ogiek community members, the University of Bern together with their partners in an organization called Kenya Environmental Research Mapping and Information Systems in Africa (ERMIS), determined which critical features (e.g., hills, rivers, cultural areas), are considered as Ogiek clan territory.

community based natural resource management is a concept that encouraged by governments as a way for communities that reside next to forest areas to access the forest. According to Koech et al. [60], there are 11 community forest associations registered in Mau Forest. The process of applying for registration requires that the members have to have some level of education and money to pay for the fees which ranges between 2000 and 5000 Kenya shillings per person [60].

Another participatory forest management approach that was introduced by the government after the post-election violence of 2007/2008 is the shamba system. The word *shamba*, means garden in Kiswahili language. This system of farming is originally known as taungya, see [61]. Witcomb and Doward [62] argue that in theory, it is "beneficial" to local people and the government. However, in practice, the shamba system only relegates the farmers to a category of "forest users" who have no real say in forest management. This results in the limited participation of the 'forest user' because the government retains the power over 'forest user rights' [62].

After the 2007 post-election violence, the Kenya Forest Service introduced the idea of "shamba" system as a way to prevent 'idleness' and 'mischief' amongst youth, see Van Stapele, 2010 [63], from some ethnic communities. This was done in selected areas such as around Mount Kenya and Mau Forest in what Mathu and Ng'ethe (2011, p. 16) call the "Plantation Establishment and Livelihood Improvement Scheme" (PELIS) project [64]. The requirement was that these "shamba" farmers had to be part of a community forest association (CFA), in response to the policies by global organizations such as UN REDD.

Overall, this study by [64], established that this set of "forest user rights" as defined by the Kenya Forest service do not give details on the permitted social practices for those gaining access to the resource. In the case of Ogiek, the access to the forest is mainly for apiculture and obtaining indigenous herbal medicine. The shamba system rules are set at the operative level of Kenya Forest Service (KFS) while there are rules set up at the collective choice level (community level). One may argue that, benefits from these interactions at the inter-community level (between KFS and communities) and intra-community level (between the various ethnic group; Ogiek, Kikuyu and Kalenjin forest users), are realized when the rules remain consistent. However, findings from the case study show that these rules are skewed in favour of the state institutions such as KFS, who wield the power of access and ownership of the Mau Forest. In addition, dominant ethnic communities (Kikuyu and Kalenjin make ultimate decisions on the priorities for forest use e.g., charcoal making as highlighted below.

> "*We have some "shamba farmers" on Ndungulu farm who had been allowed to cultivate on half acre each in the Sereng'onik section of Mau forest. This is actually a community forest association (CFA), called Leinguse peace and conflict management group. It has 72 members from Ogiek, Kikuyu and Kalenjin communities who are both female and male. What stood out for me was that out of the 72 members, only 11 are Ogiek. The Ogiek have no money to afford to pay for membership in such associations. The Ogiek are not interested in the charcoal business like the Kalenjin and Kikuyu. The dorobo (Ogiek) are not interested because they like to brew alcohol and are lazy. In fact, the Ogiek who are registered do so because it is the only means through which the Kenya Forest Service allows them to harvest honey using their traditional beehives. The forest is also important for carrying out circumcision ceremonies.*" Interview with Chairperson, Leinguse peace and conflict management group.

Furthermore, on Kamuyu farm and Ndungulu settlement scheme, the proximity to the surrounding forests of Nabkoi, Kapilat and Cenghalo has enabled the Kikuyu and Kalenjin women and men to 'tap' into the business of trading charcoal and firewood. When the research was conducted in 2012, the Kalenjin women stated that they were able to buy a license issued by Kenya Forest Service to cut firewood from the forest at 100 shillings. However, by 2013, the KFS had stopped issuing licenses to the CFAs. The research study established that the Ogiek who do not participate in the charcoal and firewood business are considered as lazy. In contrast, the Ogiek insist that they are completely against

this charcoal and firewood business. They did not see themselves as lazy, on the contrary, they view the other dominant ethnic communities as having no desire to protect the forest.

This 'laziness' narrative is perpetuated by the Kalenjin and Kikuyu communities which may see themselves as "progressive" because both have been represented at top political echelons e.g., presidency and at the local government position of Chief and Assistant Chief. The dominant ethnic groups may have subconsciously developed a negative attitude towards smaller Ogiek because of their lack of interest in adapting to their income generating activities, such as charcoal and prefer to stick to their traditional livelihood approaches. This attitude by the dominant ethnic communities correlates with the social dominance orientation theories. In addition, the level of education attained by the Ogiek in Ndungulu is comparably lower to that attained by Kalenjin and Kikuyu.

5.5. Resolving Land Issues in an Enabling Political Environment: The Kikuyu Approach

Case of Legal Intervention by Hon. Martha Karua, Former Minister of Justice and Constitutional Affairs

In contrast to the situation of Ogiek who have had to seek legal representation at international level for unresolved land issues dating to precolonial time, the Kikuyu who faced land dispossession from British colonial settlers were aided by the President Jomo Kenyatta, the first post-colonial president of Kenya. His tenure in office enabled the Kikuyu to own land in other parts outside their ancestral homeland. His political mantra was "*harambee*" meaning 'pulling together'. For land reform policies, his philosophy was used in reference to pulling together finances for the formation of cooperatives and land buying companies to acquire land in Rift Valley. President Kenyatta resettled many members of the Kikuyu ethnic community in Rift Valley following the post-independence land redistribution plan. As shown in Figure 4, they migrated from Nyandarua and Nyeri to Uasin Gishu.

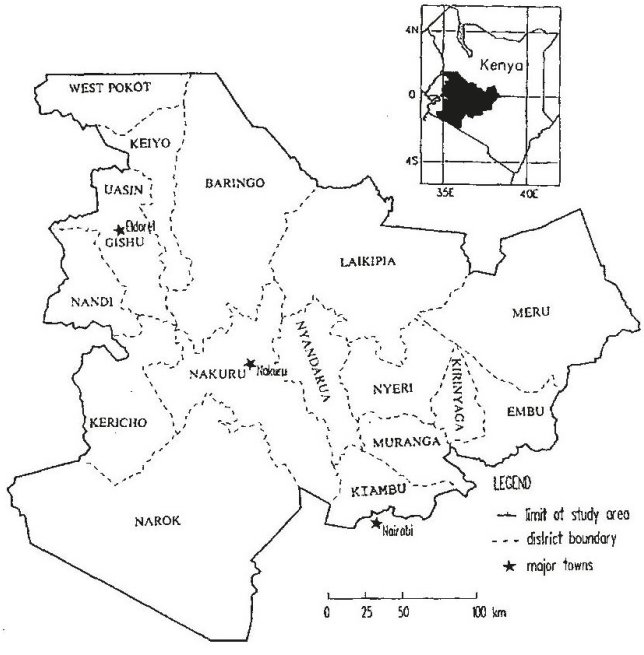

Figure 4. Map showing homelands of the Kikuyu immigrants on Kamuyu farm from Nyandarua and Nyeri (Sourced from [65]).

In post-independence Kenya, large tracts of land officially registered as settlement schemes[46], see [66], and were excised off from Government forests to resettle squatters and *Mau* war veterans [67]. These included the 'million acre schemes' and the "*haraka*" settlement schemes in Rift Valley [7,8]. In addition, Kanyinga (2009, pp.108–198) states that by early 2004, there were about 418 settlement schemes in the country, 154 or 37 percent were in Rift Valley, of these one third were owned by Kikuyu the so-called "immigrant guests" [66]. Furthermore, a "class bias was evident in these programs because those people with the ability to pay 10 percent deposit for the cost of the plots and operating capital got larger plots, these were the elite and salaried" [66].

The interview excerpt illustrates how and why the Kikuyu living in an area with recurrent ethnic conflict have managed to resolve their land ownership issues:

> "*Mostly the Kamuyu cooperative committee resolves the cases we especially land disputes cases. However, big cases are handled by our Kikuyu politicians. For example, during the time we were doing demarcation a government surveyor was employed to do the demarcation, previously it was done by a private surveyor and that was back in 1980. The government surveyor was brought to come and put clear boundaries for issuance of title deeds. The surveyor was not good in his work and he cut out some portions from an owner and allocated them to another person. People started complaining and they started so many cases of that improper land allocation. When I became chairman in 2004, the demarcation issue was the first case I started handling. We were happy because Mwai Kibaki (Kikuyu ethnicity) was president and things were better for Kikuyus. Some of the committee members and I went to Nairobi and met Martha Karua (the then Minister of Justice and constitutional affairs) who assigned us a lawyer to oversee that case. Before the case could pick up came the 2007 post-election violence. When this confusion ended I went back to her office but she was transferred from that ministry to another. She is a good Kikuyu politician, because she still resolved our matter even though she had moved.*"
>
> (KII, Chairman, Kamuyu Cooperative Farm)

There are two elements at play here, the first is the Kamuyu-Kikuyu community's mistrust in immediate local land governance structures, but have confidence in national governance structures which are dominated by politicians from the Kikuyu ethnic community. This can be attributed to their status as "immigrant guests". It should be noted that at the time of this interview in 2012, transport costs from Burnt Forest to Nairobi to meet with Martha Karua were marginally higher than those from Burnt forest to Eldoret to meet with area MP Peris Simam, yet the Kamuyu committee preferred to meet with Ms Karua. In this situation, the committee of Kamuyu cooperative society approach Martha Karua (Kikuyu ethnic group) who was then the member of parliament for Gichugu (a constituency in Central province of Kenya) as well as a cabinet minister, for assistance in resolving a land issue for them in Uasin Gishu rather than approaching their own member of Parliament Ms Peris Simam who is from the Kalenjin ethnic group. This builds on my earlier arguments about devolution of the National Land Commission and the ethnic bias in selecting members of the land boards. This type of selectivity may oblige ethnic groups to seek redress on their land issues through their own networks e.g., Kikuyu politicians because they are trustworthy.

The second element at play here is that Martha Karua takes up this case and even pays a lawyer to handle it. Such patron-client relationships are largely motivated by one's sense of commitment to the ethnic community. Martha Karua hires a lawyer for the Kamuyu committee even if they are not from her constituency. She reinforces their trust in "belonging" to the Kikuyu community even though they have migrated and live far from the so-called Kikuyu homelands in central province.

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[46] According to Kanyinga, 1989, pp. 108–109 [66], "the skewed nature of the policy in favor of the Kikuyu was an issue of concern. Some of the settlements schemes were designed to satisfy the Kikuyu land hunger because they-Kikuyu, had the organization to destabilize the structure of landownership and the economy."

6. Discussions

The colonial and post-colonial governments both supported policies that gazetted forests putting them under management of government. This move affected the livelihoods of indigenous forest dwellers such as the Ogiek were affected [16,44]. Although the government measures (both colonial and post-colonial) to protect the forest, may have emerged out of well-founded global concepts of environmental protection, it swiftly changed from saving the forests to violent eviction of Ogiek [19]. An occurrence that Alden Wily (2018) has referred to as "*green grabbing*" [21].

In the Rift Valley region of Kenya, the value of land around Mau Forest has increased over the years because of the favorable climatic conditions and also proximity to a natural resource. That is why the prevalence of "distress land sales" between Ogiek and non-Ogiek is highlighted in this article. The Mau forest as a common pool resource, has been exploited by those with stronger bargaining power such as politicians, local leaders and dominant ethnic groups in several ways. The first, is to harvest wood and convert it into charcoal, which is a lucrative business conducted between rural and urban areas. Secondly, to exploit the trees for timber used as building materials. In addition, over the years, companies such as Timsales and Raiply which have political interests have harvested trees to supply to the Webuye paper mill [19,20]. Third reason is that, part of the resource has been sold off to politicians who then convert the forest land into large-scale farms that specialize in cash crops such as wheat and maize. In addition, to purchasing land near a rich common pool resource such as Mau Forest, other non-Ogiek are eager to use the new infrastructure that has been put in place (better road network and rural electrification that started in 2012). This changing state of infrastructure is driving the prices of land further up.

This issue of "distress land sales" brings forward the implications of compensating a community with a tenure framework that is individualized rather than "communal land tenure". The fact that some Ogiek have chosen to sell land shows the social reality; that economic needs supersede cultural ties. The Ogiek who sell land may be faced with an economic crisis at household level and choose to sell off land and lose their social ties with their fellow Ogiek. One may argue that, in a homogenous (ethnic) communal land tenure setting the community may be able to offer an alternative to this sort of economic setbacks. Hence, the enactment of the 2016 Communal Land Act is a welcome step in this regard. Secondly, the Ogiek, do not have a fallback ancestral home like their fellow Kalenjin cousins. The Ogiek land (Kipsangany and Kipkurerek) are now Gazetted Government forests therefore there is no extra source of capital to start economic activities. By contrast, the Kalenjin have ancestral land in Nandi, Elgeyo marakwet, Baringo and Kericho counties.

One cannot ignore the fact that the discourse on victimhood of Ogiek is straddled between human rights and freedom of culture. First, the proponents of the human rights advocate for individualization and "self" empowerment. The 're-turn' to customary practices are promoted as communitarian yet in practice, serve to benefit the patriarchs, more so the senior men of the community. This is evidenced by the fact that women learn about "distress land sales" after the transaction has occurred. This issue is examined by Lesorogol (2009) in her study of privatization of Siambu ranch among the Samburu community in Kenya [68]. Secondly, proponents of the freedom of culture, advocate for the protection and promotion of cultural practices that are perceived to maintain communal harmony. In addition, the advocates for the rights for indigenous groups such as Ogiek, advocate for the freedom of culture and ancestral right to forest land, a move that has not been fully embraced by the government and associated land administration institutions.

7. Conclusions and Recommendations

The governance of Mau Forest that borders the case study of Ndungulu in Burnt Forest area, shows how the different communities interact differently with the forest landscape. The Kalenjin and the Kikuyu value the forest for charcoal, timber harvesting, and firewood for household use. The Ogiek on the other hand associate the forest with their cultural values such as bee keeping, harvesting medicinal plants, prayer shrines in remembrance of ancestors and also social memory. A new approach

to forest governance is through the community-based associations. This approach is said to increase rights of local people to community forest management. However, findings from this study reveal the opposite.

The definition of "community" in the new Community Land Act (CLA) of 2016 has been modified to accommodate multiple users of community land who are citizens of Kenya and share any of the following attributes: common ancestry, similar culture or unique mode of livelihood. This may be progressive in the fight against ethnicity, on the contrary, it may water down the strength of customary land rights of minority ethnic groups seeking to engage in joint agreements. Furthermore, in instances where there is ethnic heterogeneity in the management of communal land, this may give rise to hierarchy. This is because dominant groups such as Kalenjin may legally assert themselves in "communal land ownership spaces" with the indigenous groups' i.e., the Ogiek. In addition, the CLA, has introduced the Community Land Management Committees (CLMCs) which may replace the elder's council in adjudication of land matters. One may argue that, if Kalenjin sub groups dominate the management positions of these CLMCs, then decisions are bound to be skewed in favour of Kalenjin and not Ogiek. Overall, the restitution of land to this indigenous group seems an uphill task for the government.

The land policies that were successful in western countries may not be the answer for a 'one-size fits all' land reform project for African countries such as Kenya. This study showed that the attempts by the state to reconcile ethnic animosities between Kalenjin and Kikuyu in Rift Valley tends to distract the land reform process from the real issue; the plight of the Ogiek. This study demonstrates that beyond the household level, marginalized communities such as the Ogiek living on Ndungulu settlement scheme, are in competition with dominant ethnic communities in the politics around land redistribution.

Supplementary Materials: The following are available online at http://www.mdpi.com/2073-445X/7/4/140/s1, Table S1: Ogiek Families Settled in 1996/1997 after the Land Clashes of 1992.

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The Actors, Rules and Regulations Linked to Export Horticulture Production and Access to Land and Water as Common Pool Resources in Laikipia County, Northwest Mount Kenya

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Abstract: Agriculture is the backbone of Kenya's economy, supporting up to 80% of rural livelihoods. Kenya's export horticulture is currently the leading agriculture subsector in Kenya and is regarded as an agro-industrial food system based on the economies of scale, producing for mass markets outside of the production area. Much of the food consumed from Kenya's export horticulture sector has undergone multiple transformations and been subject to a host of formal and informal institutions (rules, regulations, standards, norms and values). Kenya's export horticulture production, driven by rising global demands, has expanded beyond the 'traditional' mountainous high yielding areas into arid and semi-arid (ASALs) zones such as Laikipia County, Northwest of Mount Kenya. An anthropological study of export horticulture viewed as an agro-industrial food system in Laikipia County was carried out utilizing the new institutionalism theory in anthropology to explore the actors, rules and regulations linked to export horticulture production and access to common pool resources. The study employed qualitative data collection methods to collect data over an extended field work period of eight months. The data from 40 in-depth interviews complemented by unstructured observations, four focus group discussions and five key informant interviews was transcribed, coded and analyzed thematically based on the grounded theory approach. This paper, therefore, presents findings from the qualitative case study on the actors as well as the rules and regulations (the institutional settings) of export horticulture production and access to common pool resources from an emic perspective of the involved actors. The formal and informal rules and regulations which form the institutional setting in this food system are viewed as changing and defining the operations of the food system's access and management of common pool resources, namely water and land. With the agro-industrial food system competing with local food systems such as agro-pastoralism and small holder agriculture for these scarce resources in a semi-arid zone, there is potential for conflict and reduced production, as well as overall benefits to the different actors in the study area.

Keywords: qualitative; agro-industrial food system; actors; formal and informal rules and regulations; export horticulture; common pool resources; land; water; Laikipia County

1. Introduction

Kenya's export horticulture is regarded as an agro-industrial food system based on the economies of scale, producing for mass markets outside of the production area [1,2]. Much of the food consumed from this food system has undergone multiple transformations, travelled substantial distances, passed through different hands and been subject to formal and informal rules and regulations [1,3]. Currently, the horticulture industry in Kenya is the fastest growing agricultural subsector and is ranked third in terms of foreign exchange earnings from exports, after tourism and tea [2]. Kenya's value of horticulture has quadrupled in the last three decades and is now the largest exporter of horticultural produce in Sub Saharan Africa, with a 16 percent share in the European market. Kenya's export horticulture sector also subscribes to international food safety and quality standards as the European union is its main destination market [2]. The steady growth, as seen in export horticulture is, however, not felt across other agriculture and foreign income earning subsectors [2,4].

While Kenya's export horticulture began with a small number of Asian-owned family enterprises in the 1960s, several well-financed exporters had joined the sector by the 1980s [5–7]. International investments (foreign direct investments) in Kenya grew rapidly after independence and these included investments into the horticulture sector [7,8]. The multinational exporters viewed direct sales of export horticulture produce to retailers in Europe as a way to exploit their advantages in investment, scale and market linkages [6,8]. As competition has intensified, many small and medium-sized exporters have shifted to growing crops for the large exporters rather than shouldering the risk of exporting [8,9]. However, despite the increase in large-scale, export-oriented farms, exporters still source at least some of their produce from their own farms because; control over one's own production guarantees continuity of supply and reduces the risk of losing suppliers to competitors and also provides them with hands-on problem solving capabilities [5,10,11]. In an industry increasingly characterized by innovation and the need for rapid problem-solving, these are important. Some exporters (and their associated importers) also believe that vertical integration provides greater control and greater scope for reducing costs [8,9,11]. Notably, the power in the supply chain lies in possessing resources and capabilities that are not easily substitutable. Established exporters have some protection from the competence and relationships that they have built up over time, including knowledge of production and post-harvest processes; investments in specialized facilities; and relationships based on trust and reciprocity with overseas customers in the short-term [11]. These capabilities decrease their vulnerability to substitution within the supply chain, either from within Europe or from another external supply source [8].

The growth in horticultural production of fruits and vegetables, for export, in developing countries has also been coupled with dramatic changes in governance patterns of trade in the sector. This is driven by two key factors related to the European market. The first factor is the increasingly multifaceted strict environment for control of food safety, particularly pesticide residues and conditions for post-harvest processing, as well as environmental and labor standards [10,12,13]. Many large food companies, supermarket chains (the main buyers of the horticultural produce) and NGOs (Non–Governmental Organization) have engaged in establishing private food standards—that are often stricter than public requirements—and have implemented food quality and safety standards in certification protocols, including GLOBAL G.A.P.; Ethical Trading Initiative (ETI); Tesco's Nature's Choice and Save Quality Food (SQV) Programme [3,12,14]. Although private standards are legally not mandatory, many of them have become indirectly mandatory due to export pressure by a large share of buyers in international agri-food markets requiring compliance with such private standards [3,8]. The second set of factors is the increasing involvement of retailers (supermarkets) in export horticulture trade of mainly fresh fruits and vegetables (FFV) which is credited to the strategic importance of the products. Fresh fruits and vegetables are one of the few items for which consumers will change their choice of stores and because they are income-elastic products [10,14].

The horticulture sector in Kenya that started with its production dependent heavily on small holder farming is now dominated by large-scale export, farming owned multinational companies

as large-scale investments [1,2,15]. Large-scale land investments, such as export horticulture, often emphasize the rapid increase in yield they can produce and the additional employment they can provide [16–18]. However, these additional opportunities of agricultural production are not felt locally or only on a short-term basis [16–19]. There also are small holder farmers producing as outgrowers for the export companies and others for the domestic markets [19,20]. Export horticulture has become one of the highlights of African development because it has raised production standards in agriculture; provided good opportunities for increasing rural area incomes; improved nutrition of the people; resulted in diversification of exports; provided raw materials for agro-based industries and created employment, especially for the youth and women [9,19,20]. On the other hand, when export horticulture is seen as part of an export food system, the economic implications are viewed differently. Studies on horticulture in Kenya and other African countries, including Senegal, reported both positive and detrimental effects of this sector to development and livelihoods [4,8,19,20].

Horticulture export, when regarded as an agro-industrial food system producing for commercial markets outside of the production area, thus, needs to be interrogated further in relation to sustainable food systems, ecological considerations and resource use. New institutionalism and political ecology analysis views on the issue of food systems use and access of common pool resources, such as land and water, regard the subsequent resource contestation as the outcome of problems related to access, governance and distribution of resources [21–23]. Too much land and common pool resources, such as water, pasture, forests and fisheries, have seen a change from common, to state and private property, and are therefore not accessible for marginal people who also do not have the means to get adequate wage earnings from employment in order to substitute that loss [19,21,22]. There are formal and informal rules and regulations in export horticulture that define the institutional setting for production and the access and use of land and water [1,21,22]. As export horticulture rises in financial importance and becomes more valuable, it impacts on the local institutional setting of working conditions, property rights and access to common pool resources, such as water and pasture, vital for local livelihoods, and need to be interrogated further [11,16,21].

2. Export Horticulture and Institutional Settings in Laikipia County

The export horticulture sector in Kenya has evolved over the years since the pre-colonial period when the shaping of its structure, policies, production and marketing began [7]. The sector's production of vegetables, fruits, and high care products is market driven, with increasing stringent food safety standards resulting from increased consumer awareness and a series of food safety failures in the 1990s [24,25]. Notably, Kenya's export horticulture production, driven by rising global demands, has expanded beyond the 'traditional' mountainous high yielding areas into arid and semi-arid (ASALs) zones [19]. As a result of this expansion to regions with varying climatic and agronomic conditions, most horticulture companies rely on both rain-fed as well as economically modified conditions for crop production and utilize land to maximize production [26,27]. The ASALs, such as the Laikipia County region, are often prone to common pool resources (CPR) contestation among the different food systems, given the poor rainfall and frequent dry spells [19,26,28].

Despite arid climatic conditions in Laikipia County, the horticulture sector is booming with over 30 horticulture companies in 35 farms competing against other food systems, such as small holder farming and pastoralism in the region, for the already scarce resources [26,28,29]. Agro-industrial horticulture displays a specific form of interaction with neighboring communities and with the administration on different levels. In addition, the sector's culture and institutional settings define its operations, as well as utilization of common pool resources for the production of food and influences its linkages with other food systems. Understanding these institutions (rules and regulations), actors, and linkages provides insights into this sector which is also regarded as part of an agro-industrial food system.

Developments in agro-industrial horticulture in Kenya can be related to the issue of changes in relative prices, as in the institutional analysis model of Ensminger [30]. The rise of market prices

for horticulture products triggers investments, and changes actors' access to labor, bargaining power and institutional settings, as land and other common pool resources are much more devoted to this sector [30]. Despite arid climatic conditions in the north west of Mount Kenya, the horticulture sector is still growing and, thus, utilizing more resources over time. The region's different food systems, namely; agro-industrial horticulture, pastoralism and small holder agriculture, compete for land, capital, and water, with access to water being particularly hotly contested [18,28]. There is also a lot of food being produced through this labor intensive agro-industrial horticulture, but there still remains limited holistic literature that can provide a deeper understanding of the actor involvement, power relations, the major institutional setting transformations, linkages to the local food systems and the 'rules of the game' of this sector [31].

Previous studies have focused on the impact of the development of the large-scale, export-oriented horticulture sector on river water resources on the upper Ewaso Ng'iro basin [26,32]. Studies have also looked into the implications of large-scale, export-oriented horticulture on rural livelihoods in the North West of the Mount Kenya region [28,29]. Based on the literature reviewed, this study assumes that power relations of actors with different bargaining powers, perceptions and ideologies, influence the formal and informal rules and regulations (institutional setting) 'rules of the game' of common pool resource use and access in export horticulture production.

3. History of Land and Water Use and Access in the Study Area

In pre-colonial Kenya, land in Laikipia County extending into the Rift valley region was mainly owned by pastoral communities, as community lands where water, land and pasture were utilized communally. When Kenya became a British colony, land in this region, alongside the Nyandarua ranges, was taken up by the white settlers, and regarded as the White Highlands [33]. At this time, the pastoral communities were pushed away into the Mugogodo forest area. The White settlers had casual workers in their farms and establishments who were mainly from the Agikuyu and Ameru communities [33]. As the colonial era came to an end in the late 1950s into early 1960s, the settlers began to leave the colony, back to Britain, and hence disposed of their properties and lands. Following Kenya's independence in 1963, the land previously occupied by the white settlers was designated to be given back to the Africans [33]. Prior to independence, the government initiated programmes to register customary land as private property (Swynnerton Plan) and to reallocate land that had been isolated during colonization [33]. According to Kohler (1987), the government bought land between 1961 and 1978, from European settlers who were keen to sell their land. This land acquired by the government was either divided into individually owned plots that were assessed to provide for full subsistence and a surplus cash production, or handed over as extensive ranches to wealthy and powerful Kenyans. However, in spite of their large coverage, the government settlement schemes did not meet the demand for land by the massive landless population [33].

Consequently, people organized themselves into groups/co-operatives to mobilize resources with which they would then buy land in large tracts from settlers on their own. Notably, for the private initiatives, public funds were crucial as the government provided credit facilities through the Agricultural Finance Cooperation (AFC) to over one thousand groups for purchases of land [33]. It is, however, important to note that not all land acquired post-colonial era was for immediate use; and also, not all the colonial land was re-sold to government or private settlement groups. Some chunks of land were still left in the ownership of large-scale landholders [33,34]. The largest settlement schemes were dominated by beneficiaries of the KANU dominated district governments and in particular the Kikuyu squatters, while the Luo and Maasai were nearly allocated no land. According to Hornsby, (2012): p. 120, "the complex bureaucratic processes of land re-allocations used favored those with money, education and contacts" [35]. This resulted in ethnic and violent tensions around the issue of land which are ongoing to date [36]. Therefore, the government and private initiatives for the redistribution of land can be viewed as not having achieved an equal allocation of land repossessed from the colonial

regime. Moreover, it is not described in the literature, how post-colonial land acquisitions influenced the access and use of land for large-scale horticulture, a focal aspect in this study.

Land settlement in Laikipia had long-term effects [33,34]. The settlements resulted in significant immigration and population growth in the region. Notably, a majority of the immigrants came from ecologically high-potential areas where land had become scarce [34]. In 1994, the majority of small-scale farmers in Laikipia were Kikuyu (89%) from the current Nyeri, Muranga and Kiambu counties. The Ameru (8%) of the current Meru County were reported to occupy almost exclusively the eastern part of Laikipia. Small-scale farmers who were previously farm laborers or squatters in the region were found to be of an insignificant proportion [34]. Given the semi-arid conditions of Laikipia County, the new immigrants had limited expertise in agriculture other than the rain-fed practices horned in their ecologically high-potential zones of origin. As such, the new land owners converted the expanses of land previously dedicated to rain-fed beef ranching and wheat cultivation into irrigated small-scale mixed farming portions to allow for their practice of the traditional agro-pastoralist production [34]. Accordingly, the management of land and related resources, such as water, was transferred from a few, large-scale land users to include a larger sub-set of individual small holders [33,34].

Numerous studies have documented that river water is the main source for irrigation farming practices in the semi-arid area [37–39]. Over time, this has resulted in the over use and depletion of water, an already scarce resource in the region, as well as conflicts over the access by the numerous food systems including the small holder agro-pastoralists and large-scale users such as wildlife conservancies, private ranches and horticulture investments in the region [19,26,28,29]. This paper, therefore, focuses on the actors, rules and regulations in relation to the access of land and water as common pool resources, linked to export horticulture in Laikipia County. It seeks to outline the rules and regulations (institutional settings), and changes linked by the different actors to export horticulture in its access and use of land, as well as the potential for common pool resource contestation. Furthermore, it relates to research on large-scale land acquisitions, or land grabbing debates, anchored on the new institutionalism theory that highlights the institutions as rules of the game, and the food system perspective that regards export horticulture as an agro-industrial food system [21,31].

4. Materials and Methods

4.1. Description of Study Area

The qualitative case study took place in the Laikipia County region. The research site was an export horticulture investment (farm and pack-house) located in the Naibor area of Laikipia North Sub-county (Figures 1 and 2). This research was carried out in the study site located in the Laikipia County region for several reasons: First, the region is an arid and semi-arid (ASAL) zone on the lee-ward side of Mount Kenya. It is characterized by dry spells and erratic rainfall patterns averaging 400 mm per annum [19,28]. Arable land constitutes 1984 km^2, non-arable land constitutes approximately 7456 km^2, and urban areas constitute 243.3 km^2 out of the 9642 km^2 total land mass. Different food systems including pastoralism, mixed farming, and export horticulture, compete for the already scarce common pool resources especially water and arable land [26,32,40]. Secondly, in the last two decades, despite the ASAL characteristics, with the export horticulture sector spreading from the high yielding mountainous regions with favorable climate into the ASALs, the study area has been booming in export horticulture [26]. In Laikipia County, there has been notable growth of horticulture companies from one farm in the 1990s, to 30 horticulture companies that operated at 35 farms and covered an area of 1385 hectares in 2013 [26,32]. The area has, over the years, attracted migrants from all over Kenya to work in the horticulture companies, with the native inhabitants of the region mainly practicing pastoralism and small holder farming in their portions of land owned individually or communally [26,32,33,40].

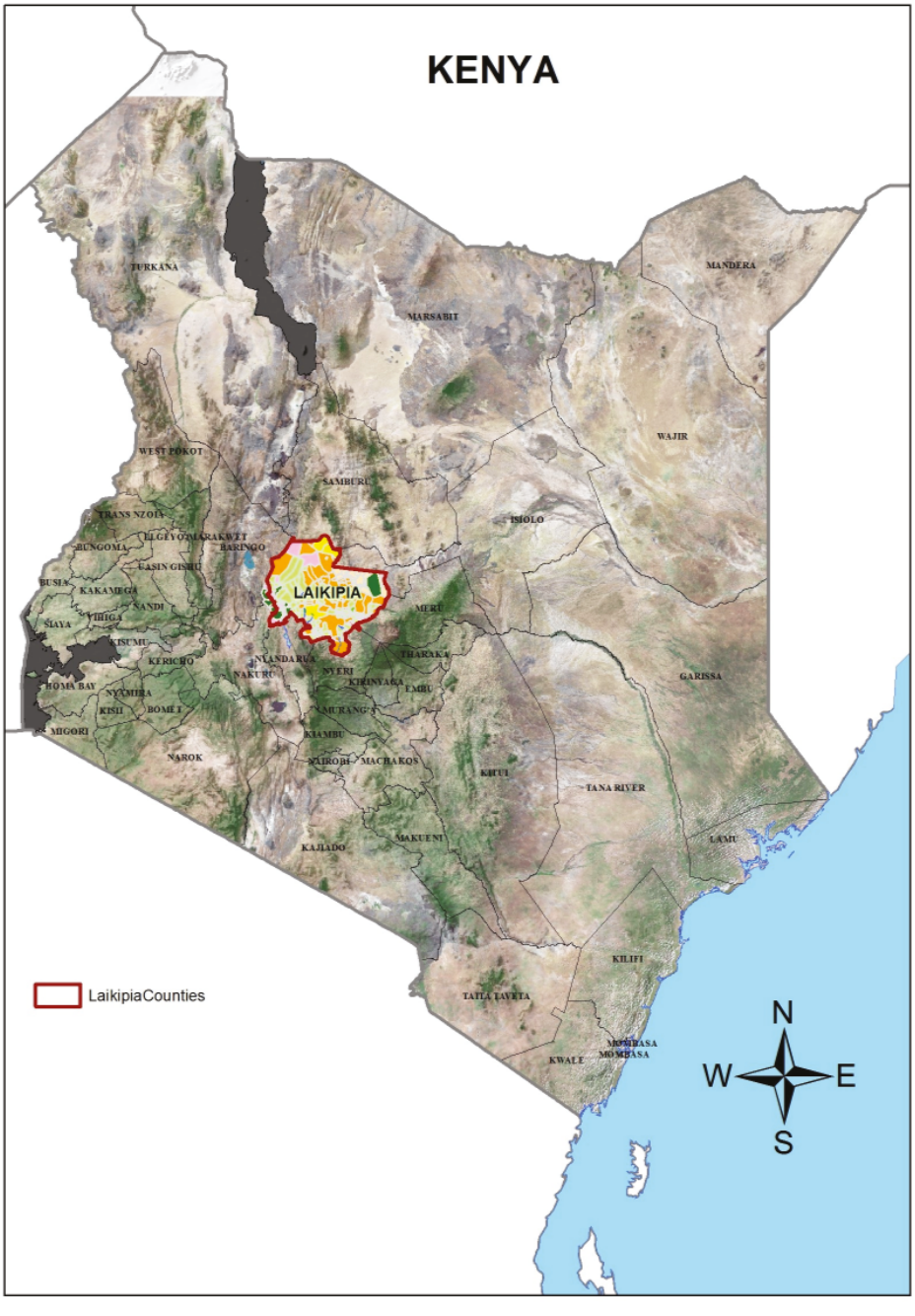

Figure 1. Map of Kenya highlighting Laikipia County, the research area (Source: CETRAD, 2018 [41]).

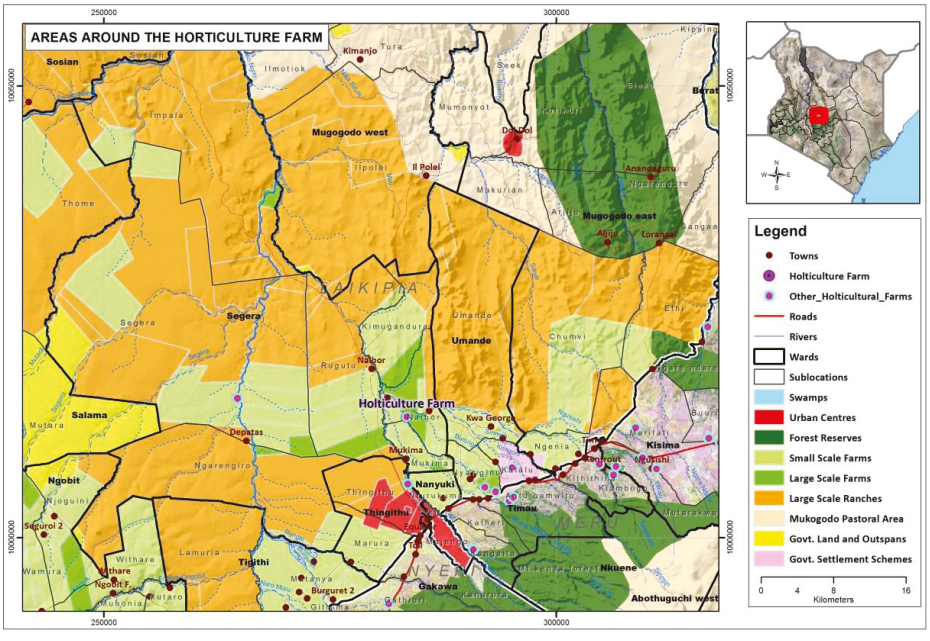

Figure 2. Map of the research area (Source: CETRAD, 2018 [42]).

4.2. Study Design and Selection of Study Participants

This study adopted an inductive case study design based on in-depth, qualitative exploration to establish the institutional setting of export horticulture in the Laikipia County region in relation to common pool resources. The study adopted a qualitative approach to allow for emic perspectives of the food system actors. The study employed the purposive, non-probability technique to sample the export horticulture farm and pack-house [hereafter regarded as investment], and study participants respectively. Once the permission to carry out research was granted, the researcher relocated to the neighboring area where she lived with a host family for the entire period of research. These arrangements enabled interactions with different workers and with members of the communities neighboring the horticulture investment.

Data was collected in two research phases that were carried out simultaneously. The preliminary research stage involved direct and indirect observations complemented by informal, in-depth interviews recorded on a daily basis as field notes. With the preliminary data from the informal interviews, discussions and observations, different actors linked to the horticulture investment were identified. The in-depth research stage, during which the bulk of the data was collected, followed the preliminary stage without a break in between. At the preliminary research stage, the horticulture investment was sampled purposively through existing networks based on its location, products, and willingness of the company to host the research. The participants included: Representatives of management, workers at different cadres in the farm and pack-house, county, and national government representatives. Their participation was subject to their linkage to export horticulture production and willingness to voluntarily participate in the study. Study participants were sampled conveniently and taken through the informed consent process and verbal consent obtained with an emphasis on the

participant's right of voluntarism in deciding whether or not to participate in the study.[1] The unit of analysis in this research was the actors linked to the export horticulture setting.

4.3. Fieldwork and Data Analysis

The qualitative data was collected through 40, in-depth interviews, complemented by unstructured observations, four focus groups discussions and five key informant interviews as summarized in Table 1. This data was collected from August 2016 to March 2017 to enable long-term exploration and interaction with the actors in export horticulture settings in Laikipia County. The study findings were analyzed thematically, based on the grounded theory approach, to inform the study objectives. Data obtained through the qualitative interviews was transcribed and translated into English transcripts for coding and analysis, as most of the interviews were conducted in Swahili. The field notes were also transcribed for analysis. Names of informants and places that were identifiers were replaced with pseudonyms on the transcripts for anonymity and confidentiality of the study participants. Once transcribed, the interview transcripts were reviewed for accuracy. Coding was done manually. The researcher read through the transcripts repeatedly to identify and list inductive codes. The codes were used to develop a codebook which was flexible to include new codes, delete or merge other codes as the analysis went on. After coder agreement and transcript review, themes were identified in line with the study objectives. Research findings have been integrated and presented as thick descriptions complemented with verbatim quotations in this paper. Ethical considerations were applied to data collection and subsequent analysis.[1]

Table 1. Summary of data collection tools and study participants.

Data Collection Tool	Respondent (s)
In-Depth Interviews (n = 40)	Targeted at export horticulture workers, neighbors that lived in the study area and practiced small holder farming for subsistence; outgrowers and pastoralists sampled purposively in the study area.
Focus Group Discussions n = 4 groups comprised of 6 to 8 members each	Workers and members of neighboring communities (small holder farmers and pastoralists) who had knowledge regarding the access and use of common pool resources in the study area.
Key Informant Interviews n = 5	Key informant interviews targeted individuals identified as knowledgeable on the institutional changes regarding common pool resources use and access in the study area, as well as those with deeper understanding of the export horticulture institutional settings. These key informants were namely; two senior managers with over 5 years work experience in the horticulture investment; the Naibor area assistant chief; a village elder from Muramati and a representative of a local outgrower farmer group in Jua Kali area linked to the research site.
Unstructured Observation	Carried out daily and recorded as field notes for the entire duration of the study.

5. Findings

Actors with Common Pool Resource Use, Access and Sharing Linked to Export Horticulture in the Study Area

Actors were identified in this study to include the members of communities neighboring the export horticulture investment, including the local authorities. Investors, outgrower farmers and workers in the horticulture setting were also identified as actors. Members of the communities neighboring the export horticulture setting included the people residing around Jua Kali and Muramati town centers

[1] **Ethical considerations.** The approval and permit for this study was issued by the National Council of Science, Technology and Innovation (NACOSTI), Kenya. Collaboration and approval was further sought from the Export horticulture investment, county government education and agriculture offices. The participants were given full details of the study including any foreseen or anticipated risks and how to tackle them in case they occurred, and any benefits/compensations or lack of beforehand. Informed consent and permission to record interviews was obtained.

about 5 km each from the horticulture farm and pack-house. These community actors were engaged in different livelihood activities including outgrowers/contract farmers for the horticulture farm located within the study area; people who have moved into the locality to work in horticulture farming. Besides working as wage laborers in the horticulture farm, people also obtain casual employment for construction, clearing fields and even farming in these other establishments. There are pastoralists who have come from Naibor and Doldol and bought land and settled around the horticulture farm's surrounding. These pastoralists still have their herds in the group ranches back in Naibor and Doldol. They have herders and members of their larger families to look after them and from time to time visit to tend after them. The small towns of Jua Kali and Muramati neighboring the farm also provide opportunities for small traders to bring merchandise from Nanyuki town and sell to the people living here. In addition, besides looking for work at the horticulture farm, people can find casual work in the development estates.

As observed in this study, in the neighboring areas close to the horticulture farm most of the housing is permanent (stone-built) or semi-permanent (wooden-built) for rentals. There are also individuals who have built their own homes and reside there. The road is tarmacked, there is electricity and, in some cases, tapped water is provided by the Nanyuki Water and Sewerage Company. As you move from the town towards the horticulture farm, a distance of about 3 km, there are people's homesteads, though these are sparsely placed. Most of these homesteads (built mainly of stone and wood with corrugated iron roofing) either have water tanks for water storage (which are used to store rain water) or just have to depend on the river water. These communities comprised people of different ethnicities originating from the study area, with others who migrated into the region in search of work, pasture and livelihood opportunities. There were other investments that offered work for the population, such as development companies constructing property, as well as smaller farms doing horticulture and permaculture in the study area, as in Figure 3.

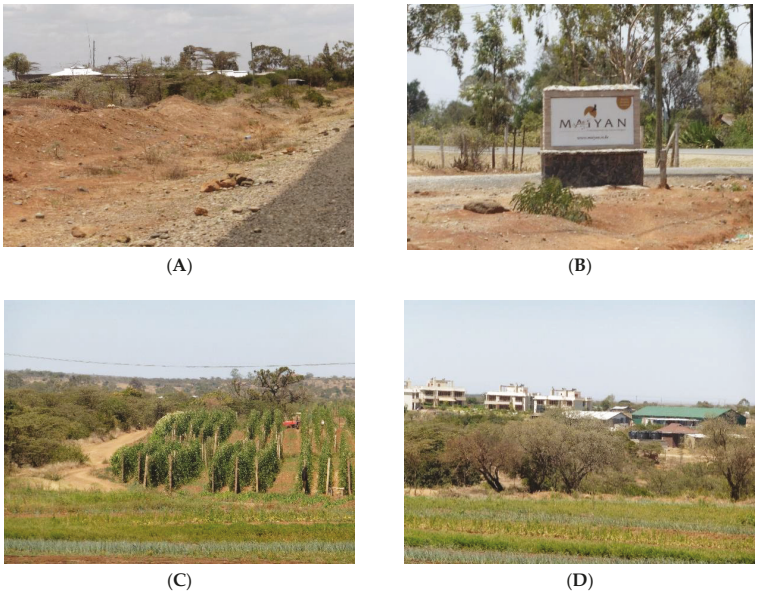

Figure 3. Summary of land use and economic activities in the study area (Source: Author, 2017). (**A**) Picture of permanent corrugated iron roofed houses in the study area; (**B**) Picture of a signpost of one of the real estate developments in the study area; (**C**) Picture of the export horticulture open field production in the study area; (**D**) Picture capturing a packhouse for export horticulture (green building) and real estate homes being developed for sale in the study area (cream buildings).

The investors and owners were identified as value chain actors playing the role of producer and processor in export horticulture in the study area. The owners established the horticulture exporting company and subsequently production units such as the horticulture investment in Laikipia County where the study took place. As reported in this study, investors set up the production unit and facilities for post-harvest management to enable the production, processing and distribution of export horticulture produce. Owners and investors provided the capital to access the land, water, technology, material inputs. They engaged outgrowers and employ workforce for the labor intensive horticulture production. As of 2017, the investors had three big farms and pack-houses including the investment in Laikipia County. In addition to acquiring the land, the investors had capital investments for setting up the infrastructure for the operations and running of the export horticulture investment. Notably, the large-scale export horticulture investors had integrated technology into the processes and activities for production and post-harvest handling to guarantee safety, efficiency, freshness and quality of the high value, yet perishable, products.

Workers in the horticulture investment also identified as value chain actors in this study comprised of both skilled and unskilled labor that was engaged on permanent and short-term wage-based contracts, respectively. The workers played the roles of producers and processors as reported in this study. Many workers, especially women, found short term sources of income through the wage employment opportunities in large-scale horticulture as is further highlighted in the following excerpts:

> *In the morning in Nanyuki town, you will find about 20 buses or more that ferry workers both from the management level and the farm hands moving across to the various farms. The locus of their operation is Nanyuki town*. (KII_09, County Agriculture officer, Male, 47 years)

> *Currently there are about 1073 employees with the farm having about 600 and the rest being in the pack-house. Of the workers, the majority are women because most of the work here is done better by women than men*. (IDI_31, Crop manager, Female, 41 years)

The bulk of employees (over 80%) comprised of unskilled seasonal workers hired on a short-term wage basis. These workers lived in the surrounding areas with most of them being immigrants into the Laikipia County region in search of work. The majority of these workers did not own land in the region as illustrated in the excerpt:

> *For the seasonal staff we give them contracts are varying from between 1 to 3 months renewable based on work availability and performance. Most of these workers do not have land to farm on here and the few who have, say about one percent of our workers only do subsistence or outgrower farming. The pastoralists who are the majority original inhabitants of this region rarely come to work in horticulture farms*. (IDI_06, Administrative officer, Male, 38 years)

There were also a few small holder farmers in the study area as well, who teamed up into farmers groups and provided outgrower/contract farming services to the horticulture investment, as well as other horticulture farms in Laikipia County. The outgrowers often produced for the horticulture investment crops that required less monitoring, like the fine beans and baby corn. The outgrowers provided diversity by contributing to about 20 per cent of the export product for the company. The involvement of the outgrower contract farmers is further detailed in the following excerpts:

> *We have contracted farmers around who supply different products like the fine beans coming in from the Timau group*. (IDI_03, Team leader, Male, 29 years)

> *We work with outgrowers to grow different horticulture produce from what was available at our own farm like fine or french beans (green and yellow) and baby corn and in this way, we increase the variety of produce for the consumers*. (IDI_06, Administrative officer, Male, 38 years)

> *Small growers have also come up because we are getting produce from the outgrowers who are around the farm so that some were working here; they went out and started doing their work*. (KII_01, Manager, Horticulture investment, Laikipia County)

However, over the years the involvement of outgrowers had been greatly affected by the increasing market standards, whose compliance costs are to be met by the individuals. Consequently, outgrowers not meeting the market standards were often dropped off the value chain as explained in the following excerpt:

> *We gave them the new regulations, for those who managed we continued with them and for those who did not manage by the new standards we had to let them go because it was very difficult to have everybody on board.* (IDI_06, Administrative officer, Male, 38 years)

These different actors namely; the investors, the workers, the members of the neighboring communities, including the outgrowers around the study setting, have many narratives to project their ideologies based on their perceptions and bargaining power positions to explain common pool resource (water and land) use and access overtime.

6. Perceptions of Actors on the Access and Use of Land as a Common Pool Resource Linked to Export Horticulture in Laikipia County

In 2004/2005, when the export horticulture investment in Laikipia County was set up, the investors ventured into establishing the farm in that locality as the first of its production units for three key reasons namely; the cheap land rates, availability of large tracts of underutilized land and the proximity to water sources. These aspects are as detailed in the following excerpt, as detailed from an interview with one of the managers of the horticulture investment:

> *Why we started with a farm Nanyuki was mainly because of the availability of the land. We not only found the land here but there were rivers that were flowing that time and this land at that time was cheaper as compared to the other areas.* (KII_02, Manager, Horticulture investment, Laikipia County)

At that time, land in the region was available as large underutilized and unexploited tracts of land that mostly were left fallow. In 2004/2005, one acre cost the exporting company Kshs 50,000 (500 USD) and they bought 700 acres within one locality from one owner under the freehold land tenure, as explained in the following excerpts from key informant interviews:

> *If you wanted an acre or two depending on your ability to buy, they sell it to you an acre for about 50 to 60 thousand Kenya shillings back in 2008, 2007. Like this horticulture farm where I used to work bought land from one man who owns a lot of land in this area.* (Village elder, Laikipia County, KII_03)

> *We acquired an acre for about 50,000 Kenya shillings. Today the price is almost increase by 100 per cent.* (KII_02, Manager, Horticulture investment, Laikipia County)

The land, on which the export horticulture investment was located, was initially owned by one individual who had amassed large tracts of land and invested heavily in real estate in the region as detailed in key informant interview excerpt:

> *[And all that land was bought from Mugambi?] Yes. It all belonged to Mugambi. It was very big. Half of Muramati belongs to him. He bought very many shares from the white man. No, they were a group. [Okay, a group? Then they left the land to the Africans who had shares?] You know, some Africans refused to contribute for the shares. It was not compulsory. If you wanted to get the shares, that was okay. Then when the Europeans were leaving, they would leave the farm to the Africans who had shares in the land. Even if the land was 2000 acres, 1000 acres, they just left the land to them.* (Village elder, Laikipia County, KII_03)

Notably, in the Laikipia County region, land at one point in pre-colonial era was communally owned and belonged to the pastoral communities. As reported in the study and corroborated in literature, in independent Kenya, land was mainly secured by the different actors on freehold titles obtained through purchase of the property from private owners. The new land owners utilized

land and related resources for economic activities, such as small holder agriculture; large-scale export-oriented horticulture as in the case of the farm; real estate development; private ranching and wildlife conservancies. These actors' perceptions on land ownership in the study area are further elaborated in the excerpts:

> *Like for us when we started the church, where I am a pastor in 2004 there were no homesteads in this Kariunga area. Then there were very few people. That was when the farm was beginning. There are now more people living in this area especially after the farm was established. Now this is a big village*. (Community FGD_02, Laikipia County)

> *Other foreigners besides the owners of the horticulture farm also started to buy land here for ranching and other farms and life has gone on. We get construction jobs in those farms*. (Community FGD_02, Laikipia County)

The pastoral communities lived more towards the Northern part of the region where they were settled by the government in community trust lands and land and pasture use and access was communal. There were some pastoralists who had come from Naibor and Doldol and bought land and settled around the horticulture farm's surrounding as illustrated in the excerpts:

> *These pastoralists still had their herds in the group ranches back in Naibor and Doldol. They engaged herders and members of their larger families to look after them and from time to time visit to tend after them*. (Community FGD_01, Laikipia County)

> *You can't build in a land that is not yours. So, they have bought the land and they have their own title deeds. Only that family can build on that land*. (Community FGD_01, Laikipia County)

In desperate times, when there was scarcity of grass for their herds, the pastoral communities would overlook the institutional settings of land and private property, and, especially in the dry seasons, would trespass into the horticulture farm's land to graze their animals as illustrated in the excerpt:

> *We must search for the animals. Sometimes we even go to the farm to search for grass there. The horticulture farm doesn't allow, but as pastoralists, we don't fear them. We just let the animals wander to that farm. When asked we say they had wandered to that farm but in the real sense it was us that drove the animals there for food*. (Community FGD_04, Laikipia County)

While this was not a common practice, the pastoral community had the potential to break the existing institutional settings and affect the agro-industrial food system. Given that the private property land tenure was familiar to the communities linked to the horticulture investment, and that, over time, they had co-existed peacefully, the semi-arid environmental characteristics could work against the actors and create situations of conflict as illustrated in the excerpt:

> *Some time ago there was a court case that lasted for some six to seven years about grazing goats in large-scale farm by one individual, and it was a case taken to court for some time. They even had hired lawyers and it went on for so long. But since then we have not had any more issues. And it almost caused enmity in the community because the head of security that had forwarded the case became the people's enemy. There was even a case of mistaken identity, where a villager was accidentally pierced with a spear after being mistaken for the security man. This was caused by that quarrel. That led to that man moving from this area and settled in a different area. We learnt that it is good for the community to live in harmony with its neighbors . . . .* (Community FGD_02, Laikipia County)

Given the dynamics of seeking a livelihood for the local actors, particularly the pastoralists, and the need for production even in the dry seasons for the horticulture investment, these set of actors instituted unwritten/informal arrangements and rules to complement the formal institutions of land tenure as illustrated in the following excerpts:

> *We have even donated some part our farm which still has its natural vegetation and is not arable at the moment to the community to graze their cattle. And in return they are taking care of this place*. (KII_02, Manager, Horticulture investment, Laikipia County)

> *The only areas we do not allow them to graze in the farm is where we have planted. But outside the farm towards Muramati we have quite a big chunk of unfarmed land and we let the pastoralist graze. The farm is now part of the community. They have taken ownership and even before others come from far wanting to invade our farm they are the first ones to stop them*. (KII_01, Manager, Horticulture investment, Laikipia County)

The investor had also instituted informal arrangements especially for the pastoral communities to access pasture in the uncultivated section of the farm, alongside other community development activities through the company's corporate social responsibility. According to the investors, the good relationship with the neighboring community was important for the export horticulture investment as it secured its territory, produce and investments, as further detailed in the excerpt:

> *To be very honest the community has been very supportive. You can see even when we have these cattle rustlers we just hear it from very far but don't come around*. (KII_01, Manager, Horticulture investment, Laikipia County)

These institutional settings and changes around land in the study area are founded on historic entitlements and laws on land ownership. While individual owners buy and own land in the formal arrangements, pastoral communities have a historic claim on land. They perceive access rights to be passed down, as these were their ancestral lands wrongfully taken from them. With the erratic rainfall in the semi-arid lands, there is periodic drought where pastures are scarce. In those seasons, given the unequal distribution of gains from the land, there is potential for conflict especially between large-scale land investors, such as the export horticulture investment, and communities linked to it by virtue of location.

For instance, pastoralists in search of pasture and water could trespass into privately owned properties, including large-scale horticulture farms, creating potential for resource related conflicts. In the study area, these resource related conflicts were witnessed in 2017, with herders invading private large-scale ranches to access water and pasture for their livestock. The horticulture farm was not directly affected by these conflicts as the herders targeted ranches rearing livestock and conserving wildlife. However, data collection this study was concluded as this pastoralist—private ranches conflict was developing. Detailed studies that explore the contentious issues around water and land as shared resources in Laikipia County are recommended. This discourse on potential conflicts is further advanced in the following section that presents the institutional settings of access and use of water.

7. Resource Contestation Linked to Water Scarcity

The export horticulture investment settled on their first farm in the Laikipia County location because of the proximity to two rivers, namely, River Timau and River Ontilili which pass by the hedges in two sides of the land. This was a guarantee to water availability. Due to the year-round production in order to meet market demands, the horticulture investment practiced irrigation agriculture. Water was an important factor to consider in export horticulture production, given the water-intensity of the crops grown in this sector. When the farm was established, proximity of the land to a reliable source of water was considered a key factor when choosing its location. This, to them, was seen a guarantee to water availability as espoused in the excerpts:

> *The fact that there were two rivers namely; Timau and Ontilili which pass by its hedges of this land was another factor that was important in selecting the location of this farm. These rivers were to them viewed as a guarantee to water availability because these horticulture crops have high water demands*. (KII_01, Manager, horticulture investment, Laikipia County)

> *We get our water from River Timau. In fact, when we started we were getting water from Ontilili river but somewhere around 2005 to 2007 the river started drying up. It is then that we went to Timau River from around 2010.* (IDI_31, Crop manager, female, 41 years)

At the point of acquiring the farm, the investors were strategic in being able to have the river water sources accessible for use through abstraction and harvesting. However, this element has changed, over the years since the farm was acquired, with the rivers drying up and becoming seasonal as in the excerpts:

> *The main source of water is River Timau which is abstracted to dams within the farm. The Ontilili river has now become seasonal and is not as dependable.* (IDI_24, Farm worker, Male, 45 years)

> *This farm generally faces water shortage challenges because Timau which is much closer to the forest where the river waters flow from has many horticulture farms and by the time this water flows downstream to this farm only very little is left.* (IDI_32, Farm worker, Male, 27 years)

The water that is tapped into the rivers in the rainy season, often dries up in the dry season, as had been the case between December 2016 and March 2017. The horticulture farm now invests in alternative water sources, such as rainwater harvesting and underground water from boreholes to manage its water demands as espoused in the excerpt:

> *There are three dams and one manmade lake. A fourth dam is under construction. Water for cleaning buildings as well as for use in the sanitary units is also sourced from the dam. However, water for irrigating crops in the green houses (NPDs) as well as for use in the canteen for cooking as well as drinking is strictly sourced from the boreholes or tanks containing rain harvested water. Water from the dams is not fit for human consumption as it is not purified before use. It is mainly filtered to remove particles of dirt that may cause blockages on the drip pipes. If you actually walk around the hydrant posts you find signages indicating 'do not drink hydrant water'.* (IDI_19, Farm supervisor, Male, 45 years)

The use and regulation of water in the region was managed by the national government through Water Resources Authority (WRA) which worked through community led Water Resource Users Associations (WRUAs) to regulate river water users. WRA had structures in place, including water meters in farms, to record the cubic meters of water utilized for monthly payments. The horticulture investment was in two WRUAs, given its location, namely Ontilili and Timau, as summarized in the excerpts:

> *But there are people from the water authority who monitor that water even as you pump it. Because like now, the water is not enough, pumping river water is regulated because some people may not get water. Sometimes those people can even carry your generator.* (Community FGD_01, Laikipia County)

> *If your farm goes up to the river, 10 ft towards the river belongs to the government. So even if your farm goes all the way to the river, you are not allowed to farm very close to the river. So, what you do is put pipes and pump water from the river using a generator right to your farm.* (Community FGD_01, Laikipia County)

As the horticulture investment accessed water, it shared this resource with other users including small holder farmers, other horticulture establishments and pastoralists, as it was located downstream of the Ewaso Ng'iro River basin. The neighbors of the horticulture farm share common pool resources, especially water and land, for farming and pasture with the establishment as elaborated in the excerpts:

> *But sometimes the river dries up, like now it is dry and we cannot plant anything, our crops are drying in the farms. Even the fine beans we have been harvesting to take to the horticulture farm will now just wither unless by good luck it rains.* (Community FGD_02, Laikipia County)

> *We get water from the river but now the river is dry. We are now buying water from this borehole [in a nearby private farm close to the location of the discussion] or we go to Jua Kali. If you don't have enough money you go to the other river at Jua Kali.* (Community FGD_04, Laikipia County)

The horticulture farm regarded its downstream location, coupled with both the erratic rainfall patterns in this leeward side of Mount Kenya and with the semi-arid climate, as the main challenge in accessing water for irrigation. There was also increased river water use upstream of the two main rivers, now turning seasonal. In spite of the erratic rainfalls, downstream users argued that river water would still be available, and enough, if it was properly regulated and coordinated as elaborated in the excerpt:

> *So many people, local farmers are getting water up stream and other big growers like Finlays and also other flower growers are getting water are also getting water from the same river. There is no proper control that is why it is drying up. Which we have Timau River user associations where we also belong and there is very little they can do to control these local people because they steal at night.* (IDI_06, Administrative officer, Male, 38 years)

Not all river water users were registered and there was, therefore, the possibility of many users beyond the river's capacity. Users upstream, including the horticulture farms, were also blamed for excess abstraction of water, limiting the access by the downstream users, as espoused in the excerpts:

> *Because the horticulture farms tamper with the meter and that is not something that is hidden. They use huge meters that abstract most of the water, then they release water that has been contaminated with chemicals.* (IDI_33, Small holder farmer, Female, 38 years)

> *Even when it is dry, the river has water. Another horticulture farm [H] has closed this water. They are the ones who have closed it. You know they grow flowers, and the demand for flowers is big because of weddings and all that. . . . . H is a very big company. When we complain, we are just locals, those are big people. If they give a bribe of say three million, we can't compete with that? Sometimes even when we complain, we are told it will be opened, when we come back home, there's no water, or they open it for some time then close it again.* (Community FGD_03, Laikipia County)

The water authorities, especially the water resource user associations (WRUAs) that comprised leadership from the local communities around the water catchment areas, were faulted for not fully regulating the use of the river water as detailed in the excerpt:

> *But you see now these local WRA officials are not being honest. So, when someone goes to the head office asking for the additional water points, you get one and you can see from their system there aren't many users authorized to access the water. However, in practical there are so many other users and we don't know whether they are allowed or not.* (KII_02, Manager, horticulture investment, Laikipia County)

Large investments dealt with the water scarcity in the Laikipia County region by investing in alternative water sources, such as boreholes and manmade dams within their settings, to supplement the diminishing river water as in the case of the horticulture farm, as elaborated in the excerpt:

> *When it is raining we harvest a lot of water, we have five dams and we are still digging more of the dams. We want to excavate a lot of dams so that we can have a lot of water as much as possible so that it can take us at least for a year even if we don't get rain. If we can store about two million cubic meters last us throughout the year if it doesn't rain. But we have less than a million right now and that is why at some point we will have to depend on the rains which are not very predictable.* (KII_01, Manager, Horticulture investment, Laikipia County)

Additionally, at the County, the Nanyuki Water and Sewerage Company (NAWASCO) offered tapped water services, payable monthly, to supplement water for domestic use, mainly from the

boreholes and rainwater harvested in the horticulture farms and large-scale ranches in the region. The alternative sources were not yet sufficient to sustain the horticulture investments' water needs. As such, the investment lost many crops that could not be watered and had to depend on other sources to supplement their market supplies for the season between December 2016 and late March 2017 when the rain started as espoused in the excerpts:

> *In some instances, like what we are now experiencing we have to leave already planted crop dry in the farm because we cannot harvest without water. This will cause massive losses for the us as well as our outgrower farmers who are also affected by this dry season*. (IDI_07, Crop manager, male, 32 years)

> *There's plenty of work but there is no water to do the work. You see the river is drying up already*. (Community FGD_02, Laikipia County)

Through informal institutional arrangements, the horticulture investment shared water as a common pool resource as illuminated in the excerpts:

> *We have Kariunga police station and another police base at Muramati we supply them with water on a weekly basis*. (IDI_06, Administrative officer, Male, 38 years)

Workers were able to access clean drinking water while in the horticulture investment. As observed in the study, at times in the dry season, senior management could even carry water for use at home. However, given that the water was barely enough for the production activities, the majority of the workers had to source alternative sources of water outside of the horticulture investment, however, as detailed in the excerpt;

> *A 20 liter can of water was sold at 20 Kenya shillings from local water suppliers including NAWASCO and individuals with tapped ground water. In most desperate instances water then was fetched from the already drying up river bed*. (Community FGD_01, Laikipia County)

The water scarcity also affected outgrower farmers in the region who mostly depended on river water for irrigation and did not have the capacity to set up alternative water sources as alluded in the excerpt:

> *Water scarcity affects us as we solely depend on the river water. We do not have the resources to put up reservoirs and boreholes to sustain us a bit more in dry seasons. So, in the dry seasons our crops just dry in the sun and we lose our incomes*. (KII_04, Outgrower farmer group secretary, Laikipia County)

Additionally, the communities around the river, especially those downstream, faced the threat of using contaminated water redirected from the large-scale horticulture farms as illustrated in the excerpt:

> *There was a time the local communities were drinking dirty water. The water in the river was contaminated by water from the pack-house. There was a problem and I think they had not realized it. And you know one can't tell dirty water when it's flowing in the river because the soil purifies that water. When the horticulture farm realized the mistake, it seems their pipes were faulty, they constructed that dam you are seeing there*. (Community FGD_03, Laikipia County)

The farms used large amounts of chemicals for pest management and often, when not monitored, would dispose of the waste inappropriately. The chemical waste would end up mixing with the flowing river water which other food producers accessed for domestic and subsistence use. Water, likely contaminated with pesticides and fertilizer residue from horticulture farming was, therefore, a threat to human and animal health, and the environment, in the study area as illustrated in the excerpt:

> *In addition to water abstraction, the communities along the river, and downstream take this water contaminated by chemicals from the big horticulture farms...I remember at some point in there was a huge demonstration by the all the people from Isiolo and Laikipia, the pastoral communities that are there because this Ewaso Ng'iro River is their lifeline as there is no other river so*. (IDI_27, Small holder farmer, 35 years)

8. Discussion of Findings

8.1. Actors with Common Pool Resource Use, Access and Sharing Linked to Export Horticulture in the Study Area

As reported in this study, the different actors had different roles in the export horticulture value chain with some actors, such as the investors and workers, having multiple roles. When analyzed, the agro-industrial horticulture sector is regarded as having many stakeholders along the value chain. In addition, especially after the market liberalization of the 1990s, the sector became multi-stakeholder with the private sector playing key roles. These included input provision, credit, extension services, post-harvest handling, value addition, agro-processing and market access [4,5,43]. The study findings corroborated the literature and identified the owners/investors, the workforce, and the neighboring community as the main actors in large scale, export-oriented horticulture use of land and water as a common pool resource. The owners and investors provide the capital to access the land, water, technology, and material inputs, as well as workforce required in the horticulture production. Workers provide labor for production and share water as a common pool resource in the region with the horticulture investment. Export oriented, large-scale horticulture production of vegetables and flowers targeting the European market, started in the study area in the early 1990s [32]. The region has over 1085 hectares of land dedicated to horticulture and employs about 4700–7400 persons [39]. The outgrowers are producers for the horticulture investment and, in their position as small holder farmers, also share land and water as common pool resources. As illustrated by this study and reported in other literature, there are multi-level stakeholders in the horticulture sector forming formal and informal rules and regulations for production, as well as access to water and land [21,43,44].

Actors in export horticulture have varying perceptions and bargaining power positions that drive the formal and informal rules and regulations (institutional settings) and changes in the food system as illustrated by the study findings. The actors' bargaining power positions are founded on their perceptions about the food system and their ability to benefit from it for food security and food sustainability. The actors' positions were differentiated by their resource base in export horticulture, as this defined their bargaining power and, ultimately, their ability to formulate and shape formal and informal institutions in the food system. This consequently impacted on the actors' capability to benefit from the food system through income as profits from sales or wages; skills and welfare for development in relation to food production, security and sustainability. The investors' perceptions of large-scale, export horticulture were based on their power position as the owners of the horticulture investment. They had a higher bargaining power position, given that they had direct linkages to the markets and also capital to invest in the business, compared to their wage workers, outgrowers, and local communities. In their opinion as investors, they viewed the horticulture investment in terms of its usefulness to the local communities and for the generation of income opportunities [9,25,44].

8.2. Resource Contestation Linked to Water Scarcity

Developments in horticultural export in Laikipia County can be related to the issue of changes in relative prices, as in the institutional analysis model [30]. The rise of market prices for horticulture products triggers investments and changes actors' access to labor, bargaining power and institutional settings (rules and regulations) as land and other common pool resources are much more devoted to this sector [21,30]. Further, from existing literature, export horticulture is seen as one of the bright spots of African development as it has raised production standards in agriculture; created supporting industries, and provided considerable employment in rural areas [20,25,44]. However, critics argue that increased globalization in export horticulture does not benefit the poor [18,45,46].

The study findings illustrated that agro-industrial horticulture is dependent on the market demand, and access to water to determine the production. The study site, while able to adhere to the production standards and align to the trade regimes to a large extent, the production capacity is often affected by the water shortages resulting from the erratic weather in the region. Production, in turn, defines the magnitude of labor to be engaged. For the study site, the market has remained stable

over the years as they have established a consumer base for their produce. The challenge, however, is on the water availability throughout the year to meet the production demands. The fresh fruits and vegetables grown in the farm are water intensive and require irrigation. The farm where the research took place is located within the North West Mount Kenya region which experiences erratic rainfall because of the semi-arid climate it is located within. Additionally, given the downstream location of the study site, access to river water is limited since other users abstract a lot of water upstream, with only a little remaining for downstream users, including the horticulture farm. Similar findings are reported elsewhere [19,28,37,39].

As illustrated by the study findings, the drying up of the two rivers that provided water for irrigation farming, and had domestic uses for local actors, as well as the horticulture investment, are prevailing challenges facing the use and access of water by the different food system actors. Additionally, due to the limited alternative water options for most local users, the possible contamination of water, overuse of water for export horticulture activities, and the unresolved river water managements issues fueled by the ideologies of different actors on their ownership and access rights, pose as a platform for conflicts and tension over water as a common pool resource in the Laikipia County dominated by export horticulture despite its semi-arid climate characteristics that limit access to water for the production of food.

Most new institutionalism analyses have looked into institutional settings that structure access to land and associated natural resources—often Common Pool Resources (CPR) (e.g., Elinor Ostrom (1990) provides a detailed account on common property rights in general. Jean Ensminger (1992), Carolyn Lesorogol (2008) and Tobias Haller (2013) elaborately describe institutional settings that structure access to CPR, such as pastures or fisheries) [21,47,48]. However, institutional settings also structure other aspects of food systems, such as property rights (e.g., inheritance of goods or social status), labor arrangements (e.g., wage-labor or labor arrangements based on kinship) or access to infrastructure and knowledge (e.g., secret knowledge or patents) [21,43]. Even though the content of these different institutions varies, their nature remains similar as illustrated by the study findings.

The ASALs, such as the Laikipia County region, are often prone to common pool resource (CPR) contestation among the different food systems, given the poor rainfall and frequent dry spells [28,38]. The region's different food systems compete for land, capital, and water, with access to water being particularly hotly contested [19,26,29]. Despite arid climatic conditions in Laikipia County, the horticulture sector is booming, with over 30 horticulture companies in 35 farms competing against other food systems in the region for the already scarce resources [28,29,32]. Notably, the demand for fresh horticultural products in Europe is at its peak during the winter season which coincides with the dry season in Kenya, as well as in the study area.

Most of the commercial medium- and large-scale horticulture farms are located between 1700 and 2500 m a.s.l. (Above Sea Level) on the upper and lower mountain slopes, as well as in the highlands of Laikipia County. Therefore, they are part of important ecological interactions within the Upper Ewaso Ng'iro North Basin where depleted river water resources in the upper reaches of the system have great consequences on downstream users [26,27].

In addition to the already erratic rainfall patterns in Laikipia County, the rain water does not provide adequate water at the most crucial time for horticulture production, even when harvested and stored [19,28]. At this point, the production is based on irrigation farming which was, initially, largely dependent on river water abstraction. Since the irrigation farming was also practiced by smallholder farmers and pastoralists also used this for their herds, there was significant reduction in discharge rates of local rivers [26,39]. Horticultural investments in the region were held responsible for aggravating irrigation water shortages in the dry season [26,32]. These water shortages affected, and continue to have an impact on, the production levels in the large-scale export horticultural companies, often resulting in massive losses. In a bid to resolve the perennial water scarcity and contain the water-related conflicts, the investments increasingly established water reservoirs, to retain river water in the wet seasons, and ground water pumps (boreholes), as well as supported the formation

and operation of local water user associations [26,32,39]. These measures reduced the impacts on the river water discharge rates during the dry seasons and to some level mitigated the water-related conflicts [39].

There is also an on-going debate on the local to national impact of large-scale land acquisitions (LSLAs) for export-oriented horticulture. While agricultural commercialization is the new phenomenon in Africa, the ongoing, large-scale land acquisitions have led to an explosion of literature about their drivers and effects [16–18]. These international investments, especially by powerful economic actors in the global north on 'empty' land in the global south, can serve as sites for large-scale production, for instance, for large-scale export-oriented horticulture [18,49]. Agro-industrial horticulture companies are regarded as large-scale land investments by multinationals, and there is on-going debate on the local to national impact of these investments in the target regions and countries [1,49]. The debate of the large-scale land acquisitions (LSLAs) is going on amidst the increasing global demands on agricultural land resulting from increased population, the on-going global food crisis, increased dietary needs and the use of bio fuels [17]. The potential benefits of large-scale, export-oriented horticulture as an LSLA, including insurance against food price shocks and increased global food supply, cannot be over emphasized. However, these land deal transactions often take place at the expense of, and without the informed consent from, prior land users, a fact often ignored by the governments and the investors [16–18,49]. The growing demand for food, such as export fruits and vegetables and non-food crops, fuel, and other raw materials, are seen as the main drivers of these large-scale land investments, such as the export horticulture investments [17,18]. As such, the utilization of common pool resources, such as land and water by the agro-industrial food system, and management of common pool resources such as water and land, pose a threat for conflicts with other food systems competing for the same resource as in the study findings. Similar findings are reported elsewhere [21,28,39]. The competition for land and water as common pool resources for food production in export horticulture against local food systems, such as agro-pastoralism and small holder agriculture in the arid and semi-arid region where export horticulture is growing, was illustrated in this study. The resource linked conflict arising from contestation over the scarce water and land in the study area needs further examination to outline sustainable and equitable distribution of the common pool resources.

9. Conclusions and Recommendations

In analyzing the actors, rules and regulations linked to export horticulture production, and the use and access to land and water as common pool resources, the concept of institutions as fit, turning to misfit and then to fit again is experienced, as the formal and informal rules of the game are changed to meet the different actors bargaining power in taking part in the food system [21]. All of these interactions are manifested in the distributional effect and socio-economic behavior of export-oriented horticulture linked actors, and in a cyclic effect, manifest in the environment, population and technological aspects that influence the relative prices in this global value chain.

The inequalities in common pool resources, mainly water and land, in relation to export horticulture production in arid and semi-arid areas, are highlighted in this and other studies. These include the land ownership disparities experienced between the rich and poor, unresolved colonial land legacies and post-colonial disintegration of big-man, big-land notions that have continuously marginalized local populations who have lesser resources and, thus, lesser bargaining power over their right to access and use land for the production of food.

The emerging issues in institutional settings, and changes in export horticulture, are crucial to the viability of the sector as an agro-industrial food system in the food security and sustainability discourses in the local context. Research studies that include larger samples of agro-industrial horticulture companies and actors are needed to better address issues emerging from the food system analysis. Additionally, given that different food systems including export horticulture, small holder agriculture and pastoralism co-exist in arid and semi-arid zones competing for resources, there is potential for conflict as in the study findings.

This study recommends a re-examination of resource use and sharing among the food producers, the Ministry of Agriculture and Irrigation, and the Agricultural Sector Development Program (ASDSP). In their mandate to ensure sustainable resource use and allocation for the different food systems, to ensure food security, there is a need to look into the institutional settings and changes governing common pool resources, namely land and water. Studies that allow in-depth understanding of the experiences and dynamics of the food system are recommended.

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Author Contributions: M.N. a Ph.D. candidate from the University of Nairobi, identified the research site, recruited the informants, collected and analyzed the data. M.N. drafted the original manuscript and has been working closely with the PhD supervisors also co-authors in this paper to review and edit the paper for submission to the journal of Land. S.B. was my first supervisor from the initial conceptualization of the study topic to data collection and editing and reviewing of the manuscript. S.B. is a senior research fellow in Anthropology at the Institute of Anthropology, Gender and African Studies, University of Nairobi. C.O.O. was M.N.'s second supervisor from the proposal writing stage to data collection and editing and reviewing of the manuscript. C.O.O. is a professor of Anthropology at the Institute of Anthropology, Gender and African Studies, University of Nairobi. Moreover, as the director of the Institute of Anthropology, Gender and African studies, he also provided administrative support. B.K. is the Director Centre for Training and Integrated Research in ASAL Development (CETRAD) was instrumental in accessing funding for this study and project administration. He has also been involved in the reviewing of this manuscript and accessing the maps for the study. F.K. is a PhD fellow at the Institute of Anthropology at the University of Bern. He was involved in the data analysis and writing and reviewing of this manuscript. T.H. is a professor of Anthropology at the University of Bern in Switzerland. As my third supervisor he followed up on the conceptualization of the study, data collection editing and reviewing of the manuscript.

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Assessing Food Systems and Their Impact on Common Pool Resources and Resilience

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Abstract: The ongoing expansion of agro-industrial food systems is associated with severe socio-ecological problems. For a closer look at the socio-ecological impacts, we analyze the capacity of six food systems to provide farm-based agroecosystem services with the Agroecosystem Service Capacity (ASC) approach. At the same time, we analyze how food systems affect the management of common pool resources (CPR). Our findings show that indigenous peoples and agroecological food systems can have up to three times the ASC-index of agro-industrial food systems. Through their contribution to the sustainable management of cultural landscapes with robust institutions for the management of CPRs, food systems contribute to socio-ecological integrity. On the other hand, regional and agro-industrial food systems with a lower ASC-index contribute less to socio-ecological integrity, and they undermine and open up common property institutions for robust CPR management. As a result, they appropriate (or grab) access to CPRs that are vital for food systems with higher ASC-indexes resulting from a robust management of CPRs. Strengthening a robust management of CPRs could put a halt to the ongoing expansion of food systems with a low ASC-index by replacing them with a high ASC-index to prevent an exacerbation of the current socio-ecological situation.

Keywords: common pool resources; food systems; agroecosystems and agroecosystem service

1. Introduction

Food system activities, such as the provision of inputs in the form of pesticides, genetically modified organisms (GMO) seeds, the production of food as well as the following steps of processing, retail and consumption, have caused severe socio-environmental impacts by degrading the quality of natural resources and ecosystems. However, food systems and their related activities still have a strong potential to solve these problems by providing benefits and services to society and to the environment [1].

Food system activities include more than just the production of food. According to Colonna et al., a food system is "an interdependent network of stakeholders (companies, financial institutions, public and private organizations), localized in a given geographical area (region, state, multinational region), participating directly or indirectly in the creation of a flow of goods and services geared towards satisfying the food needs of one or more groups of consumers" [2]. A food system extends from food production through food processing and distribution to food consumption or utilization of food (Figure in Section 1.1.2). Foley, DeFries [3] and Tilman, Cassman [4] have shown that food production is the main food system activity that has modified Earth's terrestrial land cover, reaching 40% of the Earth's surface. Food production occurs in so-called agroecosystems and has transformed parts of natural ecosystems geared towards food production [5]. Agroecosystems rely on natural resources

that have been managed historically through common property institutions and can as such be viewed as common pool resources (CPRs). Today, agroecosystems and their links with the larger ecological environment and cultural landscape ecosystems are managed through state, private and common property regimes.

Food production is the most obvious ecosystem service provided by agroecosystems [6]. However, agroecosystems can also provide other agroecosystem services, such as soil nutrient recycling, regulation of local and global climate or opportunities for resilient livelihoods [7,8]. These additional services benefit the environment (locally and globally), the sustainability of food systems and the resilience of the involved actors. In this paper, we analyze how food systems affect the management and maintenance of CPRs.

In general, farmers are the main managers of globally usable lands by using intensive and extensive technologies; hence, they have shaped the surface of the Earth in a way that (as Ellen [9] argues) there is no so called pure nature remaining. Rather, we face a high diversity of cultural landscape ecosystems [4,10]. Management decisions regarding farming practices affect the sustainability of food systems and the integrity of the ecological environment. How farmers and other actors manage farms and agroecosystems and the previously described additional contribution is influenced by property regimes and regulating institutions that are embedded in larger institutional settings. These property regimes that regulate institutions and institutional settings are subject to transformations over time [11,12]. Generally, there is a trend towards the commodification, privatization and fragmentation of former interlinked common property institution settings [12,13]. Adherents of a more neo-liberal development discourse see investments in the agriculture as an opportunity for modernizing the backward agriculture in underdeveloped countries that helps to meet the rising global demands for agricultural products and a general development of these countries (these ideas build on Rostow's [14] assumption for economic growth). On the other hand, critics warn that the neoliberal development discourses behind such investments veil negative impacts caused by such investments (e.g., management transformations that lead to a concentration of power or the fragmentation and commodification of commonly managed agroecosystems). These transformations, fragmentations and commodification of common property regimes reduce the ability of food systems to provide services for environmental integrity and food sustainability (these ideas build on Ferguson's [15] analysis of anti-politic machines). The use of CPRs without contributing much towards their availability is a form of "commons grabbing" (the acquisition of CPRs that are provided by others). The acquisition of CPRs or the missing contribution to the maintenance of CPRs reduces their availability. The resilience of those contributing to the CPRs is grabbed by those who acquire the CPR and do not contribute to their generation or maintenance.

To better understand farm-based agroecosystems and how they can contribute to solving the socio-environmental challenges that humanity faces today with regard to the collective use of natural resources and ecosystems, we conceptualize agricultural landscapes as agroecosystems and farms as farm-based agroecosystems. This enables us to acknowledge that every piece of land on Earth has a role with regard to the use and management of natural resources and ecosystems and that humans can attribute roles to parts of these land cover classes, mostly those agricultural landscapes and farm-based agroecosystems. This ties to the Gaia hypothesis by Lovelock that argues that Earth is a self-regulating system where each component (living and non-living) has a fundamental role that can radically affect the living condition on Earth [16] (i.e., every living organism and non-living thing has a function and a capacity to contribute to the well-being of a larger system; i.e., a land cover class contributes to the sustainability of a farm-based agroecosystems). The farm-based agroecosystems contribute to the sustainability of food systems, which can contribute to the commonly used and managed global ecological integrity of the planetary system.

There is a growing body of literature on studies that assess sustainability of food systems [17], the multifunctionality of agricultural landscapes [18–22] or cultural landscape ecosystems [9,10]. We use the Agroecosystem Service Capacity (ASC) approach [23] that allows comparing different farm-based agroecosystems and their capacity to provide agroecosystem services. The ASC-index

approach was inspired by the paradigm shift suggested by Perfecto, Vandermeer and Wright [24], which integrates conservation and agriculture in high-quality landscape patches [23].The ASC-index is grounded on the methodological approach of Burkhard, Kroll [25] that study landscapes' capacities to provide ecosystem services [26]. We selected the ASC-index framework because: First, it allows us to assess farms not solely as units of biomass production, but as comprehensive components that have the capacity to produce biomass as well as other farm-based agroecosystem services [23]. Second, the ASC-index uses data that is generated at the farm level with semi-structured interviews and visual tools for soil assessment. Last but not least, the ASC-index allows us to create maps that can help visualize the capacities of farm-based agroecosystems to provide farm-based agroecosystem services. The latter is useful to make the information easily accessible for non-scientific arena and decision makers. The method is described in summary in Section 2.4 and in detail by Augstburger [23].

The purpose of this paper is to compare the capacities of six food systems to manage CPRs in the cultural landscape ecosystems that comply, more or less, with the eight principles of CPRs to provide farm-based agroecosystems services. This will indicate that farm-based agroecosystems can either contribute to the availability of CPRs and a robust management of them; or in contrast, that farm-based agroecosystems deteriorate the availability and management of CPRs through the process of commons grabbing, which also undermines the resilience capacities of these systems and the actors using and reproducing these systems.

In this paper, we look at food systems with a focus on the food production of farms. The subject of our study are farm-based agroecosystems, and the smallest units of analysis are the land cover classes of the farm-based agroecosystems. Our overall research question is: How do farms of different food systems contribute to the availability and robust management of selected CPRs, ecological integrity and food sustainability? Therefore, we analyze the capacity of each farm-based agroecosystems to provide farm-based agroecosystems services within the different food systems. The results provide values that allow us to compare land cover classes within a farm-based agroecosystem and also to compare farm-based agroecosystems that belong to different food system. The results also provide a different perspective on the roles that food systems have within the agricultural landscapes and cultural landscape ecosystems in which they are embedded. This enables us to compare the performance of food systems with different management and property institutions and to unveil hidden appropriations or grabbing processes of CPRs. The results can be used by decision makers in order to decide which food system to prioritize based on the capacity that the food systems have to provide farm-based agroecosystem-services.

To describe the contribution of food systems to CPRs, we first reflect briefly on the definition of CPRs. Then, we describe the CPR compliance approach that we use to assess how much food systems contribute or not contribute to the availability of CPRs and a robust management of them [27]. Thereafter, we refer to the ASC approach that we use to compare different food systems. Following this theoretical part, we describe the contribution of food systems to CPRs and their management on the basis of data from our case study in Kenya and Bolivia as described in subtitle study sites.

1.1. Background Concepts

1.1.1. Definition of Common Pool Resources

The definition of a resource system as a CPR refers to its use and management. CPRs are used by more than one actor, and the use is rivalrous. Traditionally, CPRs have been described as natural resources that are used by a small group of actors (e.g., a pasture used by a group of pastoralists (for examples see Hardin [28] or Netting [29]). With the term "global commons", it is indicated that CPRs can also be large, even global, resource systems that are used by a large number of people. For example, the atmosphere of our planet, biodiversity or outer space can be described as a global common [30]. In addition to natural resource systems, CPRs can also be commonly used human-made resource systems, such as a corral, a path, or a dam that is constructed, maintained and used collectively [27]. If this idea is further elaborated, CPRs must not necessarily be something physical but can be a service provided by and available for a group of actors. Access to an alpine pasture through collectively built and maintained paths and corrals, mutual support by members of a group, access to information through the world wide web, or a food system that provides goods and services to its participants can all be viewed as CPRs.

Hardin [28] propagated the assumption that collective action problems inevitably lead to the overexploitation of CPRs. This assumption has been challenged by various authors. Ostrom [27] has used examples from ethnographic studies to show that groups are able to deal with collective action problems and are thus capable of managing a commonly used resource in a way that prevents overexploitation. To do so, they depend on jointly drafted rules and regulations. Ostrom developed eight design principles as indicators for a robust management of commons that is more likely to deal with collective action problems and to prevent overexploitation (Figure 1). Over the years, a vast body of literature on commons on how to solve collective action problems, the role of informal and property right institutions, the role of power relations for the drafting of institutions, etc. has been developed (for an overview, see reference [30] and reference [27] and for a more recent overview, see reference [12].

Design Principles for Robust CPRs Management Institutions

1. Groups that are appointed to use a CPR as well as the CPR itself have to be clearly defined with clearly defined boundaries.
2. Rules for access and use of the CPR have to be appropriate to the local context.
3. The rules that manage access and use of the CPR have to be open to modification through the affected users to be adapted to changes and new contexts.
4. The users must be monitored in a way that is accountable to the users themselves.
5. Rule violation must be sanctioned gradually.
6. There have to be mechanisms that allow conflict resolution among users and between users and monitors.
7. The institutions must be recognized by external governmental authorities.
8. The rules have to be nested into larger systems, thus in tune with institutions on a larger scale.

[27] p. 91–102

Figure 1. Table of Design Principles for Robust CPR Management Institutions according to Ostrom [27].

Regarding the management of CPRs, a further question to be addressed is about who contributes to the provision of a CPR and who benefits from its use. A contribution can be active construction, maintenance work, or restraint in its use. According to Haller [12], Ostrom misses the point that the contribution to a CPR and benefits from it are not necessarily shared equally–this also applies in situations of robust management of CPRs. First, asymmetric power relations within a group using and managing a CPR can account for a management favoring powerful actors over others. Powerful actors can force weaker actors to accept an unequal distribution contribution to and benefits from a CPR.

Weaker actors might have to accept an unequal cooperation instead of not benefiting from a CPR at all. Ensminger [10] has developed a useful model to include the role of power relations in the negotiation of rules and regulations that account for the management of CPRs (Figure 2). Secondly, the provision of a CPR can benefit or affect people that are not members of the group that directly uses or manages the resource. On the other hand, activities of actors not being involved in the management of a CPR can affect its quality. This shows that not all actors being affected by or affecting a CPR might be included in its management. Such indirect impacts are described as externalities in economic terms. Some of these externalities can be very vague and reach a global scale. This poses the question of whom should be included in the management of a CPR if externalities affect or are affected by a large group of actors.

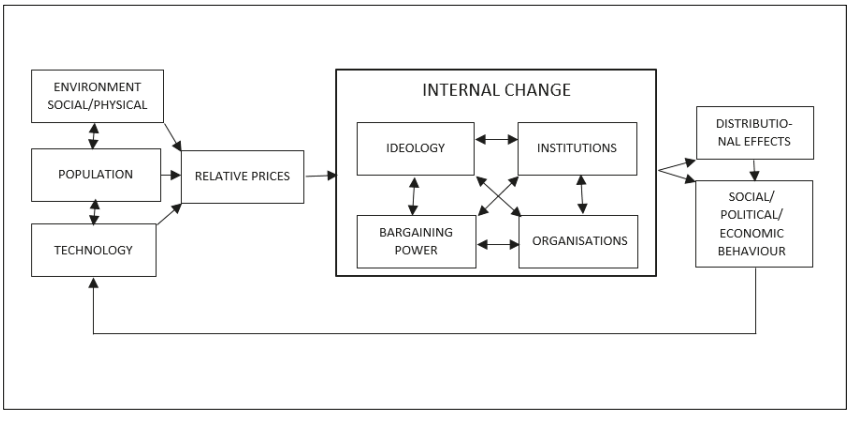

Figure 2. Schematic figure for modeling change, according to Ensminger [11].

The expansion of food production for agro-industrial food systems is often accompanied by a fragmentation via state property and privatization of former cultural landscape ecosystems and CPRs that were important for food production in other food systems [9]. With the fragmentation of cultural landscape ecosystems and the privatization of property and user rights, interconnected systems are torn apart and the rights of marginalized actors are being suppressed. This leads to a marginalization of already marginalized actors engaging in other food systems [12,31] or in the context of the land grabbing debate [32].

1.1.2. Food Systems and Common Pool Resources

Food systems link a group or groups of consumers with actors that contribute towards the satisfaction of the food needs of these groups. In addition to satisfying food needs, food systems provide a range of other goods and services (see Figure 3). Such additional goods and services can be income opportunities, increases in biodiversity, CO2 sequestration or enhanced resilience. These goods and services benefit different actors of the food systems, and, more indirectly through impacts on the ecological and socio-economic environment, all people living on our planet [23]. Food systems rely on natural resources and affect their management. These natural resources include the atmosphere, freshwater, genetic diversity, soil, pollinators, land, etc. Some of these resources are managed through CPR institutions, others are managed by state or private property institutions. Lack of adequate management institutions results in open access constellation with no measures in place to prevent overexploitation. Different types of food systems tend to have different impacts on the management of natural resources and contribute differently towards their maintenance and availability. For a detailed description of food systems and their interlinks, see Figure 3.

To link the theoretical sphere with practical issues, we show in the second part of this paper how different selected food systems contribute to the integrity of the global ecological environment and food sustainability.

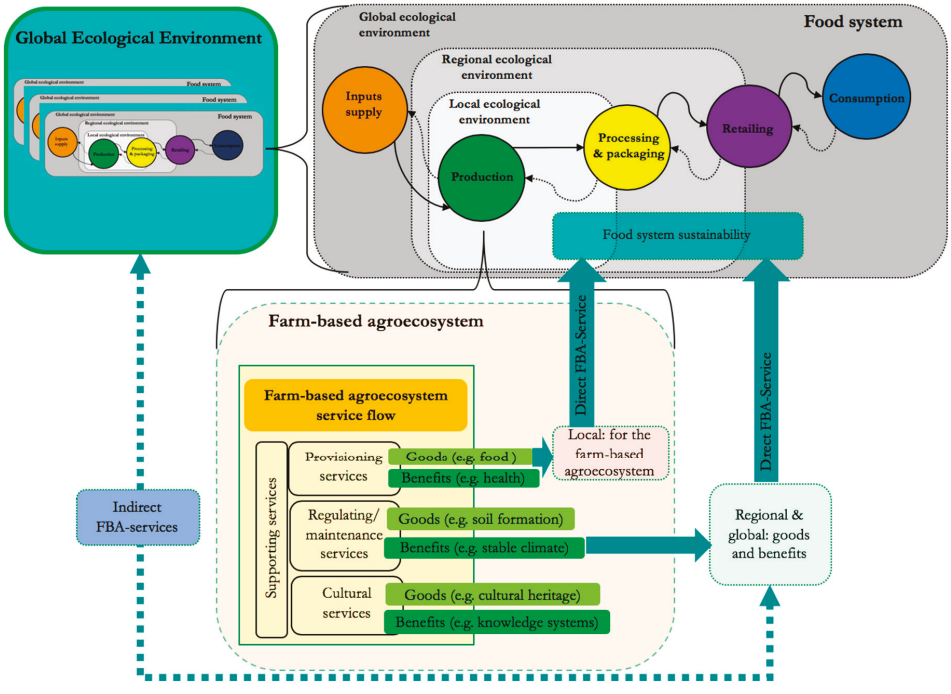

Figure 3. Conceptual model of a food system. Food systems are part of the global ecological environment, and their activities depend on it and shape it at the same time. Based on references [23,33–35].

2. Materials and Methods

2.1. The Agroecosystem Service Capacity (ASC) Approach

In this study, we use the ASC approach [23] to estimate the capacity of each land cover class to provide farm-based agroecosystem services and to calculate the ASC-index for the whole farm-based agroecosystem. Thus, we use the concept of farm-based agroecosystems to refer to farms, yet we assess them from a holistic perspective and study them as farm-based agroecosystems and compare their capacities to provide 23 farm-based agroecosystem services.

2.2. Study Area—The Food Systems

As previously mentioned, this paper is part of a larger research project that studies food systems sustainability in Bolivia and Kenya. The study regions are Santa Cruz in Bolivia and the north-western Mount Kenya region (specifically the counties of Meru, Nyeri and Laikipia in Kenya). The criteria for the selection of the study sites were as follows: (1) their importance for regional national food security, (2) the possibility of studying conflicts competition and synergies in the context of currently coexisting food systems, (3) the presence of rapid agrarian change leading to upheaval in local agricultural systems and activities and their impacts on the livelihood of local rural people, and (4) the possibility of drawing upon the previous research of Southern Partners [36].

The selection of the food systems to be investigated in each study region was guided by the following criteria: (1) their spatial, economic, social, and cultural relevance within the study region; (2) representation of all five-ideal typical food systems as defined by Colonna et al. [2] in the overall sample; and (3) coexistence of several food systems in the study regions, enabling investigation of the effects of their interactions [30]. Although there are deferent approaches to describe and assess food systems [33,37–41], Colonna et al. [2] provides a set of differentiating variables useful to draw borders between one food system and the other. Because of the aforesaid argument we use the five-ideal food systems described by Colonna [2]. The number of food systems was limited to six, and in each food system, we studied three farm-based agroecosystem, in accordance with the project's human and financial resources [36].

Food System Main Characteristics

Table 1 describes the food systems according to the food system differentiating variables proposed by Colonna et al. [2]. It is important to mention that none of the food systems are purely one or the other. There are always influences from one food system onto another food system, because food systems are open systems with ill-defined and permeable boundaries. For analytical purposes, we draw conceptual boundaries between them. For a detailed analysis of the agroecological food system in Bolivia, see Schälle [42]. For a detailed analysis of an agro-industrial food system in Bolivia, see Augstburger et. al. [26]. For a detailed analysis of an indigenous food system in Bolivia, see Heusser [43]. For a detailed analysis of a local food system in Kenya, see Käser [44]. For a detailed analysis of a regional food system in Kenya, see Ottiger [45]. Finally, for a detailed analysis of an agro-industrial food system in Kenya, see Ngutu Peter [46].

2.3. Study Sites and Methodology—The Farm-Based Agroecosystems

In each one of the six food systems, we selected three farms that we called farm-based agroecosystems to carry out the ASC assessment. In order to select three farm-based agroecosystems, we did introductory interviews with farmers of the different food systems in Bolivia and Kenya. For the interviews, we used semi-structured interviews in order to collect general data on their agricultural practices. To select the farmers that could be considered as representative samples, we used the purposeful sampling criteria of Palinkas, Horwitz [47]. From this process, we selected three farm-based agroecosystems for each food system (all briefly described in Table 2).

Table 1. Food system characteristics of the food systems in Bolivia and Kenya.

	Agroecological Food System (Ae)	Agro-Industrial Food System (AgI)	Indigenous Food System (In)	Local Food Systems (Lo)	Regional Food Systems (Reg)	Agro-Industrial Food System (AgI)
	Bolivia	Bolivia	Bolivia	Kenya	Kenya	Kenya
Type	Commercial agroecological horticulture by small-scale producers	Extensive commercial cash crop production by independent farmers	Subsistence family farming	Subsistence and commercial small-scale farmers	Commercial production by large private and corporate companies	Intensive commercial horticulture production
Crops	Horticulture; salads, herbs, cabbages and fruits	Mostly GMO soybean and rice	Maiz, beans and cassava	Maize, beans and livestock.	Wheat, barley, canola, peas and livestock	Broccoli, french beans, sugar snaps, runner beans, pacchoy and raspberries
Plot size and land rights	3–6 ha, mostly privately-owned land. Land distribution through private land transactions	20–50 ha, privately owned and leased land. Land distribution through settlement schemes and private land transactions	2–4 ha, user rights for a piece of a large communal territory of approx. 1mio ha	0.01–2.4 ha, privately owned and leased land. Land distribution through post-colonial settlement schemes and private land transactions	45–4500 ha, privately owned land. Former colonial estates and private land transactions	40–300 ha, privately owned or leased land. Former colonial estates and private land transactions
Managment of natural resources	Private property regimes with some common property regimes. There is a trend towards revitalising common property regimes	Mainly private property regimes. FS fostered a transformation of common property regimes through state property to private property institutions or open access situations. State property regimes are currently transformed into private property regimes	FS is greatly linked with common property institutions to manage natural resources (access to land and water)	Private property and common property regimes. Traditional common property regimes have been transformed to state and private property regimes and open access situations. New common property regimes evolve to cope with failures of private and state property regimes (access to land and water)	Mainly private property regimes. Common property regimes have been transformed through state property to private property regimes and open access	Mainly private property regimes. Common property regimes have been transformed through state property to private property regimes and open access. Some new common property regimes exist (access to water)
Input: seeds	About 20% of the seeds are imported, the rest are produced in the agroecosystem or bought locally	Soybean GMO seeds are imported by seed companies. Small portions of seeds are locally produced and sold in the informal market	Seeds come from the region or are locally harvested and exchanged	Seeds are reproduced in the agroecosystem or bough in local agrovet stores	Approximately 60% of the seeds are locally reproduced, the rest is imported	Seeds are imported by international seed companies

Table 1. *Cont.*

	Agroecological Food System (Ae)	Agro-Industrial Food System (AgI)	Indigenous Food System (In)	Local Food Systems (Lo)	Regional Food Systems (Reg)	Agro-Industrial Food System (AgI)
	Bolivia	Bolivia	Bolivia	Kenya	Kenya	Kenya
Input: agrochemicals	No reported use of agrochemicals	GMO crops dependent on agrochemical packages	Low use of conventional imported agrochemicals (1 out of 3, only one product R4D)	Common use of imported agrochemicals (3 out 3 interviewed farmers)	Full dependence on agrochemicals for production	Full dependence on agrochemicals for production
Food production	Land preparation is done with tractors planting, cultivation and harvesting is done manually	Land preparation, planting, cultivation and harvesting all done with large scale machinery	Land preparation (slash and burn), planting, cultivation and harvesting is done manually	Land preparation, planting, cultivation and harvesting is done manually and with the support of local agricultural machine-services	Land preparation, planting, cultivation and harvesting all done with machinery.	Land preparation, planting, cultivation and harvesting all done with machinery. Complies with international agricultural standards
Processing	Little processing of products most are sold for direct consumption	All the produce is processed in the region or exported as raw material	Processing is done locally (e.g., maize flower a maize beer)	Some of the produce is processed by local millers (e.g., wheat and maize flower)	All the produce is processed (e.g., flower, oil or malt) within the country	Fresh products are selected, washed and packed in packaging plants
Retail/exchange	Some is sold locally most is sent to Santa Cruz (120 Km)	Some is sold in the country for poultry production or oil, most is exported 90% *	Some produce is exchange for others products within the community	Products are shared with family member or soled in local markets	All processed products are sold within the country	Cold chain is required for retail, most products are exported to Europe and UK
Consumption	Consumers buy the product because they know the farmers (either in person or have built a reputation). Small portion of the produce is consumed by farmers	No link exists between producers and consumers, consumption of processed foods is at national and global level	The farmers are the main consumers (most local), some exchanged or sold in the community	Self-consumption by producers and sold to neighbours and local and regional markets	No link between producers and consumers, processed products are consumed within the country	No link exists between producers and consumers, products are consumed at national and global level

Table 2. Main characteristics of farm-based agroecosystems.

Bolivia		**Agroecological FS (Ae)**			**Agro-industrial-FS (AgI)**			**Indigenous-FS (In)**		
Code	**Ae-1B**	**Ae-2B**	**Ae-3B**	**AgI-1B**	**AgI-2B**	**AgI-3B**	**In-1B**	**In-2B**	**In-3B**
Department		Santa Cruz			Santa Cruz			Santa Cruz	
Location		Samaipata			San Pedro			Cabezas-La Ripiera	
Main products	Horticulture	Horticulture	Horticulture	Soybean & chillies	Soybean	Soybean & rice	Maize & beans	Maize & beans	Maize & beans
Land ownership	Private	Foundations	Private	Lease	Private	Private	Communal	Communal	Communal
Area (ha)	3.9	11.7	5.1	28.6	20.0	39.9	3.6	2.9	1.8
Kenia		**Local-FS (Lo)**			**Regional-FS (Reg)**			**Agro-industrial-FS (AgI)**	
Code	**Lo-1K**	**Lo-2K**	**Lo-3K**	**Reg-1K**	**Reg-2K**	**Reg-3K**	**AgI-1K**	**AgI-2K**	**AgI-3K**
Department	Meru	Meru	Meru	Meru	Meru	Meru	Nyeri	Nyeri	Laikipia
Location	Kalalu	Timau	Ontulili	Timau	Timau	Timau	Nanyuki	Naro Moru	Nanyuki
Main products	Maize & beans	Maize & beans	Maize & beans	Wheat, barley, canola, peas & livestock	Wheat, barley & livestock	Wheat, potatoes, peas & livestock	Horticulture	Horticulture	Horticulture
Land ownership	Private	Private	Shamba System *	Private	Private	Private	Private	Private	Private
Area (ha)	3.0	0.6	0.5	2532.0	4269.0	45.0	49.0	130.0	298.0

2.4. The Agroecosystem Service Capacity Index

To compare the capacity that different farm-based agroecosystems have in providing farm-based agroecosystem services, we used the ASC-Index [23]. In a nutshell (see Figure 4), the ASC allows us to assess the capacity of each land cover class of a farm-based agroecosystem to provide 23 farm-based agroecosystem services (Table 1). Hence, the smallest units of analysis being compared are land cover classes. In order to implement the ASC, there are two major phases: data collection and data analysis.

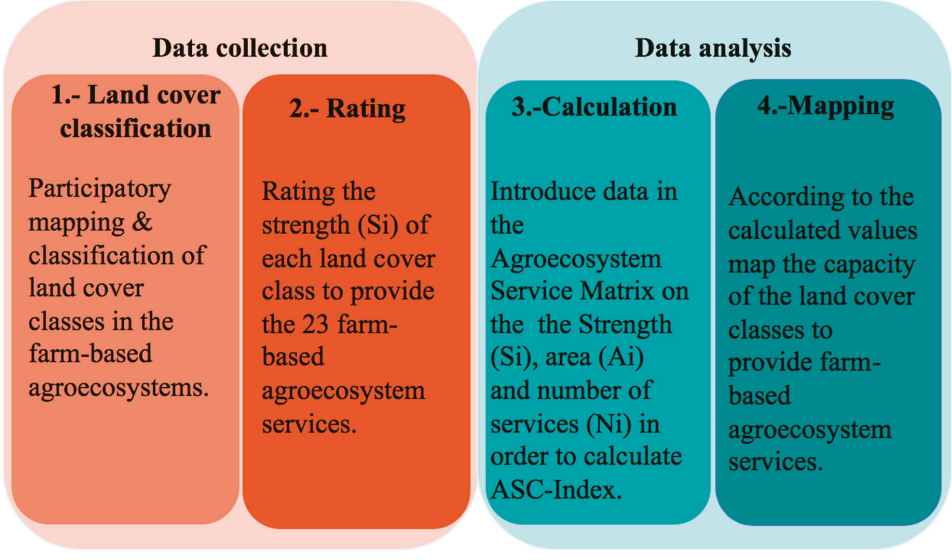

Figure 4. The agroecosystem capacity index in nutshell based on Augstburger, and Rist [26].

Data collection:

1) Land cover classification: Identify the land cover classes of the farm-based agroecosystem under study. For this, we used participatory mapping approaches.
2) Land cover class description: Collect data on the capacity of each land cover class to provide the 23 farm-based agroecosystem services. For this, we used semi-structured interviews.

Data analysis:

For the analysis of the data, a central element of the ASC is the Agroecosystem Service Matrix (ASM) (Figure 5). The ASM centralizes all the information that is later required to calculate the ASC per land cover class and the ASC-index for the whole farm-based agroecosystem. The number of land cover classes (rows) in the ASM depends on the amount and type of land cover classes present in the farm-based agroecosystem. In the columns are the 23 farm-based agroecosystem services. The second row of the matrix provides the equations for the calculations in the corresponding column. The last column on the left is the equation to calculate the ASC per land cover class. The ASC-index is the sum of all ASCs depicted in the yellow box [23]. Below the total number of land cover classes is the row depicting the farm-based agroecosystem's capacity to provide farm-based agroecosystem services.

1) Fill in the ASM:

A key tool to create the ASM is the ASC rating scale that is provided in the paper that describes the ASC approach [23]. The rating scale is a scale that provide values between zero and five to rate the capacity of a land cover class in providing a specific farm-based agroecosystem service [23]. To fill in the ASM, two sources of information are needed: (i) the land cover classification and (ii) the land cover

class description. The values of the rating scale are introduced in the ASM in the intersection of the land cover class and the agroecosystem service that is being assessed. This number later represents the strength (Si) that the land cover class has for providing agroecosystem services.

2) Figure 5:

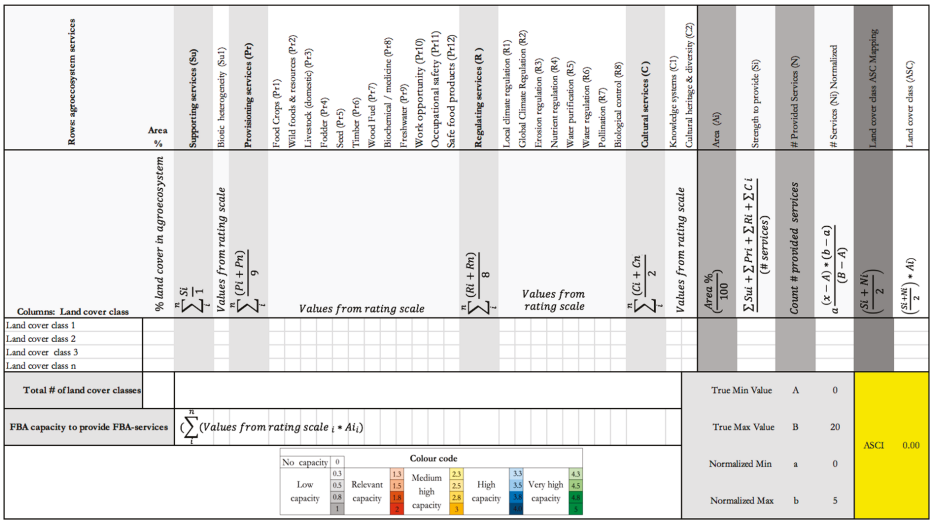

Figure 5. Example of an empty Agroecosystem Service Matrix (ASM).

3) Calculate the ASC-index

The ASC-index is calculated using three main elements: Area (Ai) that a land cover class occupies within the farm-based agroecosystem, the Strength (Si) that land cover class has in providing farm-based agroecosystem services and the number of services (Ni) that are provided by the land cover class (all the equations are available in Figure 5). On the right-hand side of the ASM are the equations used to obtain the values for each one of the aforementioned components. Each one of the components is then introduced in the equation to estimate the ASC per land cover class, the ASC-map, and finally the ASC-index for the whole farm-based agroecosystem. We added one row to the ASM on the bottom left below the total number of land cover classes. The row is the farm-based agroecosystems capacity to provide farm-based agroecosystem services; this row depicts the capacity of the whole farm-based agroecosystem to provide one specific farm-based agroecosystem service. This value can help us assess how the farm-based agroecosystem contributes or does not contribute to the commons that we previously defined (food system sustainability and the global ecological environment).

3. Results

3.1. The Agroecosystem Service Capacity of Food Systems

Table 3 shows a summary of the results of the application of the ASC in the different food systems in Bolivia and Kenya. The largest farm-based agroecosystem that we studied was the farm-based agroecosystem Reg-2 (with an area of 4200 ha), and the farm-based agroecosystem Lo-3 (with an area of 0.5 ha) was the smallest farm-based agroecosystem we studied. Interestingly, it is not the largest farm-based agroecosystem that has the highest ASC (ASC Reg-2 = 1.2). In economies of scale, there is the marginal cost (cost of producing one more unit), which is reduced by increasing the number of units produced. The opposite of what occurs with marginal costs in economies of scale seems to happen with the capacity to provide agroecosystem services—the larger the area, the lower the ASC.

This is so because the farm-based agroecosystems that we have studied have large areas of operation practice monoculture or agriculture with little diversity in relation to the whole area that they manage within the landscape.

Table 3. Area, number of land cover classes and agroecosystem services provided and CPR compliance of the 18 agroecosystems data for Bolivia [26].

	Local K	**Regional K**	**Agro-Industrial K**	**Agro-Ecological B**	**Agro-Industrial B**	**Indigenous B**
	Lo-1K	**Reg-1K**	**AgI-1K**	**Ae-1B**	**AgI-1B**	**In-1B**
Area (ha)	2.9	2532.3	48.8	3.9	28.00	3.6
Land cover classes	5	11	8	12	6	6
# services	47	76	69	141	46	91
	Lo-2K	**Reg-2K**	**AgI-2K**	**Ae-2B**	**AgI-2B**	**In-2B**
Area (ha)	0.6	4269.0	130.0	11.7	20	2.9
Land cover classes	3	8	9	9	2	5
# services	32	64	68	87	11	48
	Lo-3K	**Reg-3K**	**AgI-3K**	**Ae-3B**	**AgI-3B**	**In-3B**
Area (ha)	0.5	45.1	298.0	5.1	39	1.8
Land cover classes	1	7	8	6	3	5
# services	12	47	72	66	21	49

3.2. Agroecosystem Service Matrix

Figure displays the ASM of one farm-based agroecosystem in each one of the six food systems (the ASM of the other farm-based agroecosystems are the annex). Each number in the ASM indicates the strength (Si) that each land cover class has in providing the specific farm-based agroecosystem service. Also, in the ASM are the Area (Ai) occupied by the land cover class within the farm-based agroecosystem and the number (Ni) of services provided. The three aforementioned elements are part of the equation to calculate the ASC capacity of each land cover class and the ASC-index of the whole farm-based agroecosystem. The ASC-map column has different colors. The color code in Figure 3 was used to assign colors to the land cover class according to the capacity of the land cover class to provide ASC services.

AgI-1B has the lowest ASC-index (0.89) and also the least number of land cover classes (5). AgI-1B has a low ASC-index, because it has five land cover classes in an area of 28 ha. Additionally, the land cover classes provide a total of 46 farm-based agroecosystem services (Table 3). In-1B has a medium ASC-index (2.12) and total of six land cover classes (only one more than the farm-based agroecosystem AgI-1B). However, In-1B has six land cover classes in an area of 3.6 ha. The land cover classes of In-1B can provide a total of 91 farm-based agroecosystem services (Figure 3). Ae-1B has the highest ASC-index (2.8) and also the highest number of land cover classes (12). Ae-1B has a high ASC-index, because it has 12 cover classes in an area of 3.9 ha. Additionally, the land cover classes provide a total of 141 farm-based agroecosystem services (Figure 6).

For the farm-based agroecosystems of Kenya (see Figure 7), Reg-1K has the lowest ASC-index (1.48) and 12 land cover classes. Reg-1K has a low ASC-index, because it has 12 land cover classes in an area of 2532 ha. Additionally, the land cover classes provide a total of 76 farm-based agroecosystem services (Figure 7). AgI-1K has a middle ASC-index value (1.76) and 8 land cover classes in an area of 48 ha. Additionally, the land cover classes provide a total of 69 farm-based agroecosystem services (Table 4) Lo-1K has the highest ASC-index (2.12) with five land cover classes in an area of 2.9 ha. The land cover classes provide a total of 47 farm-based agroecosystem services (Table 4).

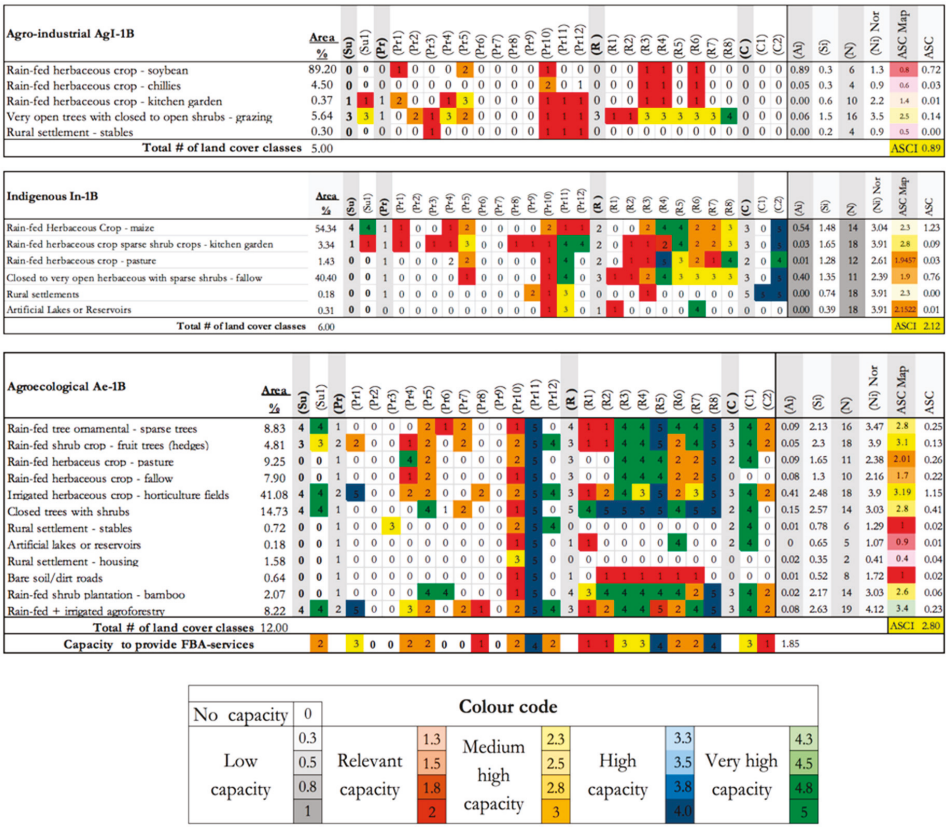

Figure 6. Agroecosystem service matrix of three farm-based agroecosystems in Bolivia (modified from [26]).

Figure 8 shows the farm-based agroecosystem service index for the 15 farm-based agroecosystems that we studied. The farm-based agroecosystem of the Agroecological food system has the highest overall ASC-index capacity to provide farm-based agroecosystem services (Ae-1B = 2.80, Ae-2B = 2.39 and Ae-3B = 2.52). The farm-based agroecosystem of the Indigenous food system is second (In-1B = 2.12, In-2B = 2.47 and In-3B = 2.51). The farm-based agroecosystem of the Local food system is third, and the differences between its different farm-based agroecosystem is the highest (Lo-1K = 2.12, Lo-2K = 1.78 and Lo-3K = 1.47). The farm-based agroecosystem of the Agro-industrial food system are fourth in ASC values (AgI-1K = 1.59, AgI-2K = 1.64 and AgI-3K = 1.76). The fifth and lowest ASC values were identified in the farm-based agroecosystem of the Regional food system (Reg-1K = 1.48, Reg-2K = 1.33 and Reg-3K = 1.40). The overall lowest was identified in the Agro-industrial food system in Bolivia (AgI-1B = 0.89, AgI-2B = 0.74 and AgI-3B = 0.85).

The farm-based agroecosystem with the highest capacity, Ae-1B = 2.8, has two times the capacity to provide farm-based agroecosystem services than Reg-2 = 1.33, and three times the capacity to provide farm-based agroecosystem services than AgI-1B = 0.89 (i.e., this means that an agroecological food system can be at least three times more beneficial to the contribution of the global environmental integrity availability than an agro-industrial food system). As such, the agroecological food system has a higher capability than the agro-industrial food system to contribute to the availability of a global common that is used by both food systems.

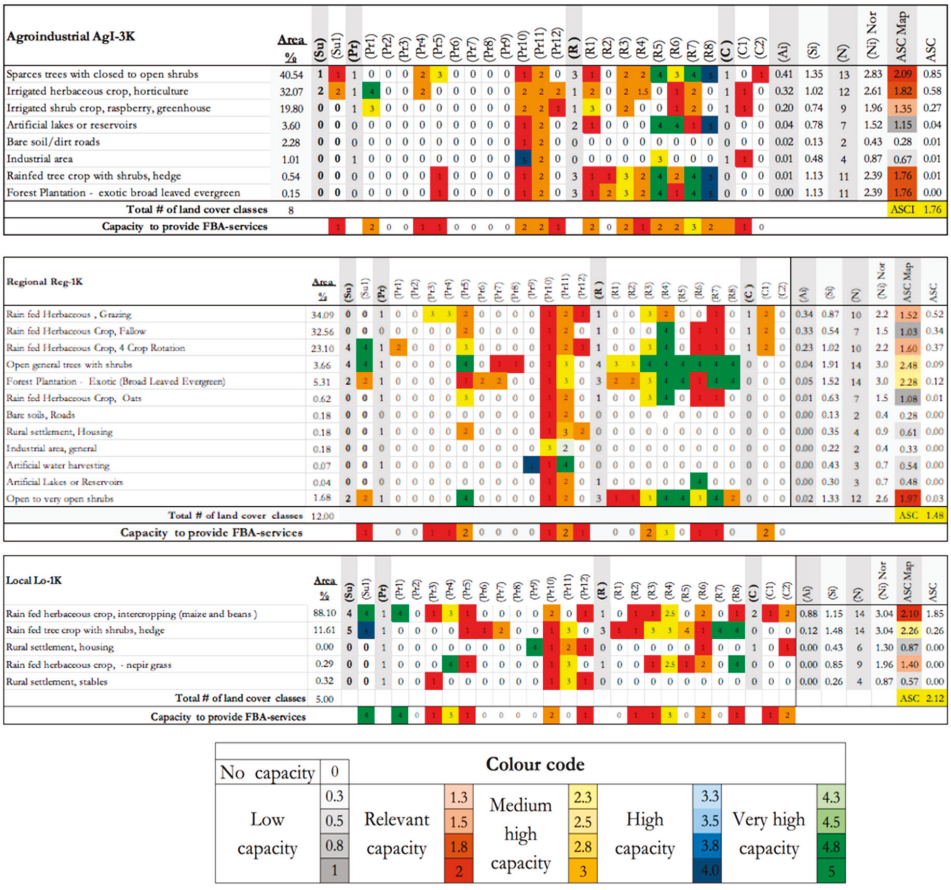

Figure 7. Agroecosystem service matrix of three farm-based agroecosystems in Kenya.

When comparing the capacity of the whole farm-based agroecosystem to provide specific agroecosystem services (last row on the bottom in Figures 6 and 7), a new perspective comes to light. The farm-based agroecosystems with the highest ASC-index are the farm-based agroecosystems that can contribute more to the existence of the commons, food system sustainability and global ecological integrity. As can be seen in the last row of Figure 6, Ae-1B has values greater than one to provide 14 out of 23 farm-based agroecosystem services. In contrast, AgI-1B has a capacity to provide farm-based agroecosystem services greater than one for one farm-based agroecosystem service. In Kenya (Figure 7), AgI-3K has values greater than one for nine farm-based agroecosystem services. The lowest is for Reg-1K that has values greater than one for five farm-based agroecosystem services. When comparing all the farm-based agroecosystems in Bolivia and Kenya, we see that the most farm-based agroecosystem services are for Ae-1B.

Figure 9 illustrates the capacity of the farm-based agroecosystem to provide specific farm-based agroecosystem services. Interestingly, the agroecological and indigenous farm-based agroecosystems are skewed to the left (mostly regulating services), although they also have a relevant capacity to provide provisioning services. In both countries, most of the capacity for agro-industrial food systems to provide services is related to provisioning services.

Table 4. CPR compliance assessment of six food systems.

Principles for CPR	Indigenous Bolivia		Ago-industrial Bolivia		Agroecological Bolivia		Regional Kenya		Agroindustrial Kenya		Local Kenya	
	Production	Rating	Description	Rating	Description	Rating	Description	Rating	Description	Rating	Description	Rating
1. Groups that are appointed to use a CPR as well as the CPR itself have to be clearly defined with clearly defined boundaries.	The resources management of this food system complies with principle 1, because indigenous people are entitled to use clearly defined CPRs embraced by their communities which are recognized by the state	2	Some resources used for production for this food systems are not clearly defined, nor are the groups to use the resources. This results in partially open-access to some resources.	1	There is a commitment among a clearly defined group to produce food that is free from agrochemicals and related to standards of organic agriculture in the country	2	Some resources used for production for this food systems are not clearly defined, nor are the groups to use the resources. This results in partially open-access to some resources.	1	Some resources used for production for this food systems are not clearly defined, nor are the groups to use the resources. This results in partially open-access to some resources.	1	Some resources used for production for this food systems are not clearly defined, nor are the groups to use the resources. This results in partially open-access to some resources.	1
2. Rules for access to and use of the CPR have to be appropriate to the local context.	The rules to access CPRs are clearly defined and are written in the rules established by the communities	2	The management of resources as CPR is limited to water and some elements of biodiversity within and surrounding areas. Rules to use these are informal and only partially appropriate to the local context	1	The rules for using land are negotiated with the members of the agroecological platform not being owners of the land. Rules are appropriate to the local context	2	The management of resources as CPR is limited to water (rivers boreholes) biodiversity and small strips of land used by pastoralists in years of drought. Rules are informal and sensible to the local context	1	The management of resources as CPR is limited to water (rivers boreholes) biodiversity and small strips of land used by pastoralists in years of drought. Rules are informal and sensible to the local context	1	Producers have small "private legally often unsecured land property rights". Additionally they rather strongly depend on access to CPRs such as water, grazing areas and forests. Rules are appropriate to local context	1
3. The rules that manage access and use of the CPR have to be open to modification through the affected users to be adapted to changes and new contexts.	The people of the community meet regularly and they can modify the rules and regulations for accessing CPRs	2	As rules are mainly informal they can be easily adapted	2	Rules are open to modification. However in many cases not easy for farmers to influence the regulation, sometimes dominated by supporting NGOs and state or trading actors	1	As rules are mainly informal they can be easily adapted	2	Rules are open to be modified however great power imbalances within the water user associations prevent some users to participate in the modification process	1	Informal rules and regulations are open to negotiation. However power imbalances prevent some actors to participate in the modification process of rules and regulations	1

Table 4. *Cont.*

Principles for CPR	Indigenous Bolivia		Ago-industrial Bolivia		Agroecological Bolivia		Regional Kenya		Agroindustrial Kenya		Local Kenya	
	Production	Rating	Description	Rating	Description	Rating	Description	Rating	Description	Rating	Description	Rating
4. The users must be monitored in a way that is accountable to the users themselves.	There is not a specific function of a monitor but each one is looking at what the other is doing. In cases of violation of norms, each member raises concerns in community meetings	2	In practice there is an absence of a monitoring body	0	There is a jointly defined system of monitoring compliance of the standards agreed upon for producing and circulating agroecological food system by producers, processors and consumers	2	In practice there is an absence of a monitoring body	0	Monitoring is done by water user association but the monitoring is done in function of these powerful actors	1	Informal monitoring processes are well known by most actors, however sometimes the informal nature of monitoring prevents a thorough accountability	1
5. Rule violation must be sanctioned gradually.	There are gradual sanctions either by the community or by norms entailed in the recognition of the state	2	State-based mechanisms are in place (laws of environmental protection, agrarian tribunal, INRA etc.) but sanctions are generally not enforced	1	There are gradual sections defined	2	State-based mechanisms are in place (laws of environmental protection, water use associations) but sanctions are generally not enforced	1	Power relations between water user associations impede effective systems of gradual sanctions	1	There are mechanisms of gradual sanctions for rule violation (reaching from gossiping to exclusion from mutual support groups)	2
6. There have to be mechanisms that allow conflict-resolution among users and between users and monitories.	In the communal meetings conflicts can be addressed in search of a solution	2	There are no mechanisms in place to solve conflicts among different users	0	Conflicts are dealt with in regular meetings and assemblies	2	Formally, there are conflict-resolution mechanisms but in practice they do not always operate well	1	Formally, there are conflict-resolution mechanisms but in practice they do not always operate well	1	Through face to face interactions conflicts can be better solved. However not for all kinds of conflicts resolution mechanisms are in place	1

Table 4. *Cont.*

Principles for CPR	Indigenous Bolivia		Ago-industrial Bolivia		Agroecological Bolivia		Regional Kenya		Agroindustrial Kenya		Local Kenya	
	Production	Rating	Description	Rating	Description	Rating	Description	Rating	Description	Rating	Description	Rating
7 The institutions must be recognized by external governmental authorities.	The community is recognized by government authorities, the political constitution and a series of related lows and the political constitution of the plurinational state of Bolivia	2	Some institutions to use CPRs are made by the government, but they are not enforced by the government (this is a so-called situation of a present-absent state as described by Haller [12])	0	There are rules and regulation recognized by the national government such as organic agriculture standards	2	Only local water user association rules are recognized by the state	1	Formal institutions of water management are recognized by the state but informal institutions often undermine the effectively of formal institutions	1	Many institutions (self-help groups etc.) are recognized by external governmental authorities	2
8. The rules have to be nested into larger systems, thus in tune with institutions on a larger scale.	Some rules are in tune with institutions on a larger scale while especially CPR rules tend to contradict the rules of the surrounding area mainly represented by agroindustrial food systems	1	The existing informal rues are not nested in institutions on a larger scale		The rules are nested in national regulations	2	The rules or water use associations are nested on a larger scale	1	Formal rules are in tune with institutions on a larger scale. Informal institutions do not always comply	2	Most rules are in tune with institutions on a larger scale	2
Average	1.88		0.63		1.75		1.00		1.13		1.38	

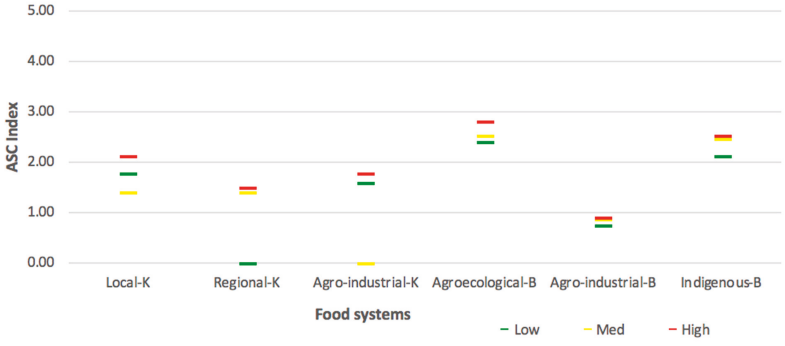

Figure 8. Agroecosystem capacity index of 18 farm-based agroecosystems.

Figure 9. Capacity of the farm-based agroecosystems to provide the 23 farm-based agroecosystem services.

3.3. Common Pool Resource Compliance Assessment Tool

Up to now, we have gained insights on the different ASC- index capacities of food system. We go one step further, and assess the relation between the ASC-index values and the contribution of food system towards a management of CPRs that complies with the eight principles of robust CPR management as proposed by Ostrom [27]. Certain food systems tend more towards fostering and depending on natural resources management as CPRs (e.g., indigenous food systems), whereas others lean more towards private property regimes and open access situations (e.g., agro-industrial horticulture operations).

The objective of the common pool resource assessment tool is to assess the relation between an ASC-index of the food system and the level of compliance of the resource's management with the eight principles of robust CPR management proposed by Ostrom [21]. In order to develop this tool, the guiding question is: To what degree does the resources management of a food system comply with the principles of Ostrom?

For the construction of the assessment tool we proceeded as follows: First we listed the eight principles robust CPR management. Second, we assessed the degree of compliance of the food system's resources management with each individual principle of Ostrom [27]. For that purpose we use the following ordinal scale: 0 = no compliance (e.g., dependence on private and state property regimes or open access constellations, contributing to transformations of CPRs to state or private property or open access), 1 = some compliance (e.g., dependence on private and state property regimes as well as CPR institutions or contribution towards a transformation of state and private property regimes or open access situations towards CPRs management) and 2 = full compliance (e.g., general dependence on CPRs and contribution towards a transformation of state and private property regimes or open access situations towards CPRs management). The CPRs compliance assessment relies on an analysis of selected literature on different food systems in the study area (see Table 4).

4. Discussion/Conclusions

Some food system activities, mostly production activities, that take place in farm-based agroecosystems have negative socio-environmental impacts. Yet food system activities have the capacity to provide multifunctional farm-based agroecosystems that can benefit local and global CPRs and their management. In this research we provide empirical data to compare the capacity of farm-based agroecosystems to provide farm-based agroecosystem services that belong to six typical food systems, as described by Colonna et al. [2]. The farm-based agroecosystems with the lowest ASC-indexes are the ones that are part of the agro-industrial food system. The farm-based agroecosystems of this food system are typical large-scale operations with few land cover classes, and hence have low ASC-index values. The farm-based agroecosystems with the highest ASC-indexes are those that belong to the agroecological food system. The farm-based agroecosystems of the agroecological food system can have an ASC-index up to two times that one of a regional food system (i.e., the farm-based agroecosystem of the agroecological food system provide two times more farm-based agroecosystem services to humans and nature than the regional food system).

Production activities of food systems that have a higher capacity to provide farm-based agroecosystem services also tend to contribute more to the management and maintenance of CPRs. As can be seen in Table 4, the food system with highest CPR compliance score (1.88) is the indigenous food system, and it also has the second highest ASC (2.37). It is not as high as the agroecological food system ASC (2.57) solely because in some cases farmers of this type of food system are using herbicides that degrade the capacity of the food systems to provide agroecosystem services. The agroecological food systems have the highest ASC (2.57), yet have the second highest CPR compliance (1.75). The agroecological food systems comply with fewer criteria of the CPR because most of the farm-based agroecosystems in this case are managed privately. The agro-industrial food system of Bolivia has the lowest overall ASC (0.87) and CPR compliance (0.63). The agro-industrial food system in Kenya has the lowest CPR compliance (1.00) and also has a low ASC value (1.12).

Generally, the main objective of a farmer managing a farm-based agroecosystem is to produce biomass, yet our results show that all farm-based agroecosystems have a capacity, not commonly brought to light, to provide other farm-based agroecosystem services (e.g., soil formation and climate regulation). ASC allows us to shed light on the potential of farm-based agroecosystems to provide farm-based agroecosystem services. The result also suggests that farm-based agroecosystems of food systems with high ASC-index values subsidize the farm-based agroecosystems that have low ASC-index values using farm-based agroecosystem services such as global climate regulation. The farm-based agroecosystem services with a low ASC-index are either subsidized by the farm-based agroecosystems with a high ASC-index today, respectively, through their contribution to global commons, or they are getting the subsidies from future generations that will not be able to receive services from these natural resources and ecosystems for their farm-based agroecosystem in the future. In other terms, farm-based agroecosystems with a low ASC-index grab farm-based agroecosystem services from farm-based agroecosystems with a high ASC-index or from future generations that today are deprived of their resource basis. As such, it can be said that a Bolivian farmer of an agroecological food system or a local farmer in Kenya that operates farms with an overall high ASC-index contributes to local and global commons and subsidizes food production for regional and global food systems that operate on farms with low ASC-indexes. Food production that depends on local and global commons without contributing much towards their availability grabs these global commons and prevents other food production that would contribute to local and global commons from operating in its place. In addition, the food systems grabbing from local and global commons often expand their production area at the expense of the food systems that contribute to local and global commons.

In addition, our results show that there tends to be a reduction in the ASC capacity of the farm-based agroecosystem when the size of operation of the farm-based agroecosystem is increased. This suggests that there is an environmental marginal cost that increases in large-scale operations where their marginal production costs are probably reduced by increasing the size of operation. The latter is because the larger the farm-based agroecosystem, the more land cover classes it has to have in order to have a "good" ASC-index. What normally happens is that the larger the operation, the lesser the land cover classes (hence, the lower the ASC-index).

Food production in agroecosystems that depend on and manage cultural landscape ecosystems through robust common property regimes, such as the indigenous and agroecological food system in Bolivia and partially the local food system in Kenya, have a higher ASC-index and contribute more towards ecological integrity and food sustainability. With the privatization and commodification of food production, cultural landscape ecosystems and CPRs became fragmented. Generally, commodified private food production of agro-industrial and regional food systems has a lower ASC-index and contributes less to ecological integrity and food sustainability.

Commodification, privatization and fragmentation has often occurred through transformation processes that were carried out in the name of development. Neo-liberal development discourses and a narrowed focus on food production only have veiled the commons grabbing coming along with the privatization and commodification of food production. As a result, these developmental discourses and narrowed foci on food production acted like an anti-politics machine as described by Ferguson [14].

Moreover, the privatization and commodification of food production not only result in commons grabbing but also the dominance of such food systems suppresses other food systems. This reduces their ability to provide the services of which they are capable. Ecological compensation areas or CSR measures of agro-industrial or regional farms neither enhance the ecological nor the social performance of agro-industrial food systems significantly. However, they are used to legitimize their operations. Therefore, this is just another anti-politics machine obscuring the negative impacts of such food systems.

The agroecological food system has the best ASC-index. An anthropological analysis of parts of this food system in Bolivia has shown that despite the good performance at farm level, other aspects of this food system prevent the participation of many marginal actors that could benefit from an

inclusion [42]. This indicates that even with a comprehensive farm-based agroecosystem service analysis, not all aspects of the performance of a food system can be unveiled. Thus, even in such food systems, Ferguson's anti-politic machines might be operating.

4.1. Limitations of the Research

The ASC-index is limited to an index, and it provides an overall indication of the capacity of a farm-based agroecosystem to provide farm-based agroecosystem services on a scale from zero to five. Thus, the results are not absolute values. The ASC-index values that we show are related to the capacity of the farm-based agroecosystems that belong to different food systems to provide farm-based agroecosystem services. In this case, the ASC does not assess the full food system (i.e., we did not assess the capacity to provide farm-based agroecosystem services of land cover classes such as retail infrastructure or agriculture input production units, which are common land cover classes of food systems).

The CPR compliance assessment is an explorative tool to assess how much a food system complies or does not comply with the eight principles of CPRs developed by Ostrom [27] (i.e., it is not a measure of the compliance). The intention with this tool was to be able to say food systems that are managed more as commons also provide more benefit to the global environmental integrity than a global common. In contrast, food systems that are managed under private property regimes consume CPRs and provide little or very little benefit to global environmental integrity as a global common.

4.2. Future Research

In the future, we need to find simple ways to operationalize food system sustainability and to bring in debates on regenerative food systems. The results provided by the ASC contribute to the debate on operationalizing the sustainability of food systems by showing how much more or less a food system can contribute to food system sustainability in terms of its capacity to provide farm-based agroecosystem services. The aforementioned contributes to the idea that the more farm-based agroecosystem services a farm-based agroecosystem can provide, the higher the environmental performance; hence, it can contribute towards food system sustainability. A way to operationalize food system sustainability using the ASC is to set a minimum ASC-index for the farm-based agroecosystem; hence, farm-based agroecosystems should shape their land cover classes in order to provide a diversity of farm-based agroecosystem services. This could be used for the instauration of a regulations that could promote farm-based agroecosystem that have a capacity to provide a range of services. This in contrast to the farm-based agroecosystem that we are promoting today, that only provide a small set of farm-based agroecosystem services for humans and none for the environment.

Standards for organic or sustainable agriculture have had a key role in making agriculture more sustainable, yet both can be further improved in the future. These standards tend to have a reductionist view on what the role of an agroecosystem is within a planetary system. An example of this is the case of organic quinoa production the Andes in southwest Bolivia. Although the produce is organic, its cultivation for the export markets has, in some cases, transformed natural vegetation into deserts [48]. Although the produce is organic it lacks an assessment of the capacity of the whole farm-based agroecosystem to provide farm-based agroecosystem services. This problem could be reduced by including the ASC-index in the standards of organic agriculture and good agriculture practices such as Global Gap; hence, the farm-based agroecosystem would be required to have a minimum ASC-index and provide a minimum of services/benefits to society and nature.

Today, the idea of recognizing Earth as a self-regulating system where each living and non-living organism plays a role has gained acceptance in the scientific community [16]. Moreover, a tragedy of commons can be avoided if CPRs are managed sustainably [27]. Both authors suggest that we have to evolve institutional and collective action to ensure a management of global CPRs that ensures a sustainable use of these commons. If we consider the planet as a self-regulating system, as suggested by Lovelock [16], where every land cover class has a role as well as every living and non-living organism, then it makes sense to assess the capacity of each of these land cover classes to provide benefits to the

planet and society. If humans would change the role that is given to agricultural landscapes and instead of regarding them as production units we conceive them as farm-based agroecosystems that provide a set of farm-based agroecosystem services/benefits, then we could also appreciate the contribution of farm-based agroecosystems to local and global common pool recourses. Changing the role that is given to agriculture can be used as concepts in environmental education for the population in general.

A next step would be to link the ASC approach with incentives in the agricultural sector. An example of this, as suggested by Lant et al. and Brouwer and Lowe [49,50], involves shifting from single-purpose resource management to more holistic and integrated approaches and developing institutional subsidy frameworks that are based on agroecosystem services to increase provisions of farm-based agroecosystems such as water purification or soil conservation. Incentives could be monetary or other types of compensation for having farm-based agroecosystems that provide a larger set of farm-based agroecosystem services. This could help revert CPR grabbing and instead promote the provisions of CPRs.

Further applications of the ASC approach are needed in order to also have more empirical data to adapt the rating scale to different contexts. The ASC was developed and applied in very different farm-based agroecosystems in Kenya and Bolivia, yet it is necessary to apply the ASC in other places to improve the rating scale and make it adaptable to more diverse farm-based agroecosystems.

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Institutional Change on a Conservationist Frontier: Local Responses to a Grabbing Process in the Name of Environmental Protection

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Abstract: In a wave of global conservationism, Ecuador established two large protected areas in its Amazon region in 1979. One of these is the Reserva de Producción Faunística Cuyabeno (RPFC), located in the northeastern corner of the country. Given that this land was previously managed as commons by local indigenous groups, the establishment of protected areas has had numerous consequences for these people. The research conducted comprised three months' fieldwork in three of the affected Siona communities, primarily through the use of participant observation. Based on the framework developed by Ensminger, this paper demonstrates how institutional change has occurred in the last few centuries with the arrival of various frontiers overriding the region. This has led to the almost total eradication of traditional institutions and the introduction of a new ideology, namely conservationism. In order to legitimize their existence in the Reserve, indigenous groups are compelled to argue in a conservationist discourse if they want to stay in their ancestral territory. The article discusses tourism as one key impact on the lives of the local Siona, alongside their response to the grabbing process, which takes the form of a re-creation of their identity, including institution shopping from below. This article contributes to the debate on commons grabbing from the perspective of local actors by arguing that institution shopping from below does not necessarily mean a loss of authenticity, considering different ontological perspectives in the process of identity construction.

Keywords: conservationism; identity; commons grabbing; protected areas; institution shopping; institutional change; Ecuador

1. Introduction

In 1979, in the northeastern corner of the Ecuadorian Amazon region, the Reserva de Producción Faunística del Cuyabeno (RPFC) was created with the purpose of protecting flora and fauna, as well as the indigenous groups of the region [1]. The author places the Reserve's establishment within the broad wave of conservationism, a recent ideology in this region, but one that is spreading across the world. Its principal goal is the protection of the natural environment. Given that conservationism is based on a naturalistic ontology that divides nature from culture, the creation of protected areas has a fundamental influence on local inhabitants [2,3].

This article will first address the question of institutional change and how this has led to institutional pluralism in the region. Subsequently, the perceptions and responses of local commoners to the grabbing process will be analyzed in order to show how institution shopping from below serves as a strategy to regain institutional control. In this context, questions of identity become important, as a balance between one's own and foreign values needs to be achieved.

As a review on the literature on the region and the Siona specifically (which remains very limited) shows, the Siona are an indigenous group who belong to the language group of the Western Tukanos living in the Amazon region of Colombia, Ecuador, and Peru. Their history has been traced back to their contact with European conquerors and Jesuit missionaries at the beginning of the 17th century [4].

Whereas throughout the 19th century missionary action declined and the indigenous groups of the region were mostly left to themselves, the 20th century brought three new frontier waves: the rubber boom, the reactivation of the missions, and finally, the petroleum boom [4]. This last boom, which has continued until the present day, has contributed to increased rates of deforestation and environmental pollution [5].

However, at stake is not just pure nature but a cultural landscape that has been used by the Siona as their commons for centuries. It is, therefore, important to understand the institutional setting prior to the arrival of the various frontiers and how the forest resources were managed as common property, notably via specific local knowledge and perceptions of the environment, including a spiritual world. As Berkes has shown in his reflections on traditional knowledge and management systems [6], institutions are embedded in an overlying ideology. In the case of the Siona, their ideology concerns a knowledge system centered on the *yagé* plant. *Yagé* (Banisteriopsis caapis), better known as Ayahuasca in other parts of Amazonia, forms the medium through which a shaman acquires knowledge and power. It provides a means by which communication with supernatural spirits is rendered possible and mundane conditions can be influenced [4]. Through the ingestion of *yagé* as part of a special ceremony, the shaman is able to enter the world of the spirit masters and negotiate with them so that they will send their animals close to the village and allow them to be hunted. As each animal species has a different master, various rituals are required.

In his Siona-Secoya ethnography, Vickers argues that the perception of the natural order and the forces of the universe influence people's behavior [4]. In this sense, the *yagé* ceremony can be considered part of Siona ideology, which may itself be located in the broader ontology of animism, as Descola has noted [7]. Siona people are embedded in a web of social relationships that link human and non-human societies in the forest. The way in which they differentiate between human and non-humans is different from a naturalist ontology, where lines are drawn along interior qualities, such as the ability to think morally and having a soul [7]. Instead of assuming that numerous cultures exist in one nature [4], the Siona perceive their environment as comprising one culture shared by all living beings, who differentiate themselves through physical appearance. In this way, the Siona regard animals as having the same culture as themselves, each holding a human perspective of living in thatched houses, eating cooked meat, and drinking manioc beer [8]. Plants, especially trees, are said to be the houses of the spirit masters, who are the owners[1] of animal species. Hence, *yagé* ideology is intrinsically connected and inseparable from the tropical rainforest, with any notion of Nature as being separate from humans simply nonexistent.

However, with the arrival of outside contact and the establishment of the different frontiers, the institutional setting was prone to change.

This article shows how the ecological boom, as Albert [9] has perceptively recognized, has stimulated indigenous peoples to legitimize their territorial claims in terms of an 'ecological ethnicity'. This special form of self-identification combines their own cosmological references with idioms borrowed from outside in order to achieve necessary political recognition. In this process, indigeneity is used as a powerful label to be taken seriously by conservationist actors.

The author's research has shown that, although when individual members of Siona communities are considered, they appear to be far from a homogeneous group, where four communities inside the RPFC have formally united, presenting themselves as the Siona of Cuyabeno. The author argues that the reason for their union is a common apocalyptic feeling related to the Anthropocene, an epoch in which resource extractivism and climate change foster a feeling of urgency to save living space not only, but especially, among indigenous peoples. Various factors are creating conflict inside, as well as across the four communities. Indeed, the presence of petroleum extraction, tourism, and the Christian religion have led the Siona to strive for the legalization of their land titles.

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[1] In Spanish, *dueños*. Spirit masters are said to have a master–pet relationship with their animal species.

Currently, they count with usufruct rights and a management plan for their ancestral territory, which according to the law belongs to the state because it lies inside a protected area. Property titles are treated as a source of power with which to exert control over their living space.

This article will highlight the implications of institutional change and associated conservationism as a new (Western) introduced ideology. First, through this ideology, the nature reserve is created and then tourism is introduced to the region. Second, together with other factors, the expanded new frontier leading to commons grabbing is perceived by local indigenous groups as an approaching apocalypse of their way of life, reducing their resilience and chances of survival. This subsequently triggers their response to the grabbing process as a form of institution shopping in a pluralistic setting, balancing externally imposed views of themselves as primitive destructors versus noble savages with means of self-determination. Thus, a re-creation of identity is taking place in line with the requirements of the United Nations (UN) definition of indigenous peoples.

2. Theoretical Perspective

This article explains the relationship between ideology and legitimacy in a conservationist discourse and its consequences at a local level. It seeks to shed light on local responses to a pluralistic institutional setting wherein grabbing processes are at work.

In order to grasp the extent and importance of institutions for the governance of natural resources, New Institutionalism provides a valuable framework in this article. This theoretical approach discusses the way in which management regimes evolve, as well as their influence on the economic strategies of individuals or groups. Following Jean Ensminger, New Institutionalism can be defined as "the study of how institutions affect the behavior of individuals and how individual behavior affects the evolution of institutions" [10] (p. 774). In her book about the Orma in Kenya, Ensminger demonstrates how changes in political, economic and social institutions through the introduction of the market economy affect the strategies of individuals and families [11]. According to Ensminger, by considering the individual motivations of different actors, including the social conditions and incentives that affect their decisions, it is possible to analyze (economic) change. She further asserts that economic activities are directly influenced by ideologies, institutions, organizations, and bargaining power [11]. Whereas bargaining power delineates the ability of actors to obtain what they want based on either their economic wealth or social position, an ideology refers to the beliefs and values of a group [11]. It is a framework for orientation and provides symbolic meaning and justification for actions [2]. Organizations in this context are groups formed by people in order to realize their goals (e.g., of changing an institutional structure or even the ideology of a whole society) [11]. Finally, institutions are defined by North as the 'rules of the game' [12]. In addition to these internal factors are external factors (environmental conditions, sociopolitical situation, demography, and technology), which are influenced by relative prices (the value of a certain good in comparison to other goods) [11]. Once relative prices change, they modify economic incentives, again inducing institutional change as a result. This change is directed by the actor with the most bargaining power, as well as the ideologies used to legitimize certain institutional settings. Figure 1 shows how different parts of Ensminger's model influence one another.

While the framework of New Institutionalism has proved useful in studying the institutional change of the resource governance of pastures and fisheries [11,13], Wartmann et al. have also demonstrated its value in understanding institutional change in the context of protected areas [14]. They argue that institutional change can lead to the geographical overlap of different institutions, in their case protected areas and indigenous territories [14].

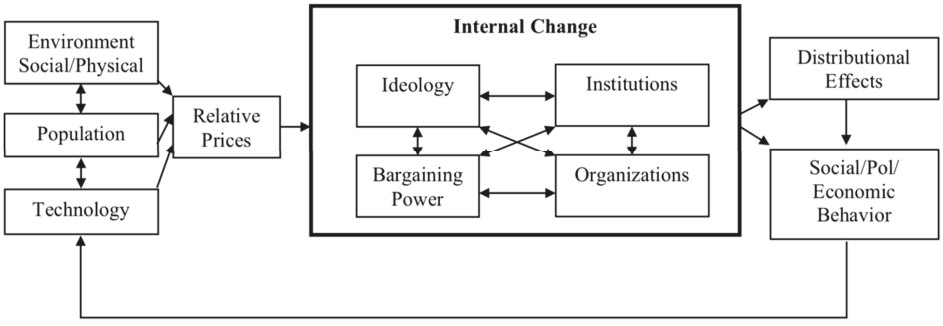

Figure 1. Modeling change according to Ensminger 1992.

This same process, which they term 'institutional pluralism' [14], is occurring in the Cuyabeno area. Akin to the notion of 'forum shopping' under legal pluralism, institution shopping means that actors may choose the best institution for claiming natural resources according to their power and knowledge [14]. What is important to note here is that ideologies change and are used strategically. Galvin et al. have widened the New Institutionalist approach in the sense that they claim that not only relative prices but also bargaining power and ideologies influence institutions and institutional change [2]. This means that when powerful actors manage to justify and legitimize their actions through ideologies, they gain acceptance and reduce transaction costs [2]. Consequently, Galvin et al. argue, local actors are sometimes able to boost their bargaining power by using certain identities based on ideologies, which legitimize their rightful ownership and access to resources [2]. Indeed, they use discourses (meaning a certain way of rationalizing issues in a logical way) and narratives to explain their perception of the state of things [2]. Ideology, discourses and narratives, therefore, form a pool of legitimacy, aimed at increasing one's bargaining power, while simultaneously reducing that of others. As a result, allies and outside support can be found and power and financial resources are mobilized [2]. Combining this theoretical approach with Rasmussen et al.'s findings concerning territorialization in frontier spaces [15], this article shows how any claims to the natural resources in the Cuyabeno region must be formed following the conservationist ideology, which has only become established as the dominant ideology through institutional change in the last 50 years.

Paul E. Little defines frontiers as generally poorly populated geographic regions at the periphery that undergo accelerated demographic, agricultural, and technological changes [5]. In this way, the frontier is not only a geographical but also a temporal space. Geiger adds to this definition the characteristics of economic potential for exploitation and unequal power relations [16]. Frontiers work by delegitimizing existing institutional settings. Rasmussen and Lund argue that whereas non-native private actors in pursuit of newly discovered resources influence the formation of new institutions, civil administration generally has sparse coverage in frontier regions [15]. As a contact zone, the frontier is considered by Tsing as a site of encounter between different knowledge practices, jurisdictions, and visions of progress and development [17,18]. In this convergence of different worldviews or ontologies, new institutions are formed, always influenced by the actor with the most bargaining power. With state control lacking and racism against indigenous people flourishing even today in Ecuador, the Siona more often than not find themselves in a less powerful position.

Rasmussen et al. argue that "the frontier moment is a reconfiguration of the conditions of possibility" [15] (p. 391). In this way, land and resources are abstracted from their former owners and hence freed for new forms of appropriation [15].

The transitional character of the frontier explains its connection with the need for territorialization [15]. Indeed, if existing social orders have been dissolved, new ones have to established. Hence, the eradication of existing orders and the establishment of new institutions threaten

the Siona's ideology and puts the group in a vulnerable position, which I deem one explanation for their urgency in obtaining land titles to their territory.

These frontier waves cannot simply be understood as an expansion of 'civilization', but must, according to Cleary, be seen as a capitalist frontier [19], engendering the expansion of resource commodification and new property regimes [20,21]. The commodification of the environment can be seen in the tourist crowds arriving at Puente del Cuyabeno every day, paying large amounts of money to see the preserved nature inside the Reserve. Thus, the creation of the Reserve has facilitated the commodification of nature. Robertson and Tsing that commodification is accompanied by enclosure and privatization [20,21]. Certainly, even though the Reserve is owned by the state, enclosure has definitely happened. New institutions have been created to determine how the resources are to be managed inside the Reserve, but the Siona have had little say in this process.

However, as Rasmussen et al. note, the destruction of previous institutions does not necessarily imply the complete erasure of repertoires of legitimation [15]. In fact, if old institutions are legitimized and adapted to the new situation, they might form the building blocks for assembling a new institutional setting [15]. As we have seen, unequal power relations and considerable interest in the area's resources allow for the dissolution of old institutions and present possibilities for the creation of new ones. In this process of re-territorialization, the creation of the RPFC can be seen as a form of territorial claims and an attempt by the state to control the region.

3. Methodology

The research project was undertaken in the Reserva de Producción Faunística Cuyabeno (RPFC), located in the northeastern part of the Ecuadorian Amazon in three Siona communities, namely Puerto Bolivar, San Victoriano, and Sëoqueya. All three lie in close proximity to each other on the shores of the Cuyabeno River, about two hours by motorized canoe upstream from the confluence of the Cuyabeno and the Aguarico rivers. The three villages are located in the heart of the RPFC, which is marked green on the map in Figure 2. The only way to access the communities is by boat.

Fieldwork comprised three months of data collection between July and October 2018. As a qualitative research project, the research primarily relied on participant observation, combined with informal and unstructured interviews, semi-structured interviews, and two focus group discussions, separately with a group of shamans and young people. Participant observation can be defined as the foundation method for ethnographic research, where the researcher observes and takes part in the activities of the people being studied, explicitly recording events and analyzing the gathered information [22]. As the name suggests, this method requires the researcher to balance proximity and distance. Indeed, whereas participation means proximity (attempting to act as someone who belongs to the setting), observation means distance (maintaining the perception of an outsider) [23]. Participant observation serves specially to understand daily processes, social interactions and the behaviors of people at work, within the family or at public meetings [23]. Furthermore, it allows the researcher to witness unpredictable events and presents opportunities to talk to people outside of a planned and somehow artificially created interview situation. In this way, I was able to observe some people acting in ways that contradicted what was claimed in interviews, enabling them to be understood within their specific contexts. In order to put observations on record, a fieldwork diary was kept with daily entries about the events alongside some initial analytical thoughts.

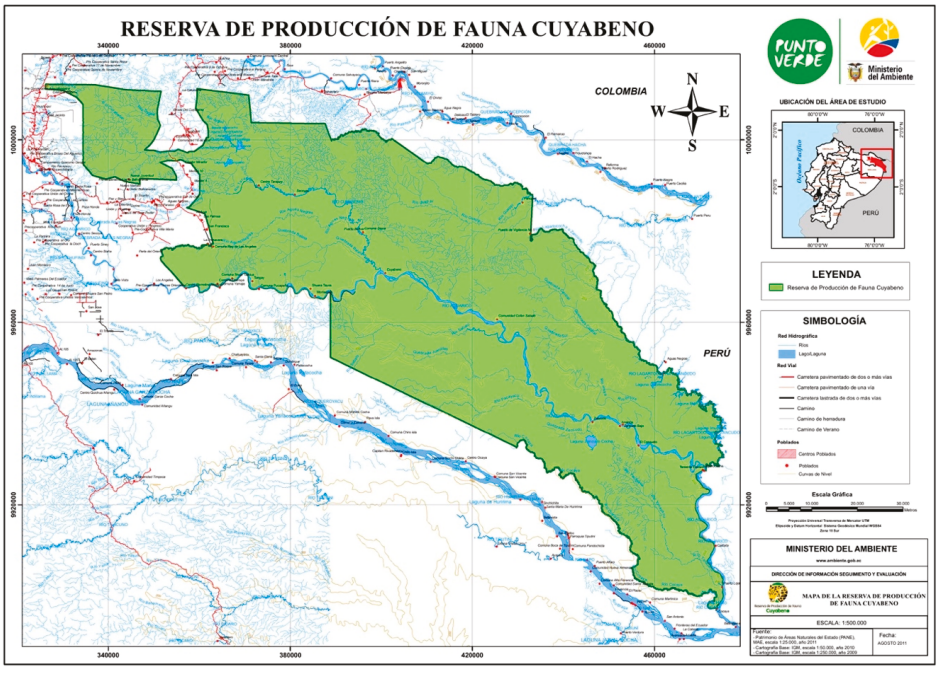

Figure 2. Official map of the Reserva de Producción Faunística Cuyabeno (RPFC). See http://www.cuyabenolodge.com/national-parks/reserva-de-produccion-de-fauna-cuyabeno/reserva-de-produccion-de-fauna-cuyabeno.jpg; accessed on 1 September 2019.

Informal and unstructured interviews afford interviewees a degree of freedom to stray from a specific topic. This can facilitate the detection of important research topics and provide a further step towards a deeper understanding of the emic perspective [24]. Such interviews helped me to understand issues of importance to the local population. On the other hand, semi-structured interviews proved useful in gathering information on specific topics, while still allowing the respondent to add important aspects that were not otherwise being asked [24]. Finally, group discussions offered insights into group dynamics, competing individual views, and broader structures inside and across the villages [25]. During fieldwork, a total of 24 interviews were conducted with people from three of the four Siona communities located inside the RPFC. Most of the interviews were semi-structured, although three were biographical and two were focus group discussions. Most interviews were recorded and later transcribed. All interviews were conducted in Spanish, as my familiarity with the local language Baicoca is very limited. All of the interviewees were fluent in Spanish, most being even more fluent than in Baicoca. In order to analyze the data, the methods of coding and memoing were applied to systematically read the field notes as a data set [25,26]. First, different themes and ideas are identified with open coding, which then serve as analytical categories [26]. Departing from those codes, themes were selected according to what would best answer the research questions but also leaving space for new topics to emerge that seemed more important to the research partners. In a further step, the selected topics were distinguished in sub-themes and subtopics with focused coding, and related to each other by integrative memos [26]. Finally, relevant parts were marked with theoretical memos in order to connect them to matching theories [25]. This process is described as 'triangulation' by Fetterman, where different patterns are contrasted and compared. He argues that when testing these sources against each other, ethnographic validity can be increased [27].

My access to the field was facilitated by my husband. Already in December 2017, it was agreed with the leaders of Puerto Bolivar that I would be able to conduct fieldwork there; the conditions were that a document had to be developed that the leaders could later use in the process of land legalization. This profoundly influenced the research, as constraints were placed on how the resulting material could be used. As Kirsch argues, it may not be sufficient to sustain alternative interpretations [28]. This could also be seen with regard to the fact that this research was conducted during a relatively short period of time, which was not otherwise possible in the thesis format. Therefore, it may be too much dependent on reported speech [28]. Due to time and economic restrictions, I was unable to conduct interviews with other actors like the Ecuadorian Ministry of Environment (MAE), international non-governmental organizations (NGOs), or tourist agencies. However, I consulted all of the documents issued by the MAE that I could access.

Nonetheless, Kirsch argues that short-term, engaged research can provide valuable insights into how certain political claims are formulated from a very specific position [28]. Indeed, what can be learned is how people in a very specific context mobilize their culture, history, and identities in response to political challenges and ambitions [28]. Hence, the anthropological contribution of this article lies in providing insights into how the Siona in this specific context mobilize certain narratives and discourses around their culture and identity.

In May 2018, permission was requested from the MAE to conduct fieldwork inside the RPFC. However, it was not until mid-July and only with considerable pressure and perseverance on my part that this permission was obtained. Once access was provided, my husband and I lived in a guest house at the edge of the village. This made it possible to conduct research on largely neutral ground that was not linked to any particular group or person. Important to consider here was the presence and influence of my husband on the research. Having worked as a tourist guide in the RPFC, he knew the majority of people in Puerto Bolívar, albeit from a very specific position. Moreover, as an indigenous Kichwa, he identified with the Siona in terms of sharing a common indigenous identity. However, his role as a tourist guide also provided a certain distance, as relationships between the people of Puerto Bolívar and such workers are not always positive. Regardless, he acted as my gatekeeper, introducing me to the leaders of the village and rendering fieldwork in Puerto Bolívar possible in the first place. At a later stage, he was also present in some of the interviews, occasionally even participating, lending the interviews a new dynamic. On the one hand, I somehow felt that I was able to access insights into indigenous thinking[2]—and especially with male members of the community—that were otherwise impossible for a white European woman in such a context. On the other hand, my husband's presence and involvement also had negative impacts on the scientific research, as I was unable to establish individual relationships on the same basis as if I had been on my own. Furthermore, my husband's political action and articulation of his opinions occasionally compromised my position as a researcher. It must be acknowledged that no researcher is (or should be) neutral or without a position [28–30]. However, sometimes a more diplomatic position might have allowed for more differentiated answers. In general, I agree with Kirsch [28] that using one's skills and knowledge to support one's informants' political goals actually contributes to anthropology, a discipline based on reciprocity. Furthermore, as Scheper-Hughes [29] has noted, anthropologists who deny themselves the power to identify an ill are collaborating with the relations of power that allow the destruction or inequalities to continue.

Although, due to transportation issues, I was unable to talk to people from one of the communities, I managed to at least interview the presidents of both San Victoriano and Sëoquëya. Nevertheless, most interviews were conducted in Puerto Bolivar.

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[2] With this, the author refers to indigenous world views, in this case, Siona yagé ideology.

4. Results

In order to understand how institution shopping from below is possible in this case, the pluralistic setting has to be understood. As described in the introduction, the Cuyabeno region is marked by various frontiers.

The introduction of nation-state borders and the increasing colonization of the area have altered the demographic composition of the Amazon region, while applying greater pressure on both resources and land (see 'Environment' and 'Population' in Figure 1). The Siona people have been forced to live in smaller territories due to external pressure, as well as by missionaries who have encouraged them to settle in village centers along the rivers in the past [31]. Furthermore, the intensified demand of global markets and the decreasing availability of animal hides and furs have resulted in rises in relative prices (see Figure 1). Consequently, congruent with other Amazonian regions [5], hunters from other areas have been attracted to Cuyabeno by prospects of profit, putting them in competition with local hunters who already struggle to make even a small income. This has led to the near extinction of animals, such as the anaconda, giant otter, manatee, and jaguar.

In addition, the discovery of oil in the region in the 1960s stimulated a dramatic increase in infrastructure in the so-called Oriente [5]. Roads to new cities in the Amazon region were constructed to reduce transportation costs for oil (see 'Technology' in Ensminger's model in Figure 1). Petroleum production is one of Ecuador's most important export products, currently accounting for around 30% [32]. Indeed, oil concessions can be sold at the southwest coast of the country, as well as across the Amazon region. In the Cuyabeno area, there are two oil companies with concessions: Petroamazonas (Ecuadorian) and Andes Petroleum Ecuador (Chinese) [33]. Throughout the entire country, only two intangible zones exist where oil extraction is prohibited. Both zones lie inside the two largest national parks: Yasuní and Cuyabeno. However, the legal situation inside protected areas in Ecuador is somehow double-edged. Technically, inside a reserve absolutely no extractivist activities are allowed [34]; however, given that the president is able to circumvent this law, it can be subject to political arbitrariness. Furthermore, protected areas legally belong to the state. This is why even though there is a right to collective rights in Ecuador, it does not apply inside the Reserve. Finally, Ecuador has declared itself a plurinational state and even recognizes the rights of Nature in its constitution [35]. While the implementation of these laws does not always seem particularly environmentally friendly in reality, the country presents itself through an explicitly conservationist discourse by proclaiming the protection of the natural environment, a result of the global extractive boom. Although Western conservationists have perceived this as a loss of pristine nature, for indigenous people it has meant an unanticipated loss of wildlife and forest commons. Furthermore, the aforementioned changes in external factors have resulted in changing institutions (internal change in Figure 1) for wildlife and forestry, manifesting themselves in the creation of the RPFC in the Cuyabeno area.

The Cuyabeno Faunistic Reserve (RPFC) was established in 1979 as a protected area located in the far northeast of the Ecuadorian Amazon, which, according to the MAE, contains unique ecosystems representative of the Amazon region [1]. It currently comprises approximately 590'112 ha[3] [1].

The first page of the management plan of the Reserve states that the RPFC is the biggest lacustrine system in the country, characterized by high indices of globally recognized biodiversity and regarded as a sanctuary of forest life [1]. These introductory words exemplify the MAE's conservationist interest in the area and relate to its ideology (Figure 1). Such conservationism depicts indigenous people as noble savages, or as part of nature. The subjects deemed most worthy of protection are, in this exact

[3] There have been significant discussions about the size of the Reserve, which more than doubled in 1991, only to then be reduced again due to colonist pressure. Furthermore, acceptance of the limits has always been ambiguous owing to landholdings in the area prior to the establishment of the Reserve, as well as the lacking coincidence of limits established in the official register and on the ground.

order: aquatic mammals (Amazon river dolphin, Amazonian manatee, giant otter); Cuyabeno and Lagartococha river sheds and lagoons; indigenous communities inside the Reserve; and the jaguar [1].

There are five different indigenous ethnic groups living inside the Reserve (Cofán, Kichwa, Secoya, Shuar, and Siona). Moreover, the number of communities has increased over time, with eleven officially recognized communities currently residing here[4]. The relationships between the indigenous communities and the MAE, as well as among themselves, are not always positive, mostly owing to their divergent perspectives of conservation.

Aside from animals and indigenous people, the flora of the RPFC is also worth mentioning. Five types of forest include over 473 tree species and at least 1400 plant species [1]. Compared to the situation outside their territory, especially to the west of the Reserve, forest cover has been almost entirely maintained inside the RPFC, as maps from different years of the same area indicate. Being located in a region that has been highly deforested due to oil explorations since the 1970s, the RPFC actually looks like a forest sanctuary from above [1]. When considering Figure 1, this can be seen as the influence of a certain ideology on political behavior, again influencing the environment in turn. However, over time, oil explorations have also been conducted inside the Reserve, which, alongside tourist operations, have contaminated the rivers. In response, the MAE has produced a management plan of the reserve to lay down some rules, but given that the Siona do not agree with the plan, they have created their own organizations (Figure 1), such as ONASSCE[5]. Finally, bargaining power (Figure 1) is always contested but is mostly dominated by the state in the form of the MAE, as well as foreign tourist operators. This represents one aspect where the establishment of the Reserve has brought about significant changes in the lives of the Siona. Due to its unique lagoon systems and incredible biodiversity, the RPFC is interesting for tourism. Currently, touristic activities are mainly concentrated around the Laguna Grande, which belongs to the Siona territory. Nevertheless, the Lagartococha lagoons, as well as other communities, are also visited on an irregular basis [1]. In the last twenty years, the tourist flux has constantly increased. However, this does not necessarily bring exclusive benefits for the local communities.

4.1. Tourism (Perceptions of Commoners to the Grabbing Process)

Although there are other influences on the Siona and other indigenous communities who today live inside the RPFC, including missionary action and petroleum production, tourism is by far the most ambiguous, being regarded as both a positive and a negative influence. Indeed, it provides an economic income source, which is considered a positive asset. However, like petroleum production, it is perceived as creating physical damage to the environment by contaminating the river. This might come as a surprise, as tourism inside the RPFC is promoted as being eco-friendly and as a means of heightening awareness of the importance of conservationism. However, the interviews revealed that local Siona do not necessarily share this opinion. In particular, the President of San Victoriano and her husband, the President of the ONASSCE, were furious about the lodges' ignorant treatment of their residual waters. Both described how wastewater is being directed into the river when the level of waste is high. As the latter estimated how much excrement the 600 tourists who stayed in the lodges during the high season produced, he became more and more agitated:

> These biodigesters are made of a closed tank, it fills up. Because where would the water go? There is a tap, so when the tank is full, what do they do? They open it and send off all the shit to the river to keep operating. (President of local indigenous organization, male, 35 years old, living in Puerto Bolivar, Ecuador. Excerpt from an interview conducted in September 2018.)

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[4] Several communities have divided into two in order to obtain access to economic resources by creating communities in different cantons or have migrated into the Reserve in search of superior subsistence means.

[5] Organización de la Nacionalidad Siona Sucumbíos Cuyabeno Ecuador.

He described how one day he had to take an early bus to the city of Coca. While driving his canoe to the road in Aguas Negras, he discovered how the lodge owners disposed of their unwanted sewage:

> They thought that at this hour there would be nobody [. . .]. I was like two river bends away when I was hit by an unbearable smell! They heard my motor and turned off the lights. It was like a film of grease, and the fish shupshupshup [he moved his hand like a fish jumping out of the water]. So these are things I have seen, it is not that I am inventing it. (President of local indigenous organization, male, 35 years old, living in Puerto Bolivar, Ecuador. Excerpt from an interview conducted in September 2018.)

These quotations show how tourism is affecting the livelihoods of the Siona in a physical way, contaminating the river from which they drink water during dry periods[6].

Tourism is also having a major impact on the social structure and cohesion of the villages. There are currently eleven lodges spread out around the lagoon system, an attractive aspect of the RPFC. According to village members, the system works along the following lines: If a tourist agency is interested in building a lodge in the Cuyabeno area, they ask an individual member of one of the four Siona villages for permission. This person asks for permission at a community assembly to use a certain part of their communal land for individual purposes. If this request is approved, he or she builds the lodge together with his or her family and usually also works for the owner in the future. The owners of all eleven lodges are foreign to the region, as the President of San Victoriano noted:

> Throughout the twenty years that we have had tourism here, not one single [Siona] person has been owner of a lodge. (President of one of the four Siona communities, female, 32 years old. Excerpt from an interview conducted in September 2018.)

Significant power and economic differences can be observed between the tourist agencies/lodge owners and the local people. Indeed, of the approximately 300 tourists who enter the reserve every day and pay on average USD $400 for five nights, the vast majority visit one of the four villages during their stay. However, the individual contracts between the members of the communities and the lodge owners state that they are only paid USD $200 a month for the rental of the land plot[7].

My research demonstrates that when categorizing the modes of income from tourism for the Siona, this first category of renting includes the rental of motorized canoes. Certain individuals who own a canoe rent it for a daily fee of USD $80 to the lodges, which then have the canoe at their disposal during the day, including gas.

A further form of income from tourism is generated by working for the lodges. Today, there exist two modes of work. The first concerns transportation, whereby mostly young men drive the motorized canoes that represent the only possible means of transportation within the RPFC. The second kind of work concerns the kitchen, where men, as well as women, are employed to cook adapted traditional, as well as European dishes, for tourists. A third possibility of work, which is only just emerging, is that of guide. To date, only four of the over 50 guides working in the RPFC were born inside the Reserve[8]. It is likely that this will soon change, with discussions taking place to introduce a fee for outsider guides who apply for the guide course (*curso de guia*) in Cuyabeno. Furthermore, there have been attempts to only allow people native to the region to take the guide course[9].

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[6] The organization Ceibo has provided them with rainwater tanks. However, even when no rain falls for a long period of time, the river is still used as a secondary drinking water source. Furthermore, all people bathe and wash their dishes and clothes in the river every day.

[7] This amount has been achieved following numerous discussions wherein the lodge owners have argued that they cannot afford to pay the Siona more than this sum, which is obviously a lie. The Siona have achieved a rise in monthly rent only by arguing that tourism has been contaminating the Reserve for over 20 years and have threatened with compensation payments, which should be much higher.

[8] An additional difference between the guides from inside the Reserve and outsiders is that the former usually do not speak English, affording them a lower status and thus a lower salary.

[9] At the moment, there has been one course with exclusive access for Cuyabeno-born indigenous people. However, only people with a graduation (bachillerato) are allowed to take the course.

One final (although very small) source of income from tourism is represented by the shamans and certain women of the villages. In order to see the shamanic presentation and women's preparation of traditional flatbread, tourists pay an additional fee of USD $5, which must be paid directly to the shamans afterwards. However, some of this money is occasionally diverted into the guides' pockets, as there exists some ambiguity about where and when everyone should pay. Furthermore, as every guide has his or her own personal contacts with certain families and shamans, conflicts can arise between different families, as unequal income situations are created.

Economic conflicts may be regarded as a general influence of tourism on the villages. In particular, individual land use contracts between lodge owners and individual families may create divisions inside, as well as across, the different villages. This can be seen by the fact that inhabitants of Puerto Bolivar enjoy considerably more contact with lodges than their three counterparts. The number of contacts one has at tourist agencies also seems to be related to one's degree of political power and engagement. This can be observed in the ascending scale of political recognition and infrastructure from one community to the others, from Tarabiaya (which does not even have legal recognition as a community) to Sëoquëya (which has very limited infrastructure) and San Victoriano and ultimately to Puerto Bolivar (which has rainwater tanks, a paved main street, and solar electricity, all products of personal contact with political authorities). However, other actors, such as the apostolic church installed in Sëoquëya, help to disturb these clear differentiations.

A final aspect I want to briefly mention is how tourism is physically taking away land from the Siona because the MAE has illegally assigned land titles to at least one tourist operator. Even though this issue may be contested due to its illegality, it still poses a serious threat to the Siona, as one village elder stated:

> Well, about tourism. At the moment we have our little places with lodges. But as I said, who lived by the lagoon? The grandfathers. They lived there. And now, only recently the Ministry [of Environment] awarded the Neotropic Lodge this land. They give them titles. So what is this? As I always say, until when? Deals are made without consultation, under the table, without our knowledge. (Village elder in Puerto Bolivar, male, ca. 70 years old. Excerpt from an interview conducted in August 2018.)

This example of local perceptions of tourism indicates that the conservationist frontier, which most clearly manifests itself in the lives of the Siona in the form of tourism, has an influence on the social dimension of Siona life. It creates internal divisions and affects the physical dimension by damaging the river and taking away land that was in the past exclusively managed by the Siona. I consider tourism one product of the conservationist frontier, legitimized according to a conservationist ideology. However, it does not conform with the environmental visions of all actors involved. The grabbing process is, therefore, not being watched in total silence by the former commoners.

4.2. Re-Creation of an Indigenous Identity (Responses of Commoners to the Grabbing Process)

One important response among the Siona to the grabbing process concerns their identity building. I argue that the conditions that shape some components of Siona identity are derived from powerful global actors. Nevertheless, this does not imply that Siona identity is not authentic. Even though there is a discrepancy between the image the Siona present of themselves in their quest to obtain control over their ancestral territory and their actual daily life, their ideology operates as a bridge between the two. In addition, Siona ideology proposes a way of seeing identity in a hybrid way. This section will try to display how the Siona (re)create their collective identity on an everyday basis.

Identity is by definition dependent on its relation to others and is a result of interactions between different individuals and groups [36]. In order to separate one's group from others, markers are selected to define categorical boundaries in a subjective and contextual manner [36]. The UN Working Group on Indigenous Peoples has created a definition for indigenous people. The requirements include cultural distinctiveness, priority in time with respect to occupying and using a certain territory,

and self-identification [37]. It may be argued that although the fairly rigid definition of indigenous peoples formulated by the UN has certainly helped many marginalized people across the world, it very much shapes and limits the picture an indigenous group is allowed to paint of itself in public. I, therefore, take these three categorizing factors to illustrate how outside conditions form Siona identity today.

The analysis has shown that two markers currently help to define who is Siona and who is not: language and clothing. These factors provide visible proof of cultural distinctiveness. Notably, these factors seem to have been imposed from the outside.

> If I show up as I am now [in shorts and t-shirt], they won't pay me much attention. But when you are in your típica[10], they pay attention; this attracts many, tourists, whoever. The clothing and the language attracts the whole world, because many people want to come and see the culture, the tradition from here. (President of local indigenous organization, male, 35 years old, living in Puerto Bolivar, Ecuador. Excerpt from an interview conducted in September 2018.)

In this case, the outside actors even get a face: tourists. However, the tourists are also influenced in their desire to observe pristine, native cultures. I argue that this is linked to the time in which we are living. The Anthropocene[11] fosters a feeling of urgency: for the Siona to survive as a people; for Western tourists to observe undisturbed cultures in a world of destruction. Moreover, even though most tourists who visit the RPFC have probably never read the UN definition, it indirectly forms their vision of an authentic indigenous group. This is not to say that these elements are not authentically Siona. Baicoca has always been the Siona language and their traditional clothing are embedded in their ideology:

> Our necklaces are our knowledge. [. . .] When you drink *yagé*, the *cascabeles* are something quite beautiful. When you touch them, the spirit of nature[12] is present with the necklaces. And the clothing: the most beautiful color is bright blue, or sky blue and white. I don't know why but these colors call the spirits' attention. (Vice-President of Puerto Bolivar, female, 30 years old. Excerpt from an interview conducted in August 2018.)

Concerning the second requirement of the UN definition—priority in time—, there exists some further ambiguity. Almost all of the interviewees possessed an impressive family history to share. By collecting different kinship stories, I was able to produce a genealogical tree that related all of the families in Puerto Bolivar, including some in the other three villages. In this way, almost everyone is somehow related to one of the five men who were the first known in a line of ancestors to inhabit the area of today's Cuyabeno.

Hence, almost all people living in the four communities today can prove their kinship with people who lived here before settlers and other indigenous groups arrived in the region. It can, therefore, be argued that the second UN requirement for being an indigenous group is also fulfilled. However, a qualification needs to be made: not all of these five founding fathers were Siona[13]. Owing to the region's complex history and permeable indigenous boundaries as regards territories, different ethnic groups have always intermarried and mixed. The limits of collectivities have become blurred. How can this still be a distinctive indigenous group?

Here, the third UN requirement concerning self-identification comes to the fore. The Siona of the Cuyabeno have highly specific traditions, with the Secoya in particular, who share very similar practices and language, representing a threat to their identity claims. The two groups have even been

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[10] Traditional costume.
[11] Our current geological epoch, which is characterized by the fact that human agency has had such a substantial impact on the Earth that it can be recognized in geological sediment layers.
[12] Original version: *el espíritu de la naturaleza*.
[13] Two of them were Secoya and one Cofán.

called Siona-Secoya due to the union created by the SIL[14] in the 1960s [31]. However, given that most of the Secoya families followed the SIL to San Pablo on the River Aguarico in 1974 [4,31], the Siona argue that they have cared more for the Cuyabeno forest. Therefore, even though Siona, Secoya, and Cofán people have mixed for decades, the key point in defining an indigenous group as distinct is the fact that the four communities living inside the RPFC have formally united and self-identify as the Siona of the Cuyabeno. I, therefore, argue that, while all of the Siona are able to present family relations with one of the founding fathers of Siona Cuyabeno settlements, self-identification plays an even more important role at the collective, as well as at the individual level.

In general, it can be said that the Siona's response to the green grabbing process in which they see themselves involved concerns a re-creation of their indigenous identity in accordance with the UN definition for indigenous peoples.

5. Discussion

Considering the historical context, the application of the Ensminger frame to analyze institutional change [11] has allowed me to demonstrate how the situation of institutional pluralism and urgency for the commoners has come to be. The influence of the different frontiers overriding the region has played a particularly important role in this regard. The situation prior to the arrival of colonial conquerors was characterized by a relatively strong institutional setting: a spiritually interlinked world with indigenous territories governed by shamans who acted according to an animist ideology to manage common property resources in a period of permeable mobility. However, the arrival of the frontiers led to the gradual undermining and replacement of the Siona's traditional institutions through the introduction of a capitalist ideology, accompanied by conservationism.

I, therefore, argue that changes in institutions, as well as in the Siona's experiences with frontiers and institutions, explain their urgent need to legalize their land in order to re-establish control over who has access to the natural resources inside their ancestral territory and how they are managed.

As has been established in this article, the institutional setting in the RPFC is pluralistic and even ambiguous. Local informal institutions are being replaced in the re-territorialization process of the frontier. Furthermore, formal institutions are first not always implemented as legally stated and, second, occasionally contradict and override each other. Although the RPFC has been established as part of a global wave of conservationism in an attempt to save the abundant biodiversity of the Cuyabeno region, today its effectiveness in protecting the environment is being questioned by the Siona.

In order to regain control over their territory, the Siona have formed a union between four communities and have revived their formal organization through the creation of ONASSCE in order to augment their bargaining power. As has been shown by other authors, even though powerful actors may replace existing ideologies with their own, older ideologies might also be re-instrumentalized if they fit into the new system [14,15]. In order to achieve their goals, it could be argued that they apply a perspectivist ontology strategy [7]. Just as a hunter may paint his face with a jaguar design when hunting a peccary or an anaconda design when fishing, Siona representatives assume the role of either Western conservationists or ecologically noble savages, depending on their counterpart. When talking to MAE officials, the Siona use a Western conservationist discourse in order to legitimize their land claims. In contrast, in order to attract attention and financial support from NGOs and tourists, they assume the role of a remote, native people with traditions and institutions as old as the forest worthy of protection. Hence, they use different discourses of legitimization depending on their audience. Meanwhile, both discourses are connected through the animist worldview, which has been part of their ontology for centuries, but can also be partly integrated into a modern, conservationist logic of living in harmony with one's environment.

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[14] Summer Institute of Linguistics.

However, the Siona are struggling to maintain the UN-defined picture of an indigenous group because traditional institutions, as well as their language (despite being authentically Siona), are vanishing, and a modern indigenous identity that would combine old and new elements is not required. Having talked to members of the Cuyabeno Siona communities, examined their dynamic history and considered the importance of self-identification, I have come to the conclusion that Siona identity is coercively hybrid and ever-changing. There is a Spanish proverb that, even though it is generally interpreted in an alternative (and negative) way, seems to have considerable compatibility with animist ideas of seeing oneself in relation to others: Even though the monkey may wear silk, he is still a monkey[15].

In Descola's definition of animism, physical appearance is important in distinguishing one from other beings [7]. Indeed, the monkey may wear silk in order to distinguish himself from other monkeys. The Siona may wear tunics in order to distinguish themselves from other human groups[16]. However, the inside is always human, or Siona, in this case. The monkey is still a monkey; the Siona are still Siona. It is not important whether it is a monkey or a Siona because in animist myths the idea persists that there was a time when everyone had the body of humans, until they changed their form under different circumstances [7]. Hence, everybody has a human interior, or a soul, when phrased in Western terms. In addition, when considering Viveiro de Castro's thoughts on perspectivism [8], in which everyone sees themselves as human, it can be concluded that in animist ontology, a cultural continuum exists across all human and non-human species [7]. This means that the monkey may wear anything or appear as anything he wants, but inside he will always be human, or seen from a human's perspective, a monkey. From their own perspective, therefore, a Siona will always be a Siona inside, no matter how he or she presents himself or herself to the outside. In this way, when seen from an animist perspective, identity is a hybrid concept that is able to change. As shown above, language and clothing, which are embedded in Siona ideology, form one authentic part of Siona identity. Even though they only represent a fraction of Siona identity, they are used to present a rigid picture of indigeneity, as requested by global actors, such as (conservationist) NGOs and tourists, in order to be accepted as a donor target on the one hand and, in this case more importantly, the legitimate owners of the Cuyabeno.

Taking into account foucauldian poststructuralist insights [38,39], it can be argued that the Siona are made subjects of more powerful actors, such as NGOs or the state. There exists some ambivalence between embodying and presenting an identity that stands in line with one's own values but that simultaneously is accepted by the outside world. Certainly, a balance has to be found and constantly upheld between externally imposed views and self-representation. However, I would like to stress the point that this argument should neither negate local people's agency nor their authenticity. Even though the Siona present a picture required from the outside, they are still Siona. Thus, they create their contemporary collective identity using traditional elements that have always been part of Siona life. When comparing this research with similar previous studies, its contribution on the importance of identity stands out. Indeed, while other authors have focused more generally on the region [5], on a different indigenous group and their environmental struggles [40], or on ontological perspectives [41], there is no recent study on the Siona and their battle for survival. The only study focusing on the Siona was conducted twenty years ago, when Siona-Secoya was considered a single indigenous group [4].

6. Conclusions

For these reasons, large-scale land acquisition processes under the name of conservationism must be analyzed regarding their implications for all concerned actors. The RPFC is presented as a protected

[15] Original version: *Aunque el mono se vista de seda, mono es.*

[16] When assuming an animist perspective, it is not disrespectful to compare a person to a monkey because both are actually human, as will be explained in a moment.

area where flora and fauna can thrive in an undisturbed manner, a forest sanctuary where Nature can still be observed in its pristine condition. Eco-tourism is promoted in the area and many Western tourists trek to the Amazon in order to observe this natural heritage. Local responses to tourism as one aspect of the grabbing process include ambiguous reactions. On the one hand, tourism provides—albeit in very modest ways—a source of income in one of Ecuador's most marginalized and geographically remote regions. On the other hand, it does not concur with local visions of an environmentally friendly lifestyle and physically takes away land that was formerly managed exclusively by this local indigenous group. It has been shown in African [39,42] and Asian [43] contexts how commons systems provide vital resources for marginal groups, the dismantling of which undermines the resilience of social and ecological systems [44,45]. In this way, this article can be seen as congruent.

Furthermore, this article has shown how the reigning ideology in a society defines which discourses and forms of legitimization are acceptable. In the process of commons and resilience grabbing, the Western ideology of conservationism has spread to many parts of the world, where indigenous people find themselves obligated to legitimize their existence in resourceful areas in conservationist terms [14,38,46]. Consequently, the study's main contribution to the debate around commons grabbing processes consists of focusing on its influence on identity building processes. This article has illustrated parts of a land grabbing process from the perspective of the Siona, a group of local indigenous people who, even though their agency is restricted, do not accept mere victimhood. Instead, they develop their own strategies and re-create their identities, including institution shopping from below.

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Navigating Contested Winds: Development Visions and Anti-Politics of Wind Energy in Northern Kenya

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Abstract: State-led development visions and the accompanying large-scale investments at the geographical margins of Kenya rest on the potential of public–private partnerships to fast-tract sustainable development through accelerated investments. Yet, the conceptualisation, planning and implementation of these visions often deploy a depoliticising development discourse that reinforces and expands long-standing misconceptions about the margins primarily directed at pastoral livelihoods and related communal land tenure. This paper illustrates how the implementation of a wind energy project employs the corporate strategies of depoliticising both land claims and development interventions. In Northern Kenya, private sector participation in large-scale wind energy infrastructure has created a complex development apparatus in which players are empowered to undertake the accelerated investments required to shape the delivery of the Kenya Vision 2030 in the region. An analysis of corporate actors' strategies in the implementation of the contested wind farm presents a depoliticised framing of "low-cost green energy", representations of pastoral land tenure and corporate social responsibility strategies through which dispossession is justified and legitimised. This case underscores the extent to which corporate counterresistance is shaped by the reproduction of a historical depoliticised discourse about pastoralism and communal tenure and challenges the traditional narrative of government hegemony against local resistance to large-scale land acquisitions (LSLAs).

Keywords: large-scale land acquisitions; common pool resources; green energy; corporate social responsibility

1. Introduction

Recent scholarship has produced a wide range of insightful analyses on the trajectories and dynamics of large-scale land acquisitions (LSLAs) and related grassroots mobilisation against their dispossessing potential. Within this vast literature, LSLAs of common property resources (CPRs) have received limited attention despite their legal vulnerability and preferential targeting by the grabbing processes. Nevertheless, several important studies have highlighted the historical shifts in the commodification of land relations [1], the role of law and government policy embedded in neoliberal economic ideologies in consolidating dispossessory trends in CPRs [2] and the political reactions from below to commons grabbing [3]. This paper contributes to these debates by emphasizing the role of historical construction and denial of the proprietary character of communal tenure and their reproduction in contemporary technical "development" discourse [4] in creating and perpetuating commons dispossession. Contemporary LSLAs, which are deeply embedded in institutions and policy planning systems of the state, are presented as "new" development visions to throw off aid dependencies [5] and are expressed as an "unavoidable prerequisite for implementing the productivity-enhancing technologies" [6], hence dispossessing indigenous communities by securing exclusionary rights over their common pool resources.

Drawing from the case study of a wind power development project in Northern Kenya, the Lake Turkana Wind Power Project (LTWP), this contribution critically analyses the historical and contemporary technical discourse around the "visions of viability" [7] of pastoralism enacted through colonial and postcolonial policy and planning and their practical and political consequences for LSLA of community land. The key questions guiding the analysis of this contribution are as follows: how does state 'development' discourse on pastoral commons inform present-day legitimisation of commons dispossession, and, more importantly, how do commercial and political interests select from diverse delegitimising discourse to maintain and promote alternative investments in communally owned land? To answer these questions, this paper analyses how the introduction of investment designed to provide reliable and low-cost green energy to the pastoral commons at the margins of Kenya reproduces colonial misconceptions on local livelihoods, customary tenure and the utilisation of common pool resources. The pursuit of the LTWP project, a new flagship project under the *Kenya Vision 2030*, has created unresolved contest between corporate entities involved in the LTWP project and indigenous pastoral communities trying to resist exclusion from their access to critical CPRs.

The case study in this paper is derived from Sarima in the Mt. Kulal region of Marsabit County, an arid region in Northern Kenya and home to autonomous and tribally-based migratory pastoralist societies that include the Rendille, Samburu, Gabra and Turkana. With its large central plains, the Mt. Kulal region covers approximately 20,000 km^2 of bushland and dwarf shrublands dotted with lines of seasonal sand rivers that dry out in the open plains. Despite the low annual rainfall of less than 500 mm, the proximity of the Eastern shores of Lake Turkana has important impacts on the hydrology of the area, including being an important source of perennial grasses. As a major dry season resource with enough open grasslands, the Mt. Kulal region is a point of convergence for migratory pastoral groups, which necessitates intertribal negotiations for rangeland pasture and water resources. In 2006, the isolated and hitherto marginalised Mt. Kulal region was set for transformation with the authorisation of an LTWP comprising a wind farm with 365 wind turbines and related infrastructure on 150,000 acres of land, a high voltage substation, an associated transmission line and 204 km of road upgrades. In 2014, communities in the Laisamis Constituency brought a case to Kenya's Environment and Land Court (ELC) for the immediate cessation of all project activities by the LTWP, citing irregular, unprocedural and illegal acquisition and annexation of community land, commissioning of a "self-serving" [8] Socio-Economic and Environmental Impact Assessment (SEIA) by the proprietors of the LTWP project and denial of the indigenous status of communities around the Mt. Kulal region. Challenging the community case in the ELC, the LTWP, through its lawyers, submitted that the land in question was "uninhabited—the community was not being merely left on the roadside" and "situated in the middle of nowhere" and that LTWP investment was "a *Kenya Vision 2030* flagship project which has benefitted the community immensely and will continue to benefit them." [8].

The countercontestation to the community opposition to the LTWP offers a glimpse into the development discourse that legitimises commons grabbing. The LTWP fits a wider and well documented pattern of the depoliticisation of development [4] and the extension of state control through a specific knowledge structure that presents pastoralism as unviable and legitimises large-scale investments as the ideal. Furthermore, it demonstrates how, as argued by Cousins and Scoones [7], by creating technical discourse around visions of economic viability, large-scale investments become enacted through policy and planning without interrogation. Further, the LTWP case illustrates the relevance of the notion of the "anti-politics machine" as a lens to analyze depoliticisation within development discourse. The discussion presented in this paper about the depoliticisation of development interventions is based on the understanding of pastoralism as a rational adaptation to an environment dominated by variability through mobility and utilisation of common pool resources (CPR) held in common property institutions. Though mobility, pastoralists can interface extreme variability in the environment with variability in the production system [9], hence exploiting the economic benefits associated with flexibility [10].

This paper draws on James Ferguson's thesis of an anti-politics machine to examine historically conditioned colonial discourses about pastoralism and the tradition of their reproduction in development discourses in postcolonial investment and policy in pastoral regions to legitimise the dispossession of commons. The paper proceeds as follows: The next section presents Ferguson's anti-politics machine framework before a presentation of historical representations and dispossession of the pastoral commons in the Kenyan context. This is followed by descriptions of the study area and research methods. The paper then considers the key anti-politics machine derived from the LTWP's wind power development to identify a myriad of strategies employed by the LTWP project to justify its investment. These strategies are then used to demonstrate the discursive relations between the LTWP's anti-politics machine and the broader historical and contemporary development discourse that shapes the dispossession of pastoral commons. Finally, we conclude with a discussion on the relevance of depoliticisation on commons dispossession and how such contested appropriation of commons constitutes "resilience grabbing", with deleterious impacts on commons reliance on CPRs.

2. Anti-Politics Machine and Common Pool Resources in Kenya

A theoretical understanding of anti-politics in development discourse and practice was developed by anthropologist James Ferguson. While studying state power and development discourse in Lesotho, Ferguson illustrated how supposedly "politically neutral" development interventions overlooked complex political and structural realities within specific communities—what he termed "anti-politics machines" of development [4]. The anti-politics machine thesis argues that development institutions have a tendency to "generate their own form of discourse" by creating "a structure of knowledge" around subjects of development interventions that have the effect of expanding and entrenching the bureaucratic power of the state as well as projecting a representation of economic and social life that denies and suspends politics and its effects [4]. Consequently, development interventions "inevitably adopt a technocratic and universalizing approach that tends to obscure both the essentially political character of many development problems and the local and national political processes on who gets to define and benefit from development' [11]." Ferguson further observes that despite the widespread and apparently unintended consequences of their development interventions, governments and their networks of donor agencies continue to justify increased and similar interventions based on the same erroneous assumptions. However, as Buscher argues, "anti-politics can serve the necessary political strategy to try to 'make things happen in' or 'get things out of' intensely politicised and increasingly commoditised environments [12]."

Ferguson's work has been criticised for ignoring a "third discourse" in development that represents the subject of development projects as "the rurally based, land-poor migrant worker" who would benefit from having a "market, or a road, or a school, or a clinic only 5–10 miles away, instead of 50 [13]." Similarly, Ferguson's argument that the development apparatus constitutes an "anti-politics machine depoliticising everything it touches" [4] has been questioned. Examining historical and contemporary development interventions in Indonesia, Li argues that development programs may "become a politically charged arena" in which rules and claims are constantly reassessed and reworked [14]. However, Ferguson's thesis has been extensively used to critically examine how knowledge is generated and used in development and has continued to be provide useful analyses of the effects of development interventions. This paper employs Ferguson's framework to structure an analysis of legitimising discourse related to historical and contemporary dispossessions of commons in development interventions in Kenya. The framework's focus on construction of development representation and their institutional rationales is appropriate given the development policies and strategies employed in the study area. The four theoretical premises for development representation and the institutional rationales of Ferguson's framework included the following [4]:

(a) That the target of development programs is not yet incorporated into the modern world and that investments in infrastructure, education, introduction of cash economy, etc., can "open it up" and transform it into a developed modern economy;

(b) That the target of development programs "must be agricultural" so that its development can be achieved through technical inputs and extension services;
(c) That the target of development programs constitutes a national economy and thus supports the idea of national economic planning and the notion and idea of sector-based programs; and
(d) That the target of development programs is subject to the idea of governmentality—the control of a neutral, unitary and effective national government—and is thus responsive to planners' blueprints.

3. The Historical Processes of Commons Representations in Kenya

In Kenya's arid and semiarid lands (ASALs), depoliticisation has long been associated with the social relations related to land and productivity of the dominant land uses. The coming of colonial rule initiated two changes that shaped the future of government policy in relation to ASALs. First, Kenya's ASALs have a problematic history whereby the colonial administration not only constructed the dominant land use—pastoralism—as an "irrational" way of life but instituted legal and policy strategies to introduce private property rights in the ASALs, thereby curtailing mobility and taking away common property resources from the control of flexible customary resource management institutions. This representation of pastoralism was not only isolationist and discriminative but also laid down policies for its restriction, as observed by Zwanenberg:

> "The colonial view had consistently been that pastoral, and particular nomadic activities, were primitive, backward and to be discouraged. This view underlay the permanency of the stock control regulations, and especially the quarantine [screening] regulations, which precluded any official encouragement of stock trade." [15]

Pastoral livelihoods in the ASALs depended on spatial and social mobility to interface extreme variability in the environment with variability in the production system [9] by making use of a wide range of natural resources, social resources and opportunities [16]. However, colonialism created boundaries challenging pastoralists' imperative of free movement, "disrupting the natural process of adjustment that maintained a balance between people, land and livestock [17]." This colonial restructuring reduced the mobility on which pastoralism depended. In addition, increasing droughts and intensification of disease outbreaks pressured pastoral households.

Second, the colonial white settlers erroneously perceived any unoccupied piece of land as "no man's land" and annexed it. Under the colonial "civilisation" mission, the colonial administrators began the process of individualisation of rights in land as "the first stage in the modern departure from the customary system of landholding [18]." This ideology enabled European settlers and corporations to take for themselves the best land and mineral resources, including fragmenting the pastoralist domain and fracturing pastoralist communities, which, according to Markakis, is "a historic injustice that awaits redress [19]." The colonial state not only enforced individual rights in land to exclude others but also "claimed all apparently 'vacant' or 'unused' land for itself as 'public land', so that occupiers lacking express approval could be treated as squatters in the land of their birth, and evicted [18]." By imposing private property rights on critical rangeland resources, such as dry season grazing areas and migration routes, the colonial government contributed to the transformation of pastoral rangelands, supporting and reproducing vulnerability to risks.

The independent Kenyan administration, in a bid to achieve development and defeat the three ills of disease, ignorance and poverty, stated that development planning is the most important instrument to achieve those goals. However, the colonial regulatory and policy infrastructure was transferred largely intact and was endorsed and funded by international development agencies. In the ASALs, narratives of scarcity in lowland ecologies and productivity of pastoral economies became the cornerstone of development planning. Most of the development strategies adopted after independence were "technical" solutions that had "the allure and unquestionable legitimacy of science [16]." For instance, the premise of range management concepts such as "carrying capacity",

"cattle complex" [20] and "tragedy of commons" [21] became a handy simplification of the complex African pastoral system. Accordingly, issues of donor mobilisation around critical areas of ASAL development became a key part of government interventions to include volume and value production. The 1970s saw the introduction of group ranches that were "promoted with the intention of easing the transition from communal tenure and encouraging commercial production by offering veterinary support and better access to markets [16]." However, the group ranches model was incompatible with the way in which pastoralists managed collective access to resources [16], and consequently, critical common property resources were lost, leading to the displacement of pastoralists

Recent trends in regional and national development policies towards the ASALs have seen efforts to "rectify" [22] this historical marginalisation through inclusive policies and state-led development "visions" that aim to open up these areas as "new frontiers for development" and incorporate them into the state [5]. These "new visions" of development are being created to increase agricultural productivity [23], generate mineral resources for export [24] and expand infrastructure required for regional economic integration [25]. These new visions were also responsible for a change in narratives from constructing pastoralism as an "irrational way of life" to understanding the unique challenges to the development of the region and the rationale for protecting and promoting mobility and supporting the pastoral customary institutions [26]. The deployment of LSLAs and the related infrastructure installations have been accompanied by many perceived advantages, including addressing unsustainable fossil-fueled economies and the Earth's climate crisis [27,28]. Consequently, there is considerable pressure to invest in reenabled energy projects globally as part of a long term strategy to achieve the dual goal of meeting targets to increase shares of renewable energy (and by extension reduce the reliance on greenhouse gas (GHG)-emitting fossil fuels) and enhance environmental sustainability [29,30]. However, renewable energy projects around the globe have been associated with "land grabbing", which is "a measure used by some governments (and corporations) to meet their food and energy requirements by acquiring land in a foreign country [31]." Experiences around the world indicate fierce sociopolitical conflicts in relation to renewable energy installations [32,33]. Traditionally, the terrain of contestation comprises diverse issues ranging from "struggles against dispossession" involving expulsion and dispossession of land from local communities to issues of incorporation and the terms of such inclusions [33,34]. As a result, contestations against mobilisation around renewable energy have not only mobilised a wide range of actors, including human rights, agrarian and environmental activists [34] but also involve diverse strategies of resistance from covert to more open opposition to dispossession and terms of inclusion [35,36].

LSLAs involve a great deal of political dynamics involving transformations in existing infrastructure, land rushes and reconfigurations of local livelihoods [37,38]. In the context of common property systems, land rush has been associated with the unintended effects of transforming and redefining common land rights essential for the communal systems of production that ensure the sustainable use of natural resources. Among the African commons, this is particularly exacerbated by the weak status of community-derived ownership over the commons [39] from years of government policy measures that sought to take rights and responsibilities related to natural resources out of the hands of local communities [39,40]. While government policies and their impacts on communal ownership do play a significant role in the ease by which commons are easy targets of LSLAs in general, the vulnerability of commons to LSLAs has been thought to be exacerbated by the incompatibilities between uses, claims and values that common users attach to natural resources on one hand and the commodification goals of governments that seek to formalise property rights on the other [2,41,42]. As LSLAs unfold, the dispossession of commons is leading to a loss of principal and scarce natural capital, with grave implications for social and political stability.

In Kenya, the development vision of achieving prosperity and middle-income status by 2030 contained in *Kenya Vision 2030* has impacted the scale and approaches to commons dispossession. Growing recognition of ASALs as "new frontiers of opportunity" were accentuated in the government's

U-turn in its understanding and investments in the ASALs after decades of marginalisation, and this has been articulated in development visions such as *Kenya Vision 2030* with massive investments in infrastructure, energy and irrigated agriculture. Vision 2030 and related policy visions have an array of strategies for transforming the ASALs. First, through the creation of new development corridors—"networks of roads, railways, pipelines and ports that facilitate the movement of commodities" [43]—the frontier areas are expected to be incorporated fully into the state [5]. Second, these strategies aim to "create an enabling environment for private sector participation in infrastructure and technology development, including appropriate tax breaks and incentives, in all areas of infrastructure investment [26]." Third, Vision 2030 aims to transform the country into "a newly industrializing, middle income country providing a high quality of life to all its citizens in a clean and secure environment", including sector specific flagship projects. While these visions are conceptualised as transformations to space, there is a great deal of uncertainty on exactly when and where they will materialize [5]. In addition, it is unclear whether the redesignation of ASALs as new frontiers of opportunity is demonstrative of the recurrent reassessment of development concepts witnessed in the last five decades or is, in fact, a reinterpretation of the quality of territory for green and bioeconomic forms of development [44].

The legacy of these development visions on ASALs is already evident in the inevitable physical and social fragmentations of the ASALs' landscapes, claims of dispossession of indigenous communities and contested land politics. According to Browne, one of the major *Kenya Vision 2030* flagship projects, the Lamu-South Sudan-Ethiopia Transport (LAPSSET), "has failed to realise the developmentalist 'Africa rising' narrative of its promoters" [45]. For pastoral commons along the path of the LAPSSET project, inevitable disruptions of migration routes and losses of crucial dry season fallback zones during drought [46] constitute what has been dubbed "resilience grabbing". Moreover, development visions have been associated with "the new scramble for Africa": dispossession of land characterised by "the haste, the lack of negotiation about conditions, the privileging of foreigners over locals and when we know that c. 70% of the land thus far acquired is not (yet) taken into production [47]." Furthermore, the framing of development visions often engenders a discourse of depoliticisation of the local land use and the natural resource context typically enacted by governments and their investors to legitimise dispossession as state appropriation of "unused" or "vacant" land [47]. This sees the state exhibiting anti-politic strategies not only through "development by dispossession" but also through encouraging and endorsing corporate agencies' CSR and greenwashing strategies of sustainable development narratives to preempt resistance and minimise conflict.

4. Methods and Study Site

4.1. Data and Methods

The empirical material for this article is drawn from field work that took place between July 2016 and June 2018 in the Northern Kenya County of Marsabit (see Figure 1), where, since 2006, the local government authorities with support from national government institutions has proactively enabled a private corporation to acquire 150,000 acres of community land to implement a wind power project expected to add 310 MW to the national grid. The objective of the field work was to examine mechanics of the 2006 acquisition of 150,000 acres of community land for wind power development by the LTWP consortium, grassroots political resistance to the project and attempts by state and corporate actors to restrict and manage contestation of the wind power project. This paper employed a qualitative data collection strategy aimed at identifying: (a) the main actors in the grassroots resistance to the LTWP project, their characteristics and their underlying ideological and campaign strategies and the subjects of their suit; (b) the coercive and anti-political maneuvering and counterresistance measures of the LTWP project and affiliated government institutions; and, (c) how diverse delegitimising "development" discourse employed by the LTWP project is associated with historical delegitimisation of pastoral commons and the generalizability of these strategies in similar contexts. This strategy

entailed the collection of the three types of data used in the study: semi-structured interview responses, a content analysis of ELC proceedings and archival and secondary data from government policy and publicly available LTWP project documents.

First, the main actors in the grassroots resistance to the wind power project were identified through a review of court documents relating to the ELC Civil Suit No 163 of 2014 and key informants. At this stage, two main groups of actors were identified: (a) the petitioners (TPs) and (b) the interested parties (IPs). Further, apart from the LTWP project, which the TPs identified as the main respondent, a third category of actors was identified: (c) government institutions with direct responsibility for land administration in the study area including the County Government of Marsabit, The Attorney General, the Chief Land Registrar and the National Land Commission (NLC). Semi-structured interviews were administered to the members and the leadership of two grassroots groups in the ELC Civil Suit No 163 of 2014, which included a set of key informant surveys (i.e., three key leaders in each group; N = 6); a set of key informants in the areas represented by each group (N = 16); key informants drawn from the National Land Commission (NLC) (N = 2); officials of the County Government of Marsabit (N = 5); members of County Representatives in the Marsabit County Assembly (CA) (N = 6); and political aspirants for national and county assembly seats in Laisamis Constituency (N = 5). Responses from the TPs and IPs revealed the historical context and the channels of expression of the grassroots resistance to the LTWP project, the coercive and anti-political maneuvering and counterresistance measures of the LTWP project and affiliated government institutions. Details of community land acquisition for the project were obtained from records of the now defunct Marsabit County Council and semistructured interviews with four former Marsabit County Council councilors and five serving County Representatives in the Marsabit County Assembly (CA). Government policy documents, LTWP documents, correspondences and court proceedings were obtained to triangulate community claims and the corporate counterclaims and narratives legitimising the project. Archival research conducted in the Kenya National Archives between July 2016 and June 2017 was used to understand historical aspects of communal land and ASALs legal land institutions.

Second, the anti-political nature of discourse associated with the LTWP project case was investigated by reviewing publicly available government and company documents and the proceedings of the ELC Civil Suit No 163 of 2014. Through critical analysis of documents, court proceeding and related rulings and additional materials from secondary sources, the paper identified discourses associated with Kenya's key development visions and green energy, including counter-framings of the TP application; the company's representations of community land and related claims of illegal land acquisition; and the meanings associated with the company's corporate social responsibility (CSR) investments and the indigenous status of the local communities. These analyses paid attention to the practices and strategies of the LTWP project regarding the "depoliticisation" of green energy, land redistribution claims of TPs, communal tenure and local communities. Finally, from the analysis of the first two sets of data, the paper identified strategies of depoliticisation, their articulation and the mechanisms for their reproduction employed by the LTWP project and its network of local and national actors as well as how they relate to the dominant colonial and postcolonial discourse that delegitimised pastoral commons and legitimised alternative large-scale investments as the ideal.

However, there is need to highlight a methodological shortcoming of research on "land grab". Given some of the characteristics of LSLAs, Oya points out that land deals generally provide "killer facts that raise awareness and induce action [48]." While certainly not ruling out all sources of potential bias from the interview conducted with key informants—given land (and by extension the LTWP project) is a key issue around which local politics are organised—this paper tries to address these problems by focusing on the multiple layers and contradictions by disaggregating, clarifying and testing various claims and counter claims used by different interviewees, as suggested by Oya. In addition, the paper tries to enhance the comparability of the arguments and counterarguments in the ELC Civil Suit No 163 of 2014 with historical discourse on pastoralism development.

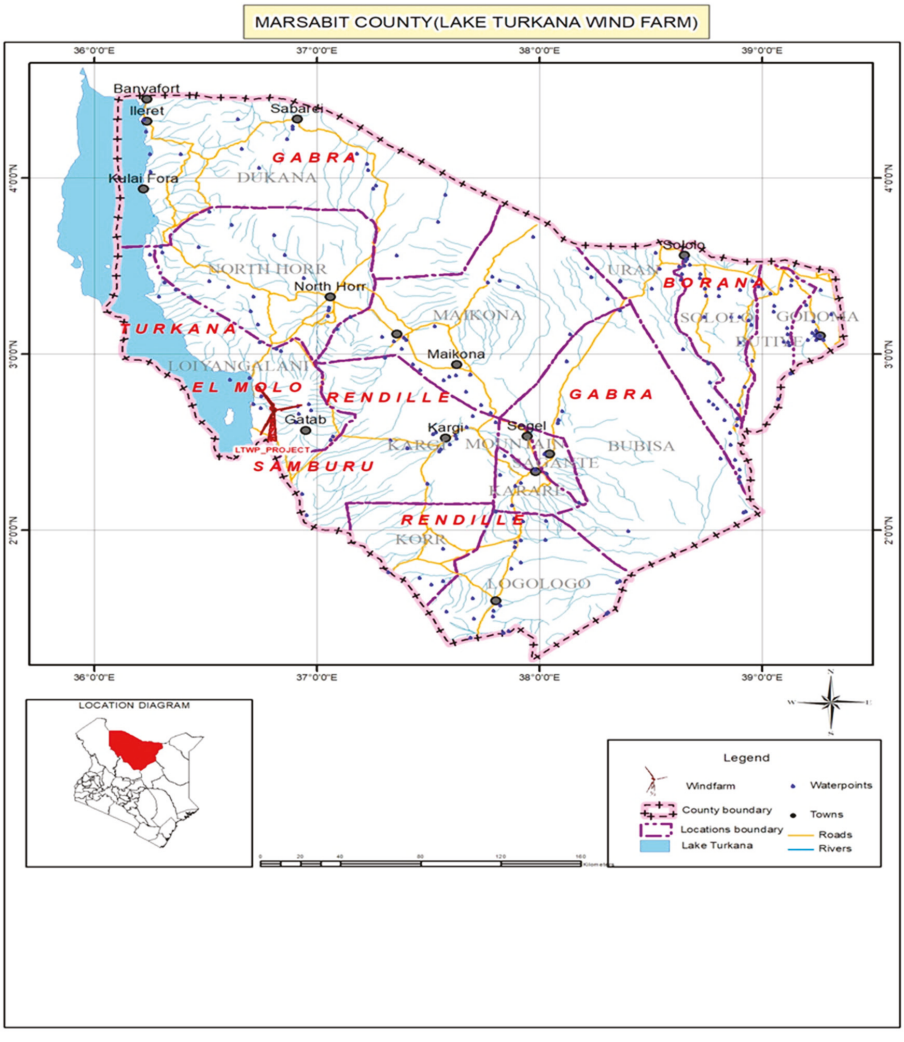

Figure 1. Map of Marsabit County highlighting the study area.

4.2. Study Area

Marsabit County falls within the larger ASALs of Kenya and is among the 3 counties comprising the upper Eastern bloc. Marsabit County is the largest county in Kenya in terms of land mass (70,961.2 km^2) and has a population of 291,166 [49] people, which includes three major migrant pastoralist groups: Boran, Gabra and Rendille. Marsabit County comprises extensive plains lying between 300 and 900 m above sea level and an extensive dwarf-shrub grassland or a very dry form of bushed grassland [50]. The county is also endowed with mountain ranges, including the Ol Donyo Ranges (2066 m above sea level) in the southwest, Mt. Marsabit (1865 m above sea level) in the central part of the county, the Hurri Hills (1685 m above sea level) in the Northeastern part of the county and Mt. Kulal (2235 m above sea level) in the northwest [50]. The constitutive plains comprise diverse ecological zones ranging from subhumid to arid that form a natural habitat for diverse grasses and

shrubs that provide pasture in different seasons. Migrant pastoral communities utilise these diverse pasture types through the migration of herds.

Marsabit County and the entire arid region of Northern Kenya have been politically and economically removed from the power of the state. According to Catley et al., these borderlands have been "beyond the reach of the state and so the development industry" and, as such, have been designated as "sites of famine, destitution and impoverishment....while contributing little tax or tribute to state coffers [51]." However, in an apparent U-turn from the marginalisation policy, the Kenyan state embarked on a "rebalancing of national development" through "accelerated investment in previously neglected regions essential for sharing in the promise and benefits of Vision 2030" [26] including "interventions required to bring the ASALs to the same threshold as the rest of the country [52]." The state-led development visions still have the old stereotypes, including a distinct security dimension, but they also articulate a "new departure....to transform them [5]." The premise underlying these development visions is that "the Government will release the latent potential of the arid and semiarid lands in livestock, tourism, and renewable energy, and regions comparative advantage in its strategic location as Kenya's bridgehead to the markets of North Africa and the Middle East [26]." Some of the major projects outlined in Kenya's development vision for the development of Northern Kenya include large-scale infrastructure development and renewable energy development, including "prioritizing the development of transport corridors linking Kenya to key markets in Ethiopia, South Sudan and Somalia and beyond them to the Middle East, such as the Lamu Port-South Sudan-Ethiopia transport corridor [26]." Constructed under the "imagery of a seamless Africa" [43] for ease of movement of capital, commodities and people, they have had negative impacts such as the emergence of "economies of anticipation" for benefits and compensations [5].

The LTWP was launched in Sarima in 2006 as a *Vision 2030* flagship project with funding from a consortium of international investors. The project website offers a brief introduction to the 310 MW wind farm underlining green energy and partnership with local public power company:

> "Once operational, the wind farm will provide 310 MW of reliable, low-cost energy to Kenya's national grid (i.e., approx. 17% of the country's installed capacity), which will be bought at a fixed price by Kenya Power and Lighting Company Ltd. (KPLC) over a 20-year period in accordance with the Power Purchase Agreement." [53]

The Sarima area of the Mt. Kulal region comprises large arid plains with a hill mass, Mt. Kulal, to the east and Lake Turkana to the west. Endowed with a unique geographical condition, Sarima experiences strong predictable wind streams as a result of fluctuations in daily temperatures between Lake Turkana and the desert hinterland. Located between Mt. Kulal and Mt. Nyiro, Sarima is a valley that acts as a funnel in which wind streams are accelerated to high speeds, 11 m per second, which are among the highest recorded in the world. Sarima is thus endowed with extractable wind power, which the LTWP has translated into a capacity of 300 MW. Consequently, the LTWP was designated as a flagship project of *Kenya Vision 2030* to the extent that the project will generate reliable green energy at a lower cost through a public-private partnership (PPP). Following a memorandum of understanding signed between the KPLC and the LTWP on 10 April 2008, the wind farm facility, comprising 365 turbines, a high voltage substation and a transmission line, was begun in 2014. The LTWP, Kenya's biggest PPP, with an investment of over $700 million that is expected to increase the country's energy output by 15–20%, was promoted as socially and environmentally benign with positive impacts on sustainable energy, job creation and the development of rural Northern Kenya.

Designated as the largest wind farm in Africa, the LTWP project also drew the interest of international development funding agencies with interest in renewable energy and carbon credit generating assets. The project is financed by a consortium of international donors, including the African Development Bank (AfDB), Finn Fund, Norfund, the Danish Investment Fund for Developing Countries (IFU), the Danish Export Credit Agency (EKF) and Vestas, which manufactures turbines. Initially, the World Bank was interested in providing risk guarantee for the project but withdrew its support in 2012 with concerns around Kenya's capacity to consume all of the electricity generated

by the project [54] and fears that the Power Purchase Agreement would expose the country to large financial risk [55]. However, in 2018, the International Finance Corporation (IFC), World Bank's corporate finance branch signed a cooperation agreement with the Finnish government for a €114 million loan to the LTWP project as part of its support for wind power projects across the continent [56]. After the withdrawal of the World Bank, AfDB stepped in to provide partial risk guarantee to the other project financiers.

Relatedly, it was not long before the procedure of land acquisition and the socio-economic and environmental impacts of the project were questioned considering the socioecological and cultural and religious affiliations attached to the region by the pastoralist communities. In 2014, residents of the Laisamis Constituency and Karare Ward in Marsabit County filed a lawsuit in Kenya's ELC to contest the "unprocedural and illegal" acquisition of 150,000 acres of community land in Sarima, including a lack of public consultation or compensation for affected communities. The land in question was constitutionally designated as Trust Land with clear procedures for setting apart public consultation and compensation in accordance with the *Trust Lands Act Cap 288.* The communities argued that the unprocedural acquisition of their land will not only alter the use of land but will also permanently alter the landscape, which will render them unable to seasonally and cyclically use pasture lands, cultural sites and a camel migration corridor to Lake Turkana.

Furthermore, the petitioners, acting on behalf of pastoral communities that jointly utilise the common grazing plains of Sarima, accused the LTWP of carrying out a "self-serving Environmental and Social Impact Assessment (ESIA)" [57] without involving the communities in the area and without evaluating the possible negative impacts of the project on the economic, social, cultural and physical well-beings of the indigenous communities in the area [8]. Moreover, the petitioners claimed that the application for an additional 110,000 acres in addition to the LTWP's initial application of 40,000 acres occurred at an excessively rapid pace and with substantial secrecy, thereby disallowing time for procedures for setting apart community land in accordance with the Trust Lands Act. According to the petitioners, the unprocedural acquisition of community land and the possible negative impacts of the project on local communities have led to growing public discontent and hence their application to the ELC for termination of the wind power development.

Nevertheless, the construction of the wind farm continued without interruption, even as the ELC determined that the issues before it were important legally. In a court ruling dated 18 March 2016, the ELC ordered the LTWP to confine its activities to the 87.5 acres it was given to utilise and to ensure that resident communities' access to Lake Turkana through the project was not blocked [8]. In addition, the case was referred for mediation by the Marsabit CA to encourage an out of court settlement of the issues in dispute. Despite delays in the determination of the court, there was little concerted resistance to the project except in the Kargi location, where the company trucks were blocked by the Kargi residents from accessing the wind site through the Marsabit–Kargi–Loiyangalani route. Other road blockages by the local communities were reported from settlements along the Laisamis–Loiyangalani route with communities reporting concerns around employment and frustrations over delays by the LTWP project to address their complaints [58]. The lack of concerted community activism was attributed to the fact that, despite widespread opposition to the project by communities and their local leaders, some local political leaders from the area and the local government were in full support of the project, to which a Rendille elder desperately remarked, "with some of our leaders eating from the enemy's (LTWP) pot, how can we achieve a united front to confront this monster?"(Interview_024_Rendille Elder, interviewed in Meru Law Courts on 17 March 2016). Indeed, this not only created tension between the two groups but also made the LTWP and land issues in general key campaign issues for the 2017 general elections (Interview_015, Political seat contestant Marsabit County Assembly, interviewed in Marsabit on the 27 April 2017).

5. The Politics of Grassroots Mobilisation around LTWP Project

Understanding local resistance to the LTWP project in the local pastoralists' communities necessitates an exploration of the politics of land as well as the territorialised ethnicity in Kenya's pastoral areas. As "arenas of action", political reactions "from below" [33] to the wind power project were symbolic of the prevailing politics of land in the area which found a clear ideological expression following Kenya's 2013 general elections. The local resistance was made up of two groups (see Table 1), the petitioners (TPs) who brought the case against LTWP project to the ELC on behalf of the indigenous communities in Laisamis Constituency and Karare Ward (Karare Ward, largely inhabited by the Samburu speaking Arial group, is a local electoral area of the Marsabit County under Saku constituency. The local groups have claims to the contested area for dry season grazing as well as cultural affiliations) of Marsabit County, and the interested parties (IPs) who asked to be enjoined to the case to represent the interests of the communities residing in the immediate vicinity of the project. The TPs included elected members of the Marsabit County Assembly drawn from the larger Laisamis Constituency. They represented themselves as "patriotic" Rendille and Samburu leaders who put "communities' interest" before their own and described the IP supporting the continuation of the project as "puppets (of the LTWP project) after individual interest." (Interview_015, Political seat contestant Marsabit County Assembly, interviewed in Marsabit on 27 April 2017). On the other hand, the IPs pictured themselves as "defenders of the local communities rights to development" and claimed that they have "already seen the fruits of this (LTWP project) development" (Interview_025, Interested Party to the LTWP case, interviewed in Nanyuki on the 30 May 2017). While the claim of the wind project's "development contribution" to the region could be easily rationalised by the IPs, they did not dismiss claims of dispossession that have fueled the opposition to the project. For example, according to one of the IPs:

> "As an IP, I do not support any illegality in relation to the land acquisition by the company, and that is precisely why we have asked the court to refer the matter of land acquisition for arbitration. There are certainly unanswered questions related to the procedure of land acquisition. This is a procedural issue which can be corrected." (Interview_025, Interested Party to the LTWP case, interviewed in Nanyuki on the 30 May 2017)

The nature of ethnic solidarities that epitomises the control of natural resources in the study area remains fundamental to mobilisation efforts against the LTWP project. Historically, Sarima was used for dry season grazing and cultural rights by the Samburu and the Rendille who are bound together by political alliances, kinship ties and negotiated access to resources to create reciprocity [59] However, while reciprocal access and use rights could be granted to neighboring pastoral communities during periods of droughts, hostility to the Turkana by these groups was attributed to practices in resource use such as "Turkana cut trees and burn charcoal, being less concerned about the environment [59]". Hence, while the historical hegemony over Sarima was with the Samburu and Rendille, conflict over dry season water and pasture with migrating Turkana groups was a common occurrence, particularly between the Samburu and Turkana pastoral groups [60,61]. Hence, ethnic contest over natural resources remains fundamental in the area as it has been for decades. TPs emphasise that the company exploited the history of interethnic conflict in the area to reframe the term "indigenous" in a bid to deemphasise the claims of the "resident" Rendille and Samburu groups over claims of the Turkana "migrants" (Interview_015, Political seat contestant Marsabit County Assembly, interviewed in Marsabit on the 27 April 2017). Specifically, TPs argue that the LTWP project proprietors used the government machinery at national and local levels to "rubber stamp" an illegal land deal (Interview_031, Petitioner, interviewed in Marsabit on the 18 February 2017).

Another issue is the diversity both of the pastoral communities in the area and the interests that often have an ethnic dimension and tend to provoke political mobilisation around land issues. Two aspects of the political history in the area shaped the character of the resistance movement against the LTWP project. First, following the 2010 Kenyan constitution that devolved power to the local

county level, territorialised ethnicity [62] has emerged and has become greatly politicised, leading to coalition building between ethnic groups towards the 2013 elections. Consequently, the 2013 elections were characterised by alliance-making which also brought about an increased role of customary leaders in Marsabit politics [63] in which the idea that every group had a homeland gained ground. This led to the formation of the Rendille-Gabra-Burji (REGABU) coalition which went on to win the inaugural Marsabit County elections in 2013. This dimension of politics also yielded "power sharing" at the community level where the pursuit of ethnic and clan interests emerged as part of the political discourse. As a result, the Rendille and Samburu ethnic groups dominated the politics of the Laisamis Constituency with steady numerical dominance (4 out of 5 ward representatives from the Constituency in the Marsabit County assembly). The fear of losing "homeland" enhanced the local political leverage of the dominant ethnic groups across Marsabit County and posed a constant fear of displacement for minority tribes (Interview_015, Political seat contestant Marsabit County Assembly, interviewed in Marsabit on the 27 April 2017). Second, the immediate fallout of the 2013 REGABU coalition yielded fresh political realignments for the 2017 elections with an equivocal emphasis on land issues. In the Laisamis Constituency, in particular, land grabbing claims by the LTWP project brought new variations on the political leaders. The main line of confrontation was that political leaders were "either with us, or with the land grabbers (LTWP project)" which was a measure of the 2017 aspirants' degree of "Rendilleness" or "Samburuness" (Interview_031, Petitioner, interviewed in Marsabit on the 18 February 2017). This emphasis enabled an intimate political mobilisation of communities for the 2017 general elections in Laisamis Constituency.

In the midst of these politicisations, the emerging grassroots resistance to the LTWP project was divergent and un-coordinated, reflecting first, the markedly little past experience with challenging the state's development plans and significant challenges in the knowledge and capacity of communities and associated issues of coordination in popular responses to LSLAs [64]. Second, finding a united front to challenge the infringement of communal rights to land was challenged by unequal power relations and conflicts of interest defined along ethnic identity lines that have characterised natural resources politics in the area for decades [65]. Finally, the framing of land rights within the context of the community and the larger social and cultural context (and the fact that all the representatives of the parties to the land suit were men), offers a continuation of cultural bias towards women and the socially constructed gendered roles of women which "affects the processes by which women's and men's differential relationship, access, control, ownership, and security over land are negotiated [66]."

Table 1. Key features of actors in the context of the Lake Turkana Wind Power Project (LTWP) project contestation in the Environment and Land Court (ELC).

Issue	Petitioners (Representing Laisamis Constituency and Karare Ward Residents)	Interested Parties (Representing Loiyangalani Residents)
Description/leadership/role in the case	Local political leaders/local community elites drawn from the larger Kargi and Karare wards. Part of/representing disposed communities	Local community elites drawn from the Loiyangalani area representing the interests of communities living at the project site
Key struggle	Agrarian justice, environmental justice, human rights/indigenous peoples' rights [33]	Right to development
Arenas of struggle	Struggle against land redistribution; struggles in defense of the commons and struggles against exploitation; compliance with some relevant global governance principles (FPIC, UNDRIP) (The petitioners have specifically taken issue with the Company's lack of Free, Prior, Informed Consent (FPIC) and no-adherence to the UN Declaration on the Rights of Indigenous Peoples (UNDRIP))	The struggle for incorporation or for the improvement of the terms of incorporation; struggle for inclusion; recognition of claims over territory

Table 1. *Cont.*

Issue	Petitioners (Representing Laisamis Constituency and Karare Ward Residents)	Interested Parties (Representing Loiyangalani Residents)
Preferred form of action on the LTWP project	That the LTWP be compelled to stop the project to address issues relating to the legal procedure of land acquisition, the Environmental and Social Impact Assessment (ESIA) and the indigenous status of resident communities	That the LTWP project be continued as the community has benefitted from the project
Overarching campaign framework	Protection of communal land rights, right to livelihoods and rights to cultural sites	Implicitly for communal land rights; right to "development" promised by the LTWP project
Perspective on the project/LSLA	LTWP project should be "exposed and opposed"; no space for dialogue and negotiation; should be "delegitimised" [67]	Dialogue, collaboration and partnership with LTWP project and other development projects
Position on the role of government (local and national) in dispossession	Key institution in dispossession of community land	Silent/not clear

6. The Anti-Politics of Wind Power Development

In response to the popular opposition and legal challenge to their investment, the LTWP project used various mechanisms to circumvent claims of illegal dispossession of communities and irregularities in the process of EIA and community consultation. Despite a lack of strong grassroots resistance to the project, top-down counterresistance was manifested through the actions of government institutions and corporate actors seeking to counterbalance and contain the dominance of communities' claims in their material and symbolic terms. In the socioeconomic context of "political reaction from above", the state-led and private sectors delivered development visions constituting the centerpiece of legitimising dispossession. Here, we define political reactions from above as multipronged strategies and techniques that serve a "state-driven, productive, employment-generating form of national development that enjoyed significant ideological legitimacy" [68], with the aim of making LSLA operations politically and socially feasible. By their very nature, these strategies express a discontent with local livelihoods and related land uses through particular conceptions of viability embodied in technical recommendations on the "economic units" and based on modernisation narratives [7]. The proponents of wind power in Northern Kenya sought to circumvent claims of nonadherence to legal procedures for community land acquisition and the need for international instruments for free informed and prior consent (FPIC) of local indigenous communities. The strategies employed by the corporate actors in LTWP project are highlighted below.

(a) Discursive regimes of representation

The premise of development discourse by the Kenyan government and the corporate actors involved in the LTWP contained in the development blueprint, *the Kenya Vision 2030*, and extensively reproduced in the LEC, positions the development of the hitherto marginalised north, energy deficiency and visions of affordable green energy as the centerpiece, legitimising exploitation and dispossession which characterised the process of land acquisition for the project. Kenya's 2002 elections not only brought Moi's 24-year rule to a close but also ushered in an era of development visions that sought to identify the key policy actions and reforms with an objective of realising a "higher and sustainable growth of the economy in a more equitable environment, accompanied by increased employment opportunities [69]". Kenya's *Vision 2030* resonates with discourses of "frontier economies" and "Africa rising" [5] and a revolutionary character through "modern opportunities for creating wealth (President Uhuru Kenyatta during the ground breaking ceremony for the LTWP Project quoted in Danwatch (2016) [70])", involving "new mindsets and methods, innovative strategies [26]". At the same time, however, these visions derive from and are embedded in the institutional patronages and settings that frame them. These ensuing visions, in addition to recognizing the "obscured but untapped potential" of marginalised areas such as Northern Kenya, also present a construction based on neoliberal ideologies of economic development that seek to correct existing social and economic inequalities through priority investments in infrastructure, energy and land reform. Considering the

historical evolution of development frames in Kenya, the emergent processes are likely to be less profound and less far-reaching [5].

The framing of the development of Northern Kenya is influenced by "technology transfer approaches, in which 'scientific' farming practices and technologies are provided to help modernise and civilise 'backward' farming systems" [7] and specifically refers to frontier economies as emerging centers of opportunities and engines of growth [71]. In this context, the government discourse is taken up by the corporate actors and positioned as "putting the lands to better use" for the benefit of local communities as well as meeting national development goals. The LTWP attorney stated the following in court proceedings at the March 2016 sitting of the LEC in Meru:

> "Mr. Nyaoga told the Court that the respondents and the interested parties recognised the importance of the challenged project. He said that it was a Vision 2030 project. He said that the community had benefited immensely and will continue to benefit (Mr. Nyaoga, advocate for LTWP project. Civil Suit 163 of 2014 (Formerly Nairobi ELC 1330 of 2014) | Kenya Law Reports 2018. Page 11 of 28. http://kenyalaw.org/caselaw/cases/view/130470. Accesses on 29 June 2018)."

> "for the first time since independence, the interested parties were seeing the fruits of independence through the challenged project (Mr. Kiprop, advocate for interested parties. Civil Suit 163 of 2014 Kenya Law Reports 2018. Page 11 of 28. http://kenyalaw.org/caselaw/cases/view/130470. Accesses on 29 June 2018)."

The imperative of generating more energy at lower cost to meet the increased demand for energy in the realisation of the *Kenya Vision 2030* as well as reducing energy costs in Kenya, which are higher than those of all regional competitors, is another argument often made to legitimise the project. This discourse supports the admission by Kenya's government of energy insufficiency and the role of more private sector players in the energy sector [69]. The LTWP's discourse on wind power development heavily aligns with energy reliability narratives of *Kenya Vision 2030*:

> "Kenya has developed policies that align with these low emission development strategies (LEDS) outcomes. For example, *Kenya Vision 2030* includes a National Climate Change Action Plan highlighting the importance of developing a secure, climate-resilient national grid that can support Kenya's development ambitions. In addition, Kenya's Draft National Energy and Petroleum Policy (2015) aims to ensure an affordable, competitive, sustainable, and reliable supply of energy to meet national development needs at lowest cost, while protecting and conserving the environment."

> "These goals are crucial for Kenya's development, as fewer than 50% of Kenya's population have access to electricity."

> "LTWP constructed a 208 km road from Laisamis to Sarima, which has transformed the transportation network in the area. This has significantly increased access to markets as well as to health care and educational facilities for the local population (WOC (2018). Community projects. https://ltwp.co.ke/winds-of-change/)."

Moreover, the LTWP portrays wind power development within the green energy discourse validated against a host of standards and certification schemes and international environmental treaties. The project was registered as a Clean Development Mechanism (CDM) project with The United Nations Framework Convention on Climate Change (UNFCCC). Green energy fits within the image of Kenya as being among the countries pursuing low emission development strategies (LES)—countries that grow their economies while reducing GHG emissions [72]. Consequently, *Kenya Vision 2030* has a diverse strategy of generating more energy at a lower cost, including exploitation of new sources of renewable energy through legal and policy instruments that aim to ensure an affordable, competitive, sustainable, and reliable supply of energy to meet national development needs at the

lowest cost, including an emphasis on the need to reduce GHG emissions and encourage the use of renewable energy as a mitigation measure [69]. The LTWP understands and aligns their wind energy activities with this agenda while remaining extra confident of their investment gaining credibility and buy-in from a large cross section of stakeholders. The LTWP's discourse on green energy is clearly linked to the push and established targets for green energy and opportunities arising from their development:

> "The electricity generated from LTWP will provide a cost-effective alternative to fossil fuels, decrease dependency on foreign fuel imports, and stabilise prices through reliable generation. Power from LTWP will be sold to the grid at about one-third of the cost of fossil fuel-generated electricity. Additionally, the capacity from LTWP is expected to reduce the country's reliance on fuel imports. These avoided fuel imports are anticipated to save Kenya more than €100 million (US$113 million) per year, improving the country's energy security." [72]

This strategy of development visions and green energy discourse is very effective, with LEC noting that the matter before it "involves a massive project". It also involves "weighty issues", noting in addition that the "project is the single largest private investment in Kenya's history" and that "through the Power Purchase Agreement, public funds have been and continue to be utlised (. . .) The fact that the project is massive appears not to be in dispute [57]". This not only creates favorable conditions for the continuation of the wind power projects despite the "alienation of such expansive piece of community land to a private entity", which amounts to "a contemporary land injustice" [57] but also such discourse depoliticises the wind power development by omitting equally weighty issues related to impacts of the project on local livelihoods, ancestral and cultural heritage and loss of key common pool resources.

(b) The anti-politics of commons governance

The depoliticisation of wind power development by the LTWP has been characterised by a planning process that casts local pastoral livelihoods and communal land use as "unviable" and a need to transform "idle" and "underutlised" land through an efficient infrastructure network, creating an enabling environment for private sector participation and harnessing wind, solar and geothermal energy among other strategies. This not only puts the responsibility of planning, constructing and operating large-scale development programs into the hands of private sector actors but also creates an illusion that state bureaucrats and local institutions are absolved from their responsibility and accountability [4,73] as planners and implementers of economic and social policies. From the time the proposal for the wind farm was put before the Marsabit County Council (MCC), the LTWP investors had a free hand in matters related to land acquisition, making concession agreements and defining which local community groups qualify as "indigenous" and hence qualify for compensation for the wind power project development in the area.

The initial application for the lease of 100 acres of land by the LTWP from the Marsabit County Council was made on 20 November 2006. According to the Trust Lands Act cap 288, which was the applicable law for community land at the time, the MCC was required, upon receipt of such requests, to notify the Divisional Land Board (DLB) or in the case of its absence establish one to meet to consider the proposal, notify people in the concerned area, hear and record submissions from people who were present and submit written recommendations to the council [74]. By the LTWP's own admission, public consultations began a year after their initial application, but no records exist to that effect. More importantly, the said public consultations were neither representative of the Loiyangalani residents, nor did they involve full disclosure of the project, as explained by the attorney representing the communities' interest in the case:

> "The only meeting held was attended by town dwellers and fishermen from one area (Loiyangalani) and did not involve the pastoralist community and the project therefore lacks

> public participation in its establishment. This meeting neither declared the size of land required for the project, nor did it inform the community of the loss of access to their land, but instead concentrated on the benefits to the community." [70]

On 13 August 2017, the LTWP's application for a 99-year lease of 150,000 acres of community land was approved. Without a clear response from the MCC on whether the DLB existed at the time of the application and given the scant details of the community consultation carried out for the LTWP's application, the communities denied any knowledge of the project or its application for their land prior to site preparation activities in 2007. In its defense, the LTWP submitted that the instituters of the suit "were not inhabitants of the affected area (. . .) that one can only have ancestral rights if one was a descendant of known ancestors and a denizen of the apposite area (. . .) therefore cannot be representing the project affected communities [8]." Consequently, the LTWP invested heavily in legal representation to delegitimise indigenous communities' claims by promoting and actively pursuing an ideologically-charged discourse informed largely by the colonial conception of the communal utilisation of land. In responding to the claims of illegal annexation of community land during the inception of the project in 2007 and subsequent alleged unprocedural acquisition of an additional 110,000 acres of community land, LTWP used frontier imaginations of "idle, unoccupied" land to explain the rationale of dispossession. The following quote from LTWP lawyers at ELC proceedings illustrates this point:

> "Mr. Nyaoga (LTPW lawyer) told the court that the land in question in this matter is currently uninhabited. He told the court that this would be made clear if the court visited the suit land. Mr. Nyaoga opined that the community was not merely being left on the roadside (Civil Suit 163 of 2014 (Formerly Nairobi ELC 1330 of 2014) | Kenya Law Reports 2018. Page 14 of 28. http://kenyalaw.org/caselaw/cases/view/130470. Accesses on 29 June 2018)."

More importantly, alongside the lack of community consultation, the LTWP's compensation entitlement of the affected communities' agenda reveals inconsistencies with the *Trust Lands Act*, drawing attention to instances of 'bribery' involving local political leaders [63]. Attributed largely to the fact that LTWP project designated the land as "empty" and because of its narrow definition of indigenous communities in the area, no compensation was paid. Instead of the mandatory compensation entitlements where community land is acquired, as stipulated in the *Trust Lands Act*, LTWP employed a predominantly Corporate Social Responsibility (CSR) focus (explored in the next section) that highlights the advantages of investments in community projects. The systematic presentation of CSR as "development gains" for the local community highlights the ways in which transformative CSR investments in infrastructure that support local livelihoods are linked to the LTWP project's wind power development in the area. CSR investments projects are chosen and refined through a "deliberative" process of consultation providing community "validation", perhaps the reason, despite the largely popular opposition to the project, that they remain popular.

Another feature of the LTWP project's development discourse is the conception of "local communities" as a simple agglomeration of "ethnicities" which, according to Ferguson, reduces the complexities relating to resource access and use to the "level of individual 'values', 'attitudes' and 'motivations' [4]." This conception was evident in the planning of the wind power project and in drafting an Indigenous Peoples Policy Framework in 2011, in which LTWP notes:

> "It is clear that while most of these tribes are considered marginalised at international, regional and national levels, they have the same chance under this project to voice their concerns if their rights, interest, needs, livelihood, culture or desires are affected (Quoted in Danwatch report "A people in the way of progress")." [70]

In this respect, LTWP's conception of a picture of local communities as merely "ethnically diverse" takes no account of the competitive environments that characterise resource access and entitlement in a CPR system. In ethnically diverse settings, such as the LTWP project site, resource

access and entitlement can not only accentuate contestation and conflict between ethnic groups but also consequent market integration can lead to rising inequality and declining resource conditions for local livelihoods [75]. Apart from depoliticising natural resource politics and repositioning local ethnic groups as driven by nothing more than individual motivations, these representations assume that LTWP's "same chance under this project to voice their concerns" strategy will be free from social and political contestations inherent in this context.

(c) CSR—greenwashing dispossession

Claims of dispossession and contestation have affected the relationship between the company and the local pastoralist communities and polarised the local political leaders along the lines of ethnicity and whether a specific community supports the project. The combined effect of the representation of local communities and heightened ethnic tensions over the ownership of land in Sarima generated an ingrained antipathy towards the company, which the local communities view as a threat, occasioning economic and social challenges and hardships and "exposing their lives to vagaries of nature (Ibid Page 17–18 of 23)." The LTWP, in return, has sought to counter this antipathy through CSR investments mainly carried out through the Winds of Change (WOC) Foundation to achieve local level legitimacy and challenge the image of its label as a "land grabbing" corporate body. In effect, the CSR strategies seek a "social license to operate (SLO)" to "gain the approval and support of local communities" through "responsible" or "sustainable" management of the adverse social and environmental impacts of corporate activities [76,77] and to achieve legitimacy in their operations [78]. Hence, by establishing and funding the activities of WOC, the LTWP has a stated aim of improving the livelihoods of the communities in the project area (Winds of Change is expected to be funded for a period of 20 years (the operational life of the project) with a contribution of Euro 10 Million. WOC is expected to confine its operations to the Laisamis constituency in Marsabit County). According to the LTWP, the WOC activities will be confined to education and vocational training support, supporting health education and health infrastructure, and provisions of water to improve livelihoods with a shift that emphasises midterm livelihood activities. According to WOC website:

> "WOC works in partnership with the county government, local leaders, NGOs, CBOs and government departments in implementing negotiated activities to ensure optimal stakeholder engagement, participation and ownership. WOC aims to catalyse positive sustainable development to enhance livelihoods in the areas surrounding the wind farm (WOC website https://ltwp.co.ke/winds-of-change/)."

For the LTWP, becoming "trusted partners" of local communities is important for two reasons. First, it is instrumental in seeking the recognition of, and, by extension, the legitimacy to operate in the area, through funding "negotiated activities". Basic health and education infrastructure has lagged in the region, and it has had one of the lowest human development indicators in the country [79]. The region, which has experienced increasing populations and associated competition for resources, has also been experiencing increasing droughts that have had constraining effects on the livelihood options and have generated the massive socioeconomic differentiation of households [51,80], significantly alternative livelihood trades, petty businesses and wage labor in the informal sector [81]. In the context of unpredictable weather, investments in education, healthcare and local livelihoods are thought to increase local communities' resilience to drought. To reduce livelihood vulnerabilities and improve the provisioning of basic services in the regions on the margins, development interventions work with and through existing policies that support the provisioning of basic services of education, health and entrepreneurialism [51]. The LTWP's CSR strategy therefore forms the "central core of a layered approach in which each layer relates to specific stakeholders and their associated concerns" [76], which is meant to legitimise the activities of the company in the minds of local communities. According to WOC,

> "It is anticipated that the planned social investment activities will enable LTWP and its project partners to become trusted partners in development with the local community around the wind farm and the larger Laisamis constituency (WOC (2018). Community projects. https://ltwp.co.ke/winds-of-change/)."

This strategy has proved to be very effective, with WOC investing in over 30 projects in the Laisamis Constituency that span the education, health and water sectors. A health center nurse explained the WOC investment in health infrastructure and the implications this has had on the availability of essential drugs and health indictors in the area:

> "We never had lights (in the health facility). I was using a spotlight to do deliveries (at night). Now we have a working solar powered lighting system and a delivery bed. We can now store the drugs here safely in this facility. The health indicators are going up (Interview_024_Health Centre Nurse, Video "Insights in to the social footprints of the Lake Turkana Wind Power Project" https://ltwp.co.ke/winds-of-change/)."

The appropriation of CSR to obtain SLO by the LTWP in the context of a contestation of its activities can be understood as examples of a "green washing" dispossession. However, as with Loperena's account of similar practices in conservation [82], CSR does not stop the exploitative processes of appropriation by the state and corporate investors set in motion by development visions of the state focused on appropriating natural resources premised on low-cost green energy development. Apart from the fact that CSR activities risk presenting certain business values as non-negotiable universal values and hence overriding the role of business in poverty reduction in the developing world [83], CSR activities, in a context where the state has failed to provide the necessary social amenities, as Ferguson argues, may reinforce and expand "the exercise of bureaucratic state power, which takes poverty as its entry point" in launching an intervention that has adverse effects on local communities [4]. The LTWP's CSR strategies mask the material practices of dispossessions of pastoral communities of their CPRs through CSR investments. The company's CSR investment strategy suggests that there may be important commonalities with past experiences where CSR are not adequately aligned with those of the local livelihoods [83] and do little to redress the pervasive resource conflicts as a result of the degradation and shrinkage of the natural resource base associated with LSLAs for incompatible development projects [84]. These pastoral CPRs are important because they harbor important resources for local people's livelihoods, enabling resilience against complex ecological contexts.

7. The LTWP's Anti-Politics Machine and Comparative Observations

The case of the LTWP has played an important part in the discursive process of endorsing and legitimising the development discourse through the reproduction and circulation of their own version of pastoralism representation vis-à-vis wind energy in Northern Kenya. Thus, this section provides a detailed commentary on the theoretical premises of the development representation, together with their institutional rationales through Ferguson's anti-politics machine framework: (1) the context in which anti-politics of dispossession of pastoral commons are constructed, (2) how the anti-politics machine is developed and (3) the key elements of the anti-politics machine, focusing on the articulation of the notions of "development" and "green energy" by the LTWP and the specific ways they are constructed around pastoral land use.

First, the context under which the LTWP has supported and promoted an anti-politics machine involves a complex array of historical and contemporary reproductions of pastoral land regions as "backward" and "emerging" [85]. Historically, pastoral lands have been seen by the colonial states as sites of famine and impoverishment, undermining political stability through forms of rebellion and insurrection [51]. The premise of pastoralism development discourse as an exercise in dealing with "backward, primitive and war-like" nomads through visions and plans entailing "modernity and progress, security and stabilisation" goes back to the colonial project in east Africa that sought to appropriate land for the colonial settlers. The position of the states in postindependence east

Africa changed very little in its policy discourse about pastoral land use. Apart from being viewed as "unproductive", states have viewed pastoral areas as a threat to the political, security and commercial interests of leading industrialised countries, in effect creating a precarious politics and, with it, top-down development interventions that often take a security dimension [51]. These trends, driven by neoliberal development policies encouraged by the World Bank [86] and bilateral donors, promoted interventions that focus on alternative land uses to pastoralism, including the promotion of private rights in land that not only led to the loss of communal land rights but also encouraged sedentarisation of pastoral populations, which has been associated with impoverishment, resource competition and population pressure [87,88]. Thus, even with evidence of massive failures of development interventions based on the incompatibility between modernised interventions and transhumant herders [89], the LTWP project utilises the state policy discourse that emphasises "opening up" marginal areas through large-scale investments in infrastructure and energy projects. Hence, the failure of the LTWP and local governance institutions to adhere to the guidance on stakeholder engagement and FPIC and the subsequent depoliticisation of wind power development in Northern Kenya is linked to a historical development discourse about the viability of pastoralism and communal tenure in the debate on land redistribution.

Second, the way in which the anti-politics machine has been developed within the LTWP's development discourse involves alliance building with state agencies and local elites that is meant to downplay the political character of land redistribution. The processes of land acquisition for the wind power project have been generated less through community consultation established in the law and more so through smaller and select groups of local and national institutions and elite networks. This was described in detail in the defense statements of the LTWP in the ELC:

> "He told the court that the first defendant (LTWP project) approached the then County Council of Marsabit with its intention to embark on a wind energy project in 2005. He said that from the year 2005, continuous consultation between the defunct County Council of Marsabit and the local community had taken place. He also told the court that the defunct County Council of Marsabit and the National Government had been in consultations for a period of 9 years." (Records of the ELC proceedings on 8 March 2016 [8])

The key point here is that the processes of land redistribution are partly in continuity with previous interactions between the state and pastoral communities [90], where the state has perpetuated dispossession without regard for legal procedures. In this sense, the LTWP's anti-politics machine relies on being aware of and working within a broader state development discourse on "pastoral life-worlds, politics and resource management [85]."

The core elements of the LTWP's anti-politics machine are representations related to "green energy" development and pastoral land tenure. This discourse serves the dual purpose of representing the transformative impacts of the wind power project on pastoral land on one hand and, on the other, a representation of pastoral land use as "idle" and that needs to be "opened up", a discourse that tends to propagate a depoliticised interpretation of pastoral land tenure and resource governance, which are products of colonial antagonisms towards communal land rights. The LTWP has provided several representations that illustrate the importance of "affordable green energy" for the "development" of the region, creating an interdiscursive process where dispossession of "wasteful" pastoralists and "idle" community land is justified for the greater good of "development". This strategy shifts the focus of grassroots resistance from corporate actors to public institutions, which is presented as a neutral tool for planning and implementing economic policy and is incapable of working against the interests of the people. In constructing its anti-politics machine, the LTWP's strategy of low-cost green energy development is discursively constructed in ways that emphasise the backwardness of the region and the investments required for its transformation, without any mention of the project's social, economic and environmental impacts on the local communities. Once constructed, the anti-politics machine "shapes not only the formation of reports and documents, but the construction of organisations, institutions

and programs [4]." For instance, the ELC, in referring the case for hearing and determination by a bench of judges, elaborated the court's position:

> "A question arises as to whether the alienation and annihilation of the community's ancestral land to the tune of 150,000 acres amounts to an irreparable loss and an unquantifiable inter-generational loss (.....) that the project is the single largest private investment in Kenya's history, and that through the Power Purchase Agreement, public funds have been and continue to be utilised (.....) The fact that the project is massive appears not to be in dispute. (.....) I am inclined to find that the manner in which public funds (which is the tax payers' money) have been used and continue to be used in a project of such great magnitude is an issue of general public importance and of great public interest." [57]

Thus, a discourse is built around government policy on the importance of efficient utilisation of public finances that would support national development. The LTWP's anti-politics machine builds on these efficiency motives and builds a cumulative discourse about how 'low-cost green energy' will benefit national development. This reiterates Ferguson's insightful observation that it is the "promise of real input that makes the "development" form of engagement such a tempting one for many intellectuals [4]." The anti-politics machine not only represents the LTWP as a dutiful private sector player committed to delivering low-cost green energy but is also charged with the task of empowering the region's economically marginalised poor.

Complicating matters is the fact that community opposition to the LTWP reflected ethnicity-centered relations in the area. The litigants in the ELC case against the LTWP were mainly drawn from Rendille and Samburu pastoral groups that claimed the project was not only going to affect their livelihoods through reduced access to dry season pastures but would also reduce access to ancient ancestral sites for cultural rituals (Important cultural ceremonies of the Rendille and the Samburu include initiation rituals, *galgulame*—a gathering of all Rendille clans once in 14 years, a year after the circumcision ceremony. For a detailed description, see Schlee (1989) [91]). The LTWP's articulation of "community" in the area was drawn from a narrow definition as follows:

> "Sarima village is the only village located on the wind farm. The ESIA process established that the location of Sarima village on the C-77 road would pose health and safety risks to the community from increased road traffic during the project's construction phase." [92]

Under the company's own admission, the Turkana population in the area only settled at the project site in the mid-2000s—the same time the project was initiated—after experiencing heightened conflicts in Turkana County [92]. This trend has been manifesting in the pastoral areas of the Horn of Africa, where Goldsmith [93] observed that high rates of demographic growth and contested rights because of uneven capitalists' transitions in the region are leading to conflicts. Similar dynamics have been observed in Northern Kenya [94] and Southern Ethiopia [85], where economic incorporation is promoting new forms of criminality and the politicisation of kinship relations, respectively. This, according to Hagmann and Mulugeta, is a characteristic trend of the securitisation of development projects in pastoral areas, where a section of the local community or group or their local leaders is coopted to uphold security and state interests at the local level [85]. In the case of the LTWP, the illustration of Sarima as the "only village located in the wind farm" has not only excluded the larger pastoralist communities dependent on the region for livelihood and cultural reasons but also served to redefine ethnic communities competing for benefits from the project. According to a local NGO,

> "The company (LTWP) seems to adopt a de facto policy of encouraging the Turkana to settle on a land that is not clearly theirs. First, they denied the Rendille and the Samburu who are the real owners of this land their rights for 'living far from Serima'. Then, they claim the same pastoral land tenure allowed the Turkana to own land that doesn't belong to them (even though the company acknowledges Turkana's settled here in the 2000s). The selective representations of pastoral land tenure points to just how dishonest this whole arrangement is." (Interview_013_Local NGO representative interview in Nairobi, 7 May 2017)

Likewise, in terms of CSR investments, the WOC newsletter has been an important avenue through which to disseminate the work carried out by the company that benefits the local community from the project through the commitment to "invest a portion of its operating revenues to WOC to improve the livelihoods of the communities in the project area" [95]. These types of striking selective representations of local communities by the LTWP have provoked differing reactions from the local communities, some of which have asked to be enjoined in the suit against the company as "interested parties" that can attest to the benefits of the investment to the local areas but also legitimise the company's discourse on pastoral land tenure. Through their attorney, the interested parties, who are the residents of Loiyangalani District, argued that:

> "the proposed interested parties were the ones directly affected by the project. He said that they had been consulted in all matters concerning the challenged project and that the consultations started around 2005.... the plaintiffs/applicants were strangers. He said that for the first time since independence, the interested parties were seeing the fruits of independence through the challenged project.... (they implored the court) to maintain the status quo (Civil Suit 163 of 2014 (Formerly Nairobi ELC 1330 of 2014) | Kenya Law Reports 2018: Page 20 of 23. http://kenyalaw.org/caselaw/cases/view/130470. Accesses on 29 June 2018)."

Under this discourse, the frequent selective representation of pastoral commons by the LTWP has a reiterative effect that is important in the establishment and perpetuation of the anti-politics machine. This discourse can also be read beyond the company's CSR activities and understood in terms of the representation of ethnic ascriptions and ethnicity as "economic assets in a development process" [96] within ethnically mixed settings.

In sum, the LTWP is the key actor in the wind power development in Northern Kenya, in terms of constructing, sustaining and reproducing the anti-politics machine that this paper has identified. This contribution has identified the reproduction of historical misconceptions about pastoral land tenure "progressively governmentalised" [4,97] by the bureaucratic state institutions, but also found the specific knots of depoliticisation of development interventions conceived, implanted and legitimised by the LTWP. Its reproduction of the Kenyan state's discourse on key discursive elements, such as 'low-cost green energy' and representations of pastural land tenure, not only guarantees continuity with previous interactions between the state and pastoral communities largely experienced in the east African region [85,90] but also shapes the larger mechanisms through which such misconceptions are produced and reproduced in development interventions. In this way, the LTWP's anti-politics machine provides a medium for the expansion and depoliticisation of state development visions. *The Vision 2030* and its flagship project—the LTWP project—have provided an apparently technical and apolitical entry point for an intervention that largely dispossesses communities of their land.

The analyses in this paper provide insights into the extent to which the processes of depoliticised development discourse identified in this single Kenyan case operate in other pastoral commons development contexts. Certainly, there are a lot of context-specific factors that are particular to the Kenyan case presented in this paper that limit the generalisability of this case study to other similar contexts. For instance, unlike the exclusion of communities in land acquisition in the Kenyan case, in Ghana customary authorities were proactively engaged by a private company in the process of land acquisition and benefit sharing in a biofuel plantation project without any government intermediaries [98]. Other experiences across similar LSLAs in Kenya and similar African contexts indicate that the pattern of grassroots mobilisation is not always necessarily one of "expose and oppose" as it was with the LTWP project case, but of attempting to ensure greater inclusion, incorporating the improvement of the terms of incorporation and recognition of claims over territory. For instance, the case of overt protest by the local Turkana community against the oil exploration company Tullow Oil Kenya sought more jobs for the local community members and a bigger share of the oil revenue to the region [5]. However, there are similarity factors that support the view that some degree of generalisability may be possible from the case of LTWP project in Kenya.

In post-colonial Africa, the persistence and centrality of mobility and communal land ownership were associated with "the tragedy of commons" [21] which governments in Africa used as justification for taking away rights and responsibilities related to resources out of the hands of local communities [99]. Further, communal land has been pointed to by state development policies in developing countries as evidence of "marginal", "empty" and "available" for alternative development [42,100,101]. These categorisations of pastoral land use and common property rights have become key operational mechanisms through which land-use changes are facilitated [102]. Hence, many development visions for the "development" of pastoral commons remain remarkably uniform and standardised, as illustrated by cases from Africa pastoral commons, both generally [2,39,64,100] and specifically in among pastoral commons in Ethiopia [6,103–105], and west Africa nations [106]. These examples are illustrative of the fact that the Kenyan case shows similarities to other practice associated with depoliticised representation of pastoral commons in very different contexts and therefore does not seem to be an exception.

Another aspect which could influence the generalisability of the Kenyan case is ideological underpinning of transformative development policies which is "premised on a classic conception of modernisation, which presumes a steady decline in the share of agriculture in the national income and in the composition of the labour force" where pastoral communities "constitute a vast reservoir of backwardness and a structural impediment to economic modernization [6]." The process of "development by dispossession" shows continuities with historical processes of dispossession across the world [107] with the vulnerability of lands to dispossession being highly correlated with the extent to which local and international legal systems recognise the multiple values that society attaches to land [42]. The Kenyan legal situation of communal tenure (especially prior to the 2010 constitution) is similar to that of many other countries where the proprietary character of the commons has been denied by both colonial and post-colonial administrations [108] and classified as "wastelands" and legally fully disposable by the state at its will [2]. These trends in the historical dispossession of pastoral commons and the role of weak legal recognition show strong resemblance across pastoral populations beyond the Kenyan case.

Finally, CSR activities, the central focus of the corporate anti-politics machine, constitute the discursive logic of assuming away and rendering unproblematic the depoliticisation of development interventions. This strategy of "greenwashing dispossession" [109] and "engineering consent" [110] is not unique either to the Kenyan case or commons dispossession; similar experiences have been observed in African contexts and globally in different sectors of LSLAs, such as agriculture, mining, energy and infrastructure [111]. CSR investments are thus an inevitable characteristic of LSLAs deployed to make development interventions politically feasible in the face of determined political mobilisation from affected communities.

8. Conclusions

This study has unveiled the anti-politics machine in the relationship between development visions and accompanying LSLA programs and the dispossession of pastoral commons in the current LSLA in Kenya. The analysis of the LTWP revealed that there is more to the recent discourse on the development of wind power in Northern Kenya than the imperative of generating more energy at lower cost to meet the increased demand in the realisation of *Kenya Vision 2030*. Drawing on Ferguson's anti-politics machine, the paper has shown that development visions of the hitherto marginalised Northern Kenya and their focus on large-scale infrastructure and energy programs are contingent upon the construction of ASAL livelihoods as unviable—a dominant colonial and postcolonial discourse that legitimises alternative large-scale investments as the ideal. Accompanying practices, such as placing the responsibility for the planning and operation of LSLA programs into the hands of private sector actors that attempt to absolve state and local institutions from their responsibility and accountability projects, legitimises the depoliticisation of development programs to secure the extraction of value from natural resources by the private sector. LSLAs are constructed as the necessary interventions required to bring

the isolated ASALs to integration with the national economy, excluding local pastoral livelihoods from being recognised as viable investment options to economic development. This representation, through discourses, technical recommendations, institutional apparatuses and apolitical interventions, forms the anti-politics machine that depoliticises important realities that characterise CPR use and governance and makes them amenable to solutions that may have no effect on their sustainable development but instead have undesirable results. As Agrawal argues,

> "Without attention to the politics that generates underdevelopment and environmental degradation as universal problems, it may be impossible to address poverty, underdevelopment, and environmental degradation effectively." [112]

This anti-politics machine has the undesired effect of prioritising natural resource appropriation for national development goals over local priorities for them. In the LTWP case, the state and its network of corporate actors and local elites uncritically endorse the acquisition of community land for wind power development through a process that plays down the significance of the inherent complexities of CPR use and governance and their contestations related to disproportionate access and control by local communities. This is achieved through the anti-politics machinery that enables the implicit reproduction of historical misconceptions about pastoralism and communal tenure to legitimise the alleged irregular acquisition of community land.

To build on the concept of an anti-politics machine and its role in dispossession of commons, putting some of our findings in perspective is necessary. The case of the LTWP project is emblematic of the depoliticisation of new development visions involving the opening of frontier borderlands as new sites for the investments needed for growth of the national economy. Although these development visions involve strategies promulgated by the state, they involve a broad range of actors and a combination of public and private finance and governance [64] through public–private partnerships [113]. The contingent nature of these development visions as "arenas of action" relies on what Scott refers to as "state simplification" processes involving the reorganisation of natural resources for easy manipulation by the state and the uncritical optimism in the possibilities of planning through which state development policies were facilitated. This means that the private sectors actors with the vital role of delivering these development visions have a high degree of political power within these arenas of action and may, and often do, engage in a depoliticised partnership with the state. In this context, unveiling the anti-politics machine strategies employed in development visions involving public–private partnerships is key to understanding how private capital is involved in the distribution, multiplication and intensification of state power [4]. This is particularly the case for renewable energy systems built to further capital accumulation [114], where private capital with the technical solutions and capital drives the agenda for the implementation of environmentally friendly technologies for energy production.

Further, the paper has shown that common assumptions in development discourses promoting LSLAs involving public–private partnerships promote a depoliticised representation of local communities and oversimplification of competing interests and power structures at multiple levels. The depoliticised discourse, as Ferguson argues, "provides the technical point of entry" [4] for an intervention serving the political interests of corporate actors. However, the LTWP project's anti-politics machine is certainly not the source of the depoliticising discourse and strategy but rather, as Ferguson argues, one among the links in the mechanism that produces and articulates it [4]. Even more importantly, the logic of the LTWP project's anti-politics machine draws from the (mis)representations inherent in the state's own development discourse that have characterised ASALs development since colonial times. As a result, these misrepresentations often bring to the fore state-centric notions of the understanding of viability of marginal lands, such as the ASALs "powerfully informed by ideas about efficiency derived from neo-classical economics, and is rooted in the dominance of a particular type of commercial farming" [7] which lays the justification for alternative investments in land which serves the goal of "reinforcing and expanding the exercise of bureaucratic state power [4]." In the case study presented in this paper, the dominant storyline by the TP regarding the role of the wind

project in dispossessing communities through irregular acquisition of their land is ceding ground to one, advanced by the LTWP project and its network of government institutions, that transcends the logic of dispossession—generating low-cost green energy and the contribution of the project to the regions development through infrastructure that will connect the hitherto marginalised region to the rest of Kenya. Consequently, legal protection and judicial support sought by the communities affected often "veers away from questioning the fundamental roots of land-grabbing...while engaging in the problematic notion of win-win scenarios [113]."

The case of the LTWP illustrates some of the tensions between land redistribution and depoliticising development discourse about ambitious development interventions that have been a characteristic occurrence in Kenya's ASALs. However, the LTWP is not the only case, and indeed, there are several examples of comparable cases where indigenous peoples and local communities were dispossessed of their communal lands without industry guidance on stakeholder engagement and FPIC [47,103]. Beyond the likely dispossession of commons, depoliticisation has influenced debates and outcomes on compensations to communities affected by land redistribution apparatuses and ethnic tensions. The depoliticisation of land redistribution for private sector-led interventions carried out under the "progressivist and triumphal banners of development" [115] has already had far-reaching effects on pastoral commons; it leads to the development of exploitative relationships between corporations and communities through the concomitant restructuring of CPR governance and to associated losses of important pasture and migration resources through the erosion of CPRs [116]. This challenges the resilient use of the pastoral rangelands, decreasing the potential for innovatory husbandry [115] and effectively constituting "resilience grabbing". The broad distribution of CPRs and the existence of customary rules that guarantee use rights to communities mediated through an inclusive process of management has given pastoral commons a unique resilience against unpredictability and spatial and temporal distributions across the pastoral rangelands. Land investments that extinguish use and access to critical dry season resources that enable transhumance and offset drought risk [117] and the erosion of an associated institutional design that ensures excludability and addresses the problems of subtractability [40] by extension actually generate greater vulnerability and poverty.

This paper has shown how seemingly simple technical solutions in "development visions" and accompanying public–private partnerships in Kenya employ a depoliticised representation of local realities in the ASALs, aimed at reinforcing historical ghettoisation of pastoralism and communal land tenure. However, considering the specificity of the Kenyan case, important questions not addressed in this paper include the following: Is the corporate anti-politics machine dynamic and relational or static? How is re-politicisation negotiated and with what impacts? This work indicates the need for further research on how the anti-politics machine may be differently generated and negotiated in the context of development visions.

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The Anti-Politics Machine of Green Energy Development: The Moroccan Solar Project in Ouarzazate and Its Impact on Gendered Local Communities

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Abstract: The Moroccan Agency for Sustainable Energy (MASEN) established one of the largest solar energy projects in the world through a public–private partnership. It is on communal land previously owned by a Moroccan Amazigh (Berber) clan in the Ghessate rural council area, 10 km away from Ouarzazate. The land for the energy project comprises a surface area of more than 3000 hectares. This large-scale land acquisition has led to the loss of access to common-pool resources (land, water, and plants), which were formerly managed by local common property institutions, due to its enclosure, and the areas themselves. This paper outlines how the framing of the low value of land by national elites, the state administration, MASEN, and the subsequent discourses of development, act as an anti-politics machine to hide the loss of land and land-related common-pool resources, and thus an attack on resilience—we call it in our scientific discipline a process of 'resilience grabbing' (Resilience is the ability of a person and/or a household to restore basic livelihood capacities after shocks and hazards. Such capacities need to be available over time and remain high for the unit (household, community) to be resilient), especially for women. As a form of compensation for the land losses, economic livelihood initiatives have been introduced for local people based on the funds from the sale of the land and revenue from the solar energy project Noor Ouarzazate. The loss of land representing the 'old' commons is—in the official discourse—legitimated by what the government and the parastatal company call the development-related 'fruits of growth', and should serve as 'new forms of commons' to the local communities. The investment therefore acts as a catalyst through which natural resources (land, water, and plants) are institutionally transformed into new monetary resources that local actors are said to be able to access, under specific conditions, to sustain their livelihood. There are, however, pertinent questions of access (i.e., inclusion and exclusion), regulation, and equality of opportunities for meeting the different livelihood conditions previously supported by the 'old' commons.

Keywords: resilience and commons grabbing; gender; sustainable energy; development policy

1. Introduction

When analysing the Moroccan 'green energy dream', the policy on developing green energy production, especially solar power in the context of large-scale land acquisition (LSLA), is meaningful because it focuses on a green energy project in a so-called 'no man's land' or 'wasteland' (not being productively used). Anthropological research is rather uncommon in the (green) energy domain. The LSLA is in no man's land and research will unearth how different actors in the research area either benefit or lose directly or indirectly from the LSLA project. The various elements, the uncertainties, pro and contra positions for and against LSLA generating solar power, and the dynamic multifaceted complex context in the Moroccan case study reflect the reality, and include different sentiments and

opinions from all kinds of actors with their own views of the situation in the research area. The author sees the various elements in this research as very important. The results of analysing the LSLA in Morocco and the effects of the Noor Ouarzazate solar project are not simply 'negative' or 'positive', but demonstrate a very dynamic and complex context. There are ambivalent views towards the complexity of problems brought by the Noor Ouarzazate solar project, alongside the production of green solar energy—therein lies the significance of the paper. People claim how proud they are that the project is on their land and how important the infrastructure investments are. They talk about their relationship, the connection to King Mohammed VI and the King's national investment policies, but they also hint at the loss of their land, and feelings of sadness when looking at the enclosure.

> Even the pathways we used before are no longer there! Once, we went with our animals to the other side of the plateau and were able to come back home in the evening. But now we cannot because it's closed. We also used to go to Ouarzazate by mule or donkey only in 2 h and 45 min. Now you cannot pass anymore. We didn't benefit from this. (Herder, Tasselmante, Morocco, excerpt from an interview conducted in April 2016)

Herders explained why it was important to go from one riverbed to the other and come back in the evening with the herd. There is little feed, and the animals have to move around the whole day and find new food. It is important for herders to come home in the evening and to do some work in their house or garden. When they cannot walk across the area because it is fenced off, making a detour with the goats and sheep takes too much time. The pathways were also important for travel to Ouarzazate, which has a bigger local market and many important public amenities. The herders also mention the interpretation or classification of the land as 'wasteland', which is not adequate in their view, because there are many different local actors for whom the land was certainly not wasteland before it was used for investment. Such contradictions and ambiguity provide an important part of the analyses, showing the ambivalent nature and complexity leading to the different perceptions of people involved in different ways. LSLA green grabbing[1] examples have to be contextualised and green energy infrastructure investments must be connected to all debates about fighting climate change, as well as the discourse on the effects of global warming, generating sustainable energy, and SDGs (sustainable development goals). Climate change and global warming are linked not only to energy consumption, but also to biodiversity. In the Moroccan case, the Noor Ouarzazate solar project is framed as a 'win-win-win'[2] situation for all actors involved and is therefore narratively legitimised. The "deployment of colonial legal instruments for territorial dispossession" [3] was used to acquire the land necessary for national green energy development and this will continue also in the future (see Reference [3]). As shown elsewhere [4], the example of the Noor Ouarzazate solar project, built on the common land of the Amazigh Aït Ougrour, illustrates how a large-scale land acquisition (LSLA) project for generating green energy "impacts existing power constellations and gender relations governing access to land and land-related, common-pool resources (pasture, plateau products, e.g., plants for medicinal or domestic use, and animal fodder) and leads to a loss of these resources previously managed as common property" [4]. It is argued that this loss is compensated for by payments from the state and the company MASEN (Moroccan Agency for Sustainable Energy) and state-driven development programmes "as well as by contributions from the operating company's Corporate Social Responsibility Projects (CSR)" [4]. The state, national, and international donors argue that "these projects provide a form of 'new commons', which promise to deliver on-going revenues and development" [4]. MASEN [5,6] transferred instalments to a special account belonging to the

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[1] 'Green grabbing can be understood as part of the vigorous debate on 'land grabbing' more generally, a debate which already highlights instances where 'green' credentials are called upon to justify appropriations of land for food or fuel [1] in [2] (p. 2)' and in this case study for green solar energy plants.

[2] (1) It makes worthless parts of the country valuable; (2) It makes Morocco a greener country, helping the world fight against climate change and global warming; and (3) It brings development for marginalised groups such as rural women and men.

Ministry of the Interior, who holds the money on behalf of the Aït Ougrour community[3]. The DAR[4] manages the account and decides with the Community Supervisory Council how the money will be used. In this way—according to the discourse of the administration—local community expectations are better addressed. Project designers claim that they create development opportunities for local people, and specifically for women: "By creating opportunities for the redistribution of access to 'new' resources, such as job opportunities or benefits from CSR schemes, they often come at the cost of common-pool resources for women. These new benefits are often labelled in general terms, such as the 'development' that LSLA investments provide to local areas, but the kind of development they provide needs to be analysed from a local perspective" [4]. As we will see in this article, one of the key questions is, "do the Amazigh people need this kind of development?" The focus of this paper will also be, as the title suggests, on how the process of the anti-politics machine [7] is used by the national leaders who shape the policy, and subsequently the acquisition of the land for the project. The author will furthermore outline the socio-economic impacts of the project, such as changes to the local people's access to the land due to the investments and the discourses used as a strategy against opposition and objection.

2. Theoretical Perspective

With a neo-Marxist-inspired focus on feminist political ecology at a micro-level in the research, the article explains the relationships between the political, economic, and social factors, and environmental issues and changes. It tries to shed light on the Moroccan discourse on ethnic identity and 'tribal heroism'. It will explain the socio-ecological effect of related investment with the example of gendered initiatives for women's empowerment at a local level.

These approaches stress the socially, culturally, historically, and politically constructed nature of gender relations, and the interaction of gender with other socially important variables, such as age, marital status, class, ethnicity, and migratory status. Feminist political ecology introduces gender as a critical variable in shaping resource use, access, and control, including environmental rights and responsibilities, and processes of ecological change (see Reference [8]). It shows that gendered rights and responsibilities can be very complex (see, for example, Reference [9]). Environmental issues are approached from the lens of social, distribution, and knowledge conflicts. The focus is clearly on power structures and women's and men's interrelated strategic interests that determine resource access and control over resources (see References [8,10–12]). The gender, environment, and development (GED) approach is also useful for analysing relationships between gender and the environment. It consists of the feminist political ecology approach outlined above (see References [8,10,11]), and *feminist environmentalism*, which focuses more on the material aspects of the relationship between gender and the environment, associated most notably with Bina Agarwal ([13,14]). Women, in this case study, are also in charge of household and food security (see, for example, Reference [15])—a role that also comes under stress during environmental and institutional change. A focus on care work, as one of the domains in which gender inequalities are the most pronounced and hardest to change, is therefore extremely important for any study of gender relations (see Reference [16]). From a feminist political ecology perspective, this will mean assessing how this domain of control by women changes as a result of the changing environment and the institutions governing access to land resources due to investment. This feminist political ecology perspective is a good addition to the new institutionalism approach in social anthropology, in which mechanisms such as externally shaped changes in relative prices for land

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[3] In accordance with Article 6 of the Royal Dahir of 19 March 1951, by a commission of expertise comprised of the following members: (i) the pasha or caïd as president; (ii) a local representative of the Ministry of Finance; (iii) local representatives of the Ministries of Agriculture and Commerce and the High Commission for Water and Forests; and (iv) a local representative of the Ministry of Public Works. The community tutelage council will decide on the use of funds from the sale of land to the benefit of the community of Ait Oukrour Toundout. (Moroccan Agency for Solar Energy (MASEN [6] Plan d'Acquisition de Terrain).

[4] DAR: Direction des Affaires Rurales/Directorate of Rural Affairs.

and resources have an impact on local gendered bargaining power constellations of actors, the way these are able or not, via their changed power, to select the institutional setting they prefer, and the way this is organised and legitimised ideologically. Ferguson's anti-politics machine [7] relates to this process by legitimating investment via green development discourse, and hides the grabbing process which—as a feminist political ecology would show—affects men and women differently, as well as the identity of ethnic groups.

Following Lila Abu-Lughod's work [17], Do Muslim Women Need Saving?, the author also formulated the questions, "do Amazigh people need this kind of 'development' and such 'modernity'?" and "do women need empowerment?" National and international discourses on modernity focusing on development are linked to promoting green energy projects, which are also defined as gendered, meaning that both women and men should benefit from the development in general but also from the specific development projects that constitute part of the LSLA. If the discourses claiming that rural areas in Morocco or the Amazigh[5] people need development/modernity are credible, then its founding is easier to legitimise. It is all connected, and insights from feminist discourse into development will help to shed light on questions about who gets to decide what is necessary or to propose and choose the CSR projects constituting the so-called development of the rural Amazigh woman, and who benefits from the existing source of capital. These are all linked to theoretical insights from feminist political ecology about who gains and who loses, but also show how this is shaped in an anti-politics machine manner in combination with the discourse on state modernity and modern sustainable green development, which also evokes national and local identities.

3. Methodology

The research was carried out in the surrounding area of the largest solar project in Morocco, situated close to Ouarzazate (see Figure 1). Fieldwork comprised more than 12 months of data collection, between 2015 and 2018. As a qualitative research project, the research relied heavily on participant observation in combination with narrative interviews, informal conversations with experts, associations, and non-governmental organisation (NGO) representatives, and focus group discussions with both men and women (e.g., sex workers, local women, solar project workers, and others). This was then augmented with in-depth biographies and secondary data from a literature review.

The research process first involved an exploratory phase at the beginning of July 2015, when I travelled to the study area to make initial contact with local actors and tested the data collection tools. This was followed by a second phase of intensive data collection a month later, after all adjustments to the questionnaire were completed and updated. A prolonged period of stay in the local community with members of the extended family opened many doors during the research and granted access to the local community members. When I arrived in Ouarzazate together with my family—two small children and my Moroccan/Swiss husband (of Arabic/Berber origin)—we first had to find a place to stay and a school for the children. Of course, the summer was very hot and dry, in the area of a solar energy project, but we had underestimated the extent of this. The weather forced many people to stay inside their houses, a fact compounded by windy, dusty conditions on the plateau and the fact that the semi-nomads or herders are not often outside in the day during summer. For a researcher doing ethnographic fieldwork using qualitative methods, including participant observation, this was not an easy situation in which to start fieldwork and to enter a community, even in a hospitable country like Morocco, where people often invite strangers for tea and invite them into their houses. I did not

[5] Since 1980, *Imazighen* (sing. *Amazigh*) has come to refer to all Berbers from North Africa. Regional subgroups are distinguished with specific names [18]. *Imazighen*, in its original meaning, also refers to the Berbers of central and south-east-central Morocco where the author conducted fieldwork. Other Berber subgroups in Morocco are *Ishilhayen* in south-western Morocco and *Irifiyen*, the Rifians in north-eastern Morocco [18]. The term *Amazigh* did not come from scratch in 1980, in fact it has been there for longer than that. Since it is the endonym, it was 'revived' to be used instead of potentially derogatory terms like 'Barbar' in Arabic and 'berbères' in French.

find it possible to start the research by knocking directly on private doors, and therefore I had to find other ways to gain access to the community. Fortunately, this all changed after a month, when we all acclimatised and our children had started school. This additionally gave us a point of contact with other families. It was very important to stay a whole year in the region, so as to know more about the people and to experience everyday life amongst them; for example, to understand how semi-nomads move from one area to the other and why they choose specific places. In other words, the long stay in the field enriched the author's knowledge of the local transhumance, the day-to-day routine of local Amazigh groups, and the ecosystem and the financial strategies of women in the area. I also developed an eye for institutional designs on access to commons for local people.

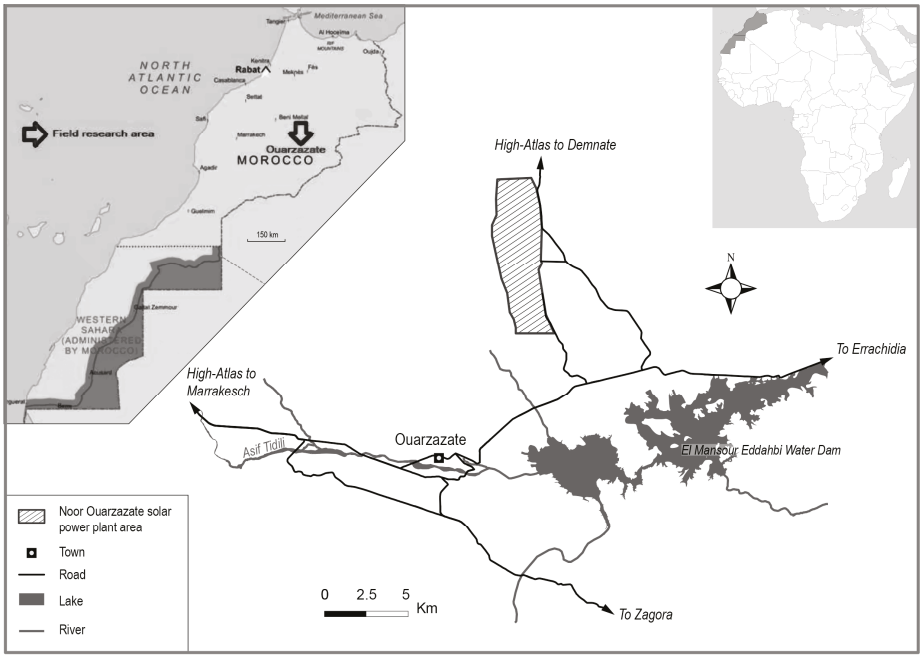

Figure 1. Location and map of the wider case study area. Map compilation and design: Gämperli Krauer Ulla (2018), CDE, Centre for Development and Environment, University of Bern, Switzerland. Geodata source: OSM data by OSMaxx (2018). Geometalab, HSR University of Applied Sciences Rapperswil, Switzerland, and Ryser, Sarah [4], Institute of Social Anthropology, University of Bern, Bern, Switzerland (Parts of the map were used for previous publications).

The study mainly focuses on four main categories of local actors affected by the project. Each of these groups of actors has individual interests in the solar project, which are very varied. All of these groups often consisted of women, or mixed women and men:

(a) Herders, pastoralists, and local community members who used the 3000 ha Noor solar project area (Figures 1 and 2) as a passage for transhumance and collecting herbage, fuelwood, and other plateau products are concerned with the new utilisation of the territory. Even if it is not a desirable location for extending pasture, it is not what is commonly called 'wasteland', which the state understands as land which is not productively used. Following the establishment of the project and the lack of access to the land for transhumance, collecting wood and herbs for animal fodder, and plants for medicinal or domestic use, or the use of the pathways, local community members, who once used the land for this purpose, had to seek alternative options. This group has little

bargaining power even when they can take part in the decision-making processes. Even a *Na'ib*[6] from a village, the communal land representatives *aradi aljoumoua*, has little bargaining power because they are between their community and the local state representatives. It is, for example, difficult for a *Na'ib* to refuse such an investment on their own communal land.

(b) Local community members (women and men) from neighbouring villages who do not have access to jobs and receive no related short-term benefits. They will be looking for alternative means of subsistence and a coping strategy, such as involvement in government development programmes (i.e., participation in cooperative, *Maroc vert*[7] and 'INDH[8]). Through programmes such as these, the Moroccan government and MASEN argue that the local community members would be able to earn money whilst at the same time be empowered through information, awareness, government support, and easy access to economic and social amenities, including health facilities, education, and the promotion of local 'wares' or products on the market, thereby reducing losses arising from the LSLA project. These affected people, community members from neighbouring villages (in the Atlas Mountain for example), are completely cut off because they are not part of the *Aït Ougrour* community and therefore not included in decision-making. Community members of neighbouring villages are not included in most of the CSR programme but still affected by the loss of the 'old' commons. In their case, they used the land mostly as passage. Very few CRS projects address this actor group.

(c) The third group of actors comprises the so-called local non-citizens. These are actors who moved to Ouarzazate and the surrounding area, close to the solar project, purposefully in search of new opportunities. Some of these may include, for example, prostitution. The gendered implications of these new arrivals to the local communities also need to be ascertained. What then becomes of these communities in terms of cost and benefits, such as rents and related fees? These actors have almost no bargaining power, and are not concerned at all with accessing the 'new' commons, as they were not affected by the loss of the 'old' commons.

(d) The fourth group comprises Moroccan policymakers, such as the politicians, the royal institutions, especially King Mohammed VI, the very heterogenic local administration, and international actors, such as foreign companies and governments (such as Spain, Germany, France, and China) and foreign state actors, development agencies, NGOs, and technical companies, mainly from Germany, Spain, and Saudi Arabia. These actors had, from the beginning, a level of high bargaining power. Some have made decisions about the implementation of additional CSR projects, and some were able to decide on the price of common land in terms of acquisition. They are also the first to have all the information about various processes and can share this information with whomever they decide. Local state representatives, such as the *Caïd*[9], the governor of a region, or the president of a community, also have high bargaining power; they can interpret state control according to their understanding of the governmental supervision of a region or a community. Development agencies and NGOs decide to whom a CSR project is important and who has access, and often they are also influential in deciding which CSR projects will be implemented.

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[6] The *Na'ib* or *Na'iba* (female in very few cases) is the elected person to speak on behalf of the people. For example, the communal land representatives are the *Na'ib aradi aljoumoua*. The *Na'ib* or *Na'iba* is elected by his/her community as the person responsible for managing the collective land affairs and maintaining contact with the state's Directorate of Rural Affairs (DAR). It is any person chosen by villagers to be in charge of any talks or communications with another party, like the inverstors or the state, as well as the case of dividing the land.

[7] For more information see footnote 1.

[8] National Human Development Initiative (INDH, the French acronym for Initiative Nationale pour le Développement Humain).

[9] At the times of French and Spanish colonialization, *Caïds* (plural of *Caïd*, which means leader or head of an authority office) were appointed in communes to maintain control. It was a type of indirect ruling office structured of men representing the state. In every district the *Caïd/a* exercises a great deal of power, keeps the peace, manages people's daily affairs in terms of security, policing and gendarme armed forces, and represents the authority at the communal level. Today the *Caïd* is the local representative of the Ministry of Interior.

Figure 2. Noor Ouarzazate Solar Project complex (Photo: Sarah Ryser 2018).

4. LSLA Investment Policies and Creating National and Local Identities through Projects

In order to understand the anti-politics machine and levels of identity operating in the context of Morocco, one has to understand that the royal institution in Morocco (especially King Mohammed VI) can be considered an arbitrator among the different Moroccan populations. During protectorate times, however, the French created tensions between the Amazigh and 'Arabs' [19], but it seems that the idea of the French using the Amazigh to divide Moroccans into Amazigh and 'Arab' was somewhat distorted (Diary, Fieldnotes Ryser 2015–2018)[10]. The royal family lived in exile during the period of the French protectorate and Spanish colonisation. Local people often referred to Thami Glaoui, who ruled the research area at the time as a dictator. He used his power, gained by cooperating with the colonial power, to oppress the local people (Diary, Fieldnotes Ryser 2015–2018). People interviewed in the research experienced and remember the oppression under Thami Glaoui's rule very well.

> Father: Well life at the time was cruel and difficult, starting from 1912 on. And if you own a sheep or anything else then it's not yours because the authorities take all what they see. My father used to go to 'Koulfa' (military conscription), he worked for free in Tichka[11] and other places.
>
> Author: You mean the Muqaddam and Amghar (local authorities) practiced their authority here?
>
> Father: That's true, as I told if they saw anything that belongs to you, they took it. It's not yours anymore.
>
> First son: There was this centre of Telouet, they used to take everything like wood from Imghran to there. They used to take wool, almonds, and anything else. El Glaoui used to rule all of the south-east and Marrakech too as he was the Pacha of Marrakech.
>
> Father: He had sort of three Kasbahs here, one also in Taourirt. If we happen to be four men in a house, then one of us should go to work with him. At that time, there was nothing neither for men nor for women. Things like clothes, shoes were not available as they are now. All there were as shoes was sandal-like partly made of palm tree leaves.
>
> Second son: I think there weren't covers too, people used to sleep on hay to keep warm.

[10] The informant is referring Mohamed Mounib [20] statements in his work: to Al-dahîr 'al-barbarî': akbar ukdûba siyâsiyya fî tarikh al-Maghrib al-mu'asir [The 'Berber Decree': The biggest lie in the history of modern Morocco].

[11] Local Mountain chain

> Father: No electricity too, only fire was used as light source, for example when having dinner, one should set fire next to them in order to have a clear sight. And some time after came the candles, lanterns, carbon, and then the gas bottle during 70s and 80s. I was born in the 50s, so all what I know is just from what I was told. El Glaoui used to kill people too, he was very authoritative. There's still one of his prisons in Kasbah Tamddaght where people were tortured and killed. People used to have no rights, either you do what you're told or be killed. (Father and two sons, living in Tasselmante, Morocco, excerpt from an interview conducted in February 2017)

They often mentioned in the interviews how different the rule of Thami Glaoui was from that of King Mohammed V (living at that time in exile) and his grandson, the current King Mohammed VI. The pan-Arabist nationalist Allal al-Fassi and members of the nationalist movement exploited a legal decree issued by the French protectorate power to fuel this idea of division.

The marginalisation and later ban on Tamazight as a language and culture was essentially because of the Moroccan regime's adoption of Arabisation as a programme that pushed nationally under the strong influence of pan-Arabist ideologies coming from the east. Everything therefore related to the Amazigh was by turns either neglected or attacked. The tensions between the Amazigh and people influenced by pan-Arabism[12] were reconciled by King Hassan II, who also chose an Amazigh from Khénifra for a wife. This move is seen as one of the first steps toward the national unity of the Moroccan people after the French protectorate ended in 1956.

The research between summer 2015 and 2018 showed that the royal family enjoyed a high degree of esteem among the local Amazigh groups, especially after the periods of the protectorate and the era of the unloved Thami Glaoui rule. Despite the impact of the solar project in terms of the loss of communal land, it did not meet much resistance, at least at the beginning, because of local people's love for King Mohammed VI, and maybe also their fear of repression. There certainly was respect for this method of conducting development. This is remarkable, because this form of land alienation took and still takes place in many Amazigh communities as land grabbing by the state and international and national companies on a large scale [3]. Several local people told the researcher this, and tribes and communities deprived of their collective, or even private, lands could be observed during the fieldwork, not only in Ouarzazate, and not only for green energy infrastructure, but also in the whole Draâ valley, the Souss, Haouz and in the eastern part of the country—for example, the province of Figuig. This lack of resistance was not always the case. When King Hassan II, the current King's father, constructed a large dam in the research region in 1970, it was contested until local people realised its utility for irrigation as well as its ability to mitigate group conflicts stemming from water scarcity [4]. The dam issue is particularly important for the solar project, because its water is used for cooling solar installations such as Noor I (although a small amount, it is still significant from a local perspective).

There was no initial resistance to the solar project, however, as King Mohammed VI is admired locally for his social projects. The current King's positive reputation is based on efforts such as (a) fighting poverty, which meant bringing infrastructure and jobs into marginal regions; (b) introducing a new family law (New Moudawana), which was intended to change, at least on paper, women's inheritance rights; and (c) normalising the political situation after King Hassan II, which contributed to local conflicts [21] (and see also, in the context of gender and reconciliation commission after Hassan II, Bettina Dennerlein, [22,23]). The current King also promised that the gains from the solar project would be locally distributed and should also create new jobs for the local population. At the same time, it should make Morocco an energy-independent country and generate surplus green energy for export to other African and European countries. The media announced that up to 90,000 green jobs would be

[12] I prefer to use this term and not 'Arab', because there were Amazighophone people too in the nationalist movements and indeed due to ignorance and Arabisation conducted through education, a significant amount of Berber-speaking masses were victims of Middle Eastern pan-Arabist ideologies.

created in Morocco by 2020 [24]. With this development plan, the Moroccan government endorsed a local infrastructure development policy that they called 'regionalisation', allowing regional autonomy through the devolution of power to regional provinces. This move makes large-scale land acquisition a relevant issue in the politics of regionalisation: this regional investment option came at a time when regional provinces had gained some autonomy over the land. The politics of regionalisation also serve as an anti-politics machine, however, because the process was still controlled by the King, who did not—and still does not—focus exclusively on solar energy and green development.

For the local purpose of gaining a positive reputation, the King's and the government's discourses highlight that the solar project is also linked to local development initiatives that are defined as representing regional development, combining 'traditional' and 'modern' approaches. One element of these discourses is the promotion of traditional handicrafts as a means of keeping local traditional knowledge and creating jobs for women in rural areas. Altogether, these strategies constitute a holistic policy that the Moroccan national government—controlled by the King—uses to promote its vision of rural development. National-level development projects involving large-scale land investments in agriculture and infrastructure are at the top of the political agenda. Such projects include the largest ports in Africa (the 2009 Tanger Med and Tanger Med II) and the national railroad network. The recently opened Moroccan High-Speed Rail (TGV *Al Boraq* or HSR) network links the port of Tanger Med with other important industrial centres, and guarantees the fast transportation of passengers as well as goods and services. It is the first high-speed line on the African continent (for more and current information see, for example Reference [25]). The line between Tanger and Casablanca was inaugurated on 15th November 2018, and the journey between Tanger and Rabat takes now 1 h and 20 min by HSR, instead of 3 h and 45 min by normal train [25]. All these investments are legitimised by the argument that they are boosting the nation's green development and providing new job opportunities on all levels, with a particular focus on women and on mitigating climate change.

4.1. 'Moroccan Green Energy Projects' as Part of the National Climate Mitigation Discourse

Discourses on national strategies to support women and protect the environment are based on visions of national unity related to territory and land. The Kingdom of Morocco covers 710,800 km^2 and has a population of 35 million people, most of whom inhabit the northern and central part of the country. Yasmine Berriane [26] describes in her article, entitled The Complexities of Inclusive Participatory Governance: The Case of Moroccan Associational Life in the Context of the INDH, how Morocco transitioned "from an authoritarian regime to a democratic one" after forty years of rule by King Hassan II (1961–1999), at least in the official discourse about the transition process (see also Reference [27]). Berriane [26] illustrates in her article how, in Morocco, democratic norms and practices (such as the promotion of inclusionary practices of participation) have been combined with practices associated with authoritarian regimes, leading to a hybrid political system. She shows through this the ambivalences of current political change in Morocco. The French protectorate ended in 1956, when the French recognised the Kingdom as independent. Spanish colonial power ended only after the marche verte in 1975. Some 350,000 unarmed Moroccan civilians entered the Western Sahara/Moroccan Sahara (depending on the political point of view) in November 1975. Morocco extended its control into the two provinces of Oued Eddahab and Aousserd, where it faced a separatist movement, Polisario, which is nowadays based in Tindouf in the Algerian Desert. From the official national point of view, Morocco recuperated its land after Spanish colonisation and did not occupy the Saharan regions. Much historical literature, which will not be referred to further in this article (for further reading see Reference [21]), supports the official Moroccan position. This Western Sahara conflict is important in an indirect way for the research in Ouarzazate (although as the region is in the Draâ-Tafilalt, it is not part of the Moroccan Sahara) because the conflict there led to a strong unity in the nationwide discourse, and acts as a symbol of Moroccan unity and political stability. The conflict in the Western, or Moroccan, Sahara increased "the King's legitimacy as defender of the country's territorial integrity" [28] (p. 51).

Based on this history, the issue of national unity—one of the main red lines of the regime—is seen as focused on the throne and the Royal Family, and therefore their opinions are very important in informing views of the Moroccan public, as the author's data have shown. The Western Sahara conflict is used as part of the justification for accelerating the implementation of the decentralisation in Moroccan regions [28]. The Moroccan decentralisation process, which started with independence from France, is important for this research and the research area, regarding the implementation of local autonomy.

The solar energy project in Ouarzazate needs to be understood in this context, as it reinforces the hegemonic concept of the issue of national unity and the discourse on fighting together against climate change and global warming. State projects such as that under study can count on wide support within Moroccan society. These discourses are further linked to other issues with positive connotations[13], such as gender equality, participation, and decentralisation, which were rhetorically also used by King Mohammed VI to underline the process of modern technological and societal transition, albeit in the context of tradition, as mentioned above (see also Reference [26,29]). This discourse does not match reality, however, as there is a huge difference between the governmental discourse and its presence in the media on the one hand, and the daily experiences of livelihood challenges in rural Moroccan areas on the other. The whole process of investing in collective land is framed within broader key words, such as development, gender equality, and human development. This is a way to justify these big extensive projects and also to justify the use of collective lands (see Reference [29]). There is a small example of where to find the controversial reality between political discourse and daily life. A couple of years ago the Moroccan government stopped the use of plastic bags, in accordance with the COP 22[14] in Marrakech in 2017. Many people disapproved of this action, even though it was under the umbrella of protecting the environment, as the state had not provided alternatives to such bags and the black market for selling plastic bags in Morocco was growing year-by-year. The project was named 'zero mika'[15], and was accompanied by a national campaign regarding the negative impact of plastic bags on the environment. Why does the government not similarly encourage and help locals to sell pots made of palm fronds or reeds, a material that is not only 100% biodegradable but also a traditional handcraft with locally abundant materials? Cloth bags are now available everywhere in Morocco. Many shops use paper bags, but most of the cloth bags are produced by an external company and not by local actors. This means that the 'zero mika' project enables only a few people to profit from the new income source, thus supporting the growing black market. There are local people working on traditional handcrafts and making baskets and pots from reeds or palm fronds, as the following citation will show. Therefore, the project 'zero mika' should support these local producers as well.

> "Tasselmante has a few men working on traditional handcrafts like making pots from palm fronds and knitting woollen garments with sheep's wool, or the carpentry and engraving of wooden doors with Tifinagh. Many of those guys who worked on traditional handcrafts have died. Some men are working as carpenters. Near the water dam you can also find men working with palm fronds or reeds, making all kinds of pots, chairs, sunshades, or camouflage for the garden". (Younes, male ca. 22 years old, living in a village close to the Solar Project Ouarzazate, Morocco, excerpt from an interview conducted in October 2018)

Gender is also important in this context as a dimension of social actions that defines the tasks and roles (with considerable variation) that people play in several spheres of life, but it is also an arena of overlapping interests. Here again, the topic of contradiction and ambiguity returns.

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[13] Positive within a specific global and national context of international norms, national discourse of change, development, human rights and so on. These terms are not per se positive but they are seen as positive within a more general frame or context.

[14] 2016 United Nations Climate Change Conference.

[15] *Mika* is Darija for plastic bag.

> "We did receive farm animals from MASEN (Moroccan Agency for Sustainable Energy) and we received two sheep from 'Rosa' three years ago. More recently, they came to register those who will receive farm animals; they registered 24 names, all men, except me the 25th, who is a woman. They wondered why 24 men and only one woman (laugh). I told them I had to register my name because my husband is working and I'm 'the man of the house' now … ". (Fatima, female ca. 55 years old, living in a village close to the Solar Project Ouarzazate, Morocco, excerpt from an interview conducted in April 2016)

We should realise that gender-specific roles are limited and flexible, and cannot be identified when individuals, men and women, take or would like to take on 'other' roles that are classified as gender-specific by the CSR projects—which then deprives some men and women of profiting from several CSR projects. The CSR projects do not consider the context of variability and the meanings of gendered roles, because of the loss of an emic perspective. Most of the CSR projects for men from MASEN focus on job opportunities in the solar project, which generate income, while those for rural women do not. Why is this the case? Women should also be able to generate income. Another example is that handicraft projects are not focused on men, even though men work with handicrafts, such as palm fronds and reed pots from the Ouarzazate region, that are sold and generate income. What is the relevance of a large-scale green energy project to environmental discourse and the everyday experience of local people? It would appear that the country's engagement in promoting the discourse of green energy and green economy has instigated a new common feeling. The discourse promoted by the state presenting an African nation with this immense national green energy project and the satisfaction of having a leadership position as the first African nation in solar energy production at an international level is stimulating a sense of community among Moroccans. This discourse includes all Moroccans, the whole heterogenic population of the North African country. The Moroccan government stresses that all Moroccans are part of this sustainable development programme and these discourses are even more visible in the rural parts of the country. As national government actors often claim, based on my fieldwork experiences following official speeches and (conference) press releases, "it does not matter where you come from, what language you speak, what profession you exercise, whether you are male or female—all Moroccans, the whole nation, are included and will profit from this green energy from all different levels". There is an understanding that, "natural common-pool resources disappear for a particular group of people, but 'new commons' like this solar project emerge for the benefit of our entire heterogeneous country". This hegemonic discourse makes it difficult but not impossible for the actors in this research, including those working for the solar project, to take a critical attitude, to have critical thoughts or to express a critical position in public. This unity not only entails a national political stability, but, due to its location, peace in the country ensures stability. The strategic position of Morocco thus makes it unique in the MENA (Middle East and North Africa) region, because it is able to maintain unity among its diverse religious denominations within Islam and others, such as Judaism, Christianity, and Buddhism, and this unity has been due to the country's ability to transform its political structure compared to the other MENA countries. The capacity for reform was part of the policy efforts that were initiated by King Hassan II in the 1990s and continued by his son Mohammed VI [30] (p. 282). The change of status quo maintained a political system where the kingdom could co-evolve with democratic governance. This strategic move by the kingship and its acceptance of democratic governance makes Morocco a favourite of international and national firms for large-scale investments.

Infrastructure projects are also legitimised by the argument that they reduce the country's dependency on foreign supplies to meet its growing energy demands [31] (p. 291). It is argued that the specific geographical location of Morocco makes it very suitable for producing solar, wind, and water energy, and Morocco is also the only African country with a power transmission cable link to Europe [31] (p. 291). Several international banks are involved, as well as development agencies and technical companies from Spain, Germany, Saudi Arabia, and China. These investments are made according to the King's decision and vision for Morocco. At the national level, King Mohammed VI and

the government demonstrate a strong intention to realise these ambitious renewable energy projects. There are also plans to use green energy for water desalination rather than irrigation systems and to serve inhabitants, as part of the Moroccan energy policies. The projects involving energy production and water desalination are linked to agricultural development programmes.

4.2. A Regionally Green Morocco with Modern Agrarian Development

In public discussions about the subject, the King and politicians underline the importance of these projects for *all* Moroccans. Their discourse aims to stimulate a sense of community among Moroccans.

> Dear people,
>
> We are determined to maintain our course in order to complete the constitutional institutions and meet the requirements of good governance. The will that invigorates us in this respect is matched only by our determination to persevere to give substance to our societal project combining economic growth, sustainable development, and social solidarity [. . .] It is in the same spirit as the desire to endow Morocco with the capacity to produce renewable energies, thus helping to give concrete manifestation to our vision of sustainable development. Hence the implementation of the solar energy program, especially the launch of construction sites of the 'Noor Complex' in Ouarzazate, in parallel with the deadlines included in the wind energy program. Besides their environmental importance, these projects will make us less dependent on energy imports. It is therefore necessary to engage in an efficient training policy and to develop skills in this domain, which on top of that will favour the implementation of the National Charter for Environment [. . .] 'Green Morocco' Plan contributes to the modernisation of the agricultural sector, taking due account of the constant interest of small farmers in improving their living conditions'[16].

It is thus clear that the project is related to the vision of a "Green Morocco" and the protection of the environment. These discourses add much credibility to investment and the impact this has seems to be minor when labelled this way. Indeed, governmental development programmes, such as le Programme Maroc Vert elaborate a tailored agricultural strategy for each of Morocco's agro-ecological regions and include as one of their key goals the mobilisation of 700,000 ha of collectively owned land, to be used to connect small-scale farmers to the national (and global) market, including the use and promotion of sustainable energy [33,34], as well as that of gender-supportive policies.

Under these projects, small-scale farmers receive double governmental support. This is important for the case study because women are active in smallholder agriculture and so, through these programmes, the Moroccan state argues that it serves multiple purposes: a political objective that combines agriculture development, women's empowerment, and the use of green energy through the installation of solar panels, for example, on farmers' roofs, which is financed with government money. It is argued that

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[16] Cher peuple,

> *Nous avons la ferme volonté de maintenir le cap pour parachever les institutions constitutionnelles et répondre aux impératifs de bonne gouvernance. La volonté qui Nous anime à cet égard n'a d'égale que Notre détermination à persévérer pour donner corps à Notre projet sociétal alliant croissance économique pérenne, développement durable et solidarité sociale . . . ' ' . . . C'est dans le même esprit que s'inscrit la volonté de doter le Maroc de la capacité de produire des énergies renouvelables, contribuant ainsi à donner son expression concrète à Notre vision du développement durable. D'où la mise en oeuvre du programme d'énergie solaire, notamment le lancement de chantiers de construction du 'Complexe Nour' à Ouarzazate, parallèlement aux échéances inscrites au programme d'énergie éolienne. Outre leur importance environnementale, ces chantiers nous rendront moins dépendants des importations énergétiques. Il est donc nécessaire d'engager une politique de formation efficiente et de développer les compétences en la matière, ce qui favorisera, de surcroît, la mise en oeuvre de la Charte nationale de l'environnement . . . ' ' . . . Le programme 'Maroc Vert' contribue à la modernisation du secteur agricole, en tenant dûment compte de l'intérêt constant qui doit être porté aux petits agriculteurs, en vue d'améliorer leurs conditions de vie . . . ' 30/07/2013—Texte intégral du discours adressé par SM le Roi à la Nation à l'occasion de la Fête du Trône-Casablanca. [32]*

support for smallholder farmers will reduce outmigration from rural to urban areas and is used to legitimise the acquisition of land for solar energy by connecting the benefits of the solar project to the modernisation of rural agriculture.

The implementation of the solar project has also been linked to the discourse on agriculture development, by indicating that community members who have lost access to land and its related common-pool resources will be incorporated into such modernised agriculture projects. While women are active in small-scale agriculture through these programmes, which the Moroccan state argues serve multiple purposes, the political objective thus combines (a) agriculture development; (b) women's empowerment; and (c) the use of green energy through the installation of solar panels, for example on farmers' roofs, which is financed with government funding. Therefore, in addition to the argument that support for small-scale farmers will reduce outmigration, it is also argued that it will legitimise the privatisation of the previous common land for solar energy based on the ideology of modernity and the discourse on gender-sensitive rural development as benefits of the solar project as part of the modernisation of rural agriculture. The Maroc Vert programme (PMV), the Morocco Green Plan, launched in 2008, is expected to be one of the "the main engine[s] of growth" [28] (p. 21) and should affect poverty reduction in the whole country [28] (p. 21). According to Bergh, this national development programme aims to stimulate "the involvement of citizens and of associations" with rural and urban development and provide support in the sector of agriculture, including small-scale farmers [28] (p. 21).

For the so-called 'autochthonous groups', gender relations are based on Islamic norms but nevertheless give women in the local context the opportunity to participate in the new initiatives, especially in female cooperatives[17]. Since 2005 the INDH, Initiative Nationale pour le Développement Humain, has governed and financed several projects, especially for women but also for men in Morocco, and been promoted as the "key development strategy for the country, with important implications for local-governance arrangements" [28] (p. 21). The INDH '*n'est ni un projet ponctuel, ni un programme conjoncturel de circonstance, c'est un chantier de règne*' (The speech by King Mohammed VI, 18 May 2015). The so-called 'cooperatives' are often included and subsidised by the INDH, which proclaims that its

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[17] 'Appeared in the luggage of French settlers, cooperatives were first put at their service before the dahir of 8 June 1938 allowed the establishment of cooperatives among artisans and Moroccan farmers. But it is truly in the aftermath of independence that these economic entities will find an echo in the state. Cooperation is indeed recommended, both by state leaders and by various political and trade union organizations . . . ' [35].

'Through their values of democracy, solidarity, sharing and mutual aid, cooperatives play an increasingly important role in the economic and social development of Morocco. Their attractiveness has increased especially since 2005, when the launch of l'initiative nationale du développement humain (INDH), the National Initiative for Human Development, encouraged the creation and sustainability of social and solidarity economy structures. This contribution addresses the issues of cooperative entrepreneurship, examines the institutional and fiscal support offered by the Moroccan state to cooperatives and finally presents the economic and social weight of cooperatives in the Moroccan economy . . . '

' . . . An even more notable asset is that these cooperatives are 95% female. In fact, female entrepreneurship in cooperatives is an important turning point in Moroccan society, allowing women to have financial autonomy and more power in decision-making . . . ' [36].'

Apparues dans les bagages des colons français, les coopératives ont tout d'abord été mises à leur service avant que le dahir du 8 Juin 1938 n'autorise la constitution de coopératives entre artisans et agriculteurs marocains. Mais c'est véritablement au lendemain de l'Indépendance que ces entités économiques vont trouver écho auprès de l'Etat. La coopération est en effet alors préconisée, tant par les dirigeants de l'Etat que par différentes organisations politiques et syndicales . . . ' [35].
'A travers leurs valeurs de démocratie, de solidarité, de partage et d'entraide, les coopératives jouent un rôle de plus en plus important dans le développement économique et social du Maroc. Leur attractivité croît surtout depuis 2005, année du lancement de l'Initiative nationale du développement humain (INDH) encourageant la création et la pérennisation des structures de l'économie sociale et solidaire. La présente contribution traite des enjeux de l'entrepreneuriat coopératif, examine les appuis institutionnel et fiscal offerts par l'Etat marocain aux coopératives et présente enfin le poids économique et social des coopératives dans l'économie marocaine . . . '

' . . . Une place d'autant plus notable que ces coopératives sont à 95% féminines. En fait, l'entrepreneuriat féminin en coopératives constitue un tournant important dans la société marocaine, permettant aux femmes d'avoir l'autonomie financière et plus de pouvoir dans la prise de décision . . . ' [36].

programmes "fight against poverty[18], precariousness"[19] and "territorial scaling-up"[20]. It should be, as Bergh mentions, a "participatory mechanism of dialogue and consultation (concertation)" which "[is] put in place by the (newly established) Regional Councils and the Councils of the other local authorities to stimulate the involvement of citizens and associations in the formulation and follow-up of development programmes" [28] (p. 21).

As mentioned by Berriane [26], several micro-projects by local representatives of the state are elaborated, financed, and implemented throughout the INDH. These representatives work in close collaboration with the INDH to build on a pyramid structure consisting of elected council members and NGO leaders. NGO leaders should represent the inhabitants' interests when designing the first phase of a project [26] (p. 93). Often, local authorities (mainly representatives of the municipal district or of the Prefecture, led by a governor designated by the King) help in the first phase of project development. In the second phase of the project development, local committees, including elected members of the municipal or communal councils (conseils communaux), local representatives of the state, and NGO leaders, select a first set of projects to be supported by the INDH. After these two phases, the selection process comes under the supervision of regional councils and the central committee [26] (p. 94). At the top of the pyramid (Figure 3) are the prefectural committees (comités préfectoraux) led by the governor, along with civil society representatives (a third of the members of this committee).

At the top of the pyramid is also the Prime Minister, however, who controls the whole process [26] (p. 94). Obviously, the King has the opportunity to intervene in any phase of the implementation process. At least 12 INDH projects have been set up in the region of Ouarzazate, including, for example, a 'centre de formation des femmes rurales à Ghessate'. In the current state of research, these projects must also be understood as governmental compensatory measures for the local population, in two senses. First, during colonisation, rural regions in Morocco were often marginalised, and today the Moroccan government wants to improve the infrastructure in these areas. Secondly, it is compensation for LSLA in order to cover current needs and to determine the priorities for development projects. It therefore seems to be more than a sustenance strategy for the inhabitants of the region (see Reference [37] and current research). The state strategy of marginalising certain regions in Morocco during protectorate and post-protectorate eras had "drastic economic effects on the rural areas" [19] (p. 148), mainly on the Amazigh population, and migration for unemployed young people to bigger cities was the only option left for (poor) rural Amazigh [19].

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[18] Support for access to social services, infrastructure and basic sanitary and educational, cultural and sports facilities. Social, sports and cultural animation. Training and communication actions. Income Generating Activities and micro projects generating jobs and stable income [32].
Soutien à l'accès aux services sociaux, infrastructures et équipements sanitaires et éducatifs de base, culturel et sportif. Animation sociale, sportive et culturelle. Actions de formation et de communication. Activités Génératrices de Revenus et microprojets générateurs d'emplois et de revenus stables [32].

[19] The upgrade of the reception centers. The creation (if necessary) of specialised reception centers by target category. Family, economic and socio-professional integration. Support to associations fighting against precariousness. Support for people in vulnerable situations [32].
La mise à niveau des centres d'accueil. La création (en cas de besoin) des centres d'accueil spécialisés par catégorie cible. L'insertion familiale, économique et socioprofessionnelle. L'appui aux associations œuvrant dans la lutte contre la précarité. L'accompagnement des personnes en situation de vulnérabilité [32].

[20] Health support. Rural electrification. Potable water. Roads and rural tracks. Educational support [32].
Appui à la santé. Électrification rurale. Eau potable. Routes et pistes rurales. Appui à l'éducation [32].

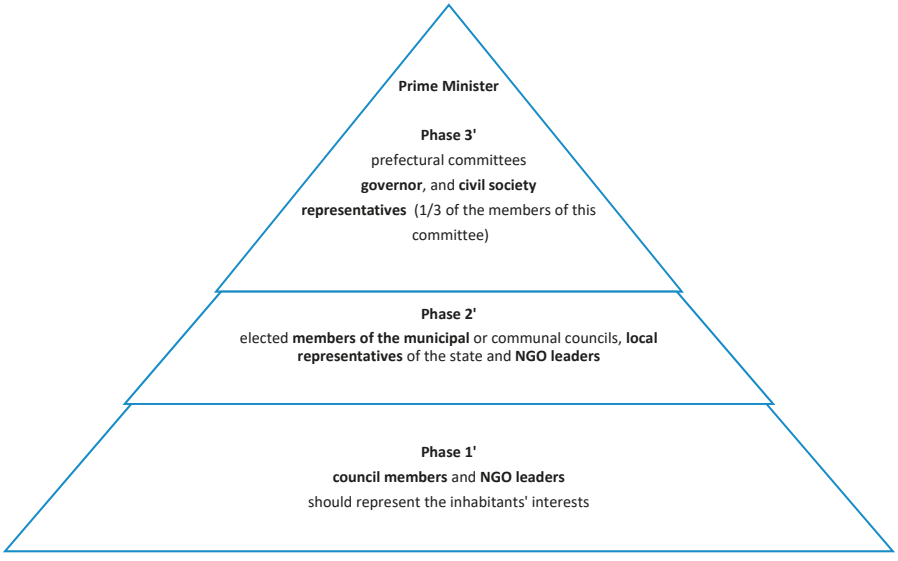

Figure 3. INDH development phases of the project implementation processes.

4.3. Discourse on Ethnic Identity and Amazigh Heroism as a Strategy Against Opposition and Objection and Beyond Rhetoric: Gendered Initiatives for Women's Empowerment at Local Levels

The government has also been very strategic in ensuring little resistance from the local people, by using historical accounts in political discourses to discourage opposition to the solar project in the area, and to gain support from the dominant Amazigh community to which the land belonged. For instance, in political discourse in favour of the solar project, officials refer to so-called 'worthless land' (*terre inutile*) becoming 'valuable land' (*terre utile*) (see, for example, Reference [38]. This distinction between *inutile* and *utile* was used by the protectoral power to distinguish between dominated land and non-dominated land, which structured the space for access to economic development during the protectorate era (see, for example, Reference [3,38]. The distinction between 'valuable' and 'worthless' was also used to describe the local people's resistance to colonial control during the French protectorate and the Spanish colonisation period, and represented a sense of pride in the local people, because most of the 'worthless land' could not be dominated entirely during that era. Often, it was the Amazigh population who acted against the colonial domination of European countries. As such, the officials' use of such rhetoric in their political discourses was strategically motivated to show that they represent the interest of the Amazigh population, and to give them the feeling of a common state and to show that the conversion of the land into solar fields is for the common good, of which the Amazigh are part. In 2001, King Mohammed VI made his first speech, reiterating the necessity of teaching the Tamazight language in Moroccan schools [19]. In addition to rhetoric, the Moroccan government has also taken concrete symbolic measures to show commitment to such discourses through several gestures, such as making Tamazight an official language in 2011 and teaching Tamazight in several Moroccan schools, as recognised at the national level. The Royal Institute for Amazigh Culture, L'Institut Royal de la Culture Amazigh (IRCAM), was built in Rabat and the Moroccan researcher Fatima Sadiqi and eight other women were appointed by the King to be part of its Administrative Board.

Legitimisation of the solar project has also been enhanced through the connection of compensation resources to support for the so-called 'autochthonous groups', where women in local communities are given the opportunity to participate in the new initiatives, especially in female cooperatives. Since 2005, the INDH has governed and financed several projects, especially for women but also for men. In the region of Ouarzazate, at least 12 INDH projects have been set up. One of them, in Ghessate,

is a 'centre de formation des femmes rurales à Ghessate'. This centre will include an educational establishment for professional education (for example, carpet weaving), literacy, nursery education, and sanitation education, linked to gender-beneficial outcomes of the solar project. Small-scale farmers receive double governmental support.

"If you think that the desert is empty, you do not know how to look at it"[21]

This proverb disrupts the picture of 'wasteland'—there cannot be wasteland, at least from an emic perspective. Only after several months the author learned to detect things like different plants, different types of housing, insects, and other animals in her research area. She also came to realise, pertinent to the Amazigh proverb, that her emic vision changed, i.e., she learned *how* to look at the desert, the semi-arid and arid areas. After long individual and focus group discussions, visiting many local people in several villages but also speaking with semi-nomads and herders, picking all kind of plants[22], the author learned how people were affected by the implementation of the solar project. She also realised that several things were not immediately visible or able to be perceived initially. The region was far more than a barren landscape; for example, the author discovered the reciprocal use rights between some herders from the neighbouring community from Azilal and the Aït Ougrour community (Figure 4, see also Reference [4]).

> The Azilal people, from the mountain, they come here. But they don't face the same problem as we do. Because it's us who settled here and benefit more from the land. They do have a problem too because they used to go to Tifernin and then to Souss, now they have to go in a truck, they don't have a way anymore, it's blocked now. (Herder, Tasselmante, Morocco, excerpt from an interview conducted in April 2016)

Figure 4. Herders and semi-nomadic groups from the Atlas Mountains with goats and sheep using the area on a reciprocal basis under *Amazigh* institutions. (Photo: Sarah Ryser 2017).

[21] *'Si tu crois que le désert est vide c'est que tu ne sais pas le regarder' Amenokhal Alhavi, Sagesse de l'homme bleu, Amazigh.*
[22] From a local perspective, important plants for medicinal or domestic use.

5. Discussion

The Moroccan state and investors argue that the abundant 'wasteland' is used for modernisation and the production of green energy, and new job opportunities are created in rural areas. Using a discourse with its seeds in the French protectorate, and dividing land into 'valuable/*utile*' and 'worthless/*inutile*' parts (see, for example, Reference [38], Moroccan green energy projects, in this specific case, (a) make the worthless/*inutile* parts of the country valuable/*utile*; (b) turn Morocco into a greener country—in helping the world fight against climate change; and (c) bring development to rural women and men. This is a 'win-win-win' situation in favour of the solar project. Since 'worthless land' has becoming 'valuable land', and there are now many different types of local people as well others from the 'valuable' parts of Morocco, such as Marrakech, Casablanca, Rabat (Oujda) who come to this area to try and make money. Managers, engineers, and NGOs are coming into 'worthless regions' to work on solar projects or other CSR projects. Using the same example of 'valuable' and 'worthless' land, people coming from valuable regions make the land in the surrounding area of Ouarzazate 'valuable' in a way, however, most of these people with a high position or with work experience use this discourse for their own purposes. Again, these people have access to these advantages, and in a disproportionate manner compared to local citizens. Additionally, locals express mistrust about NGOs and how the money from the land sale has been used.

> It was said that an international association (she is referring to an international NGO) was given 3 million dirhams! It's absolute nonsense. We know that they're stealing the money. Now they say the money is no longer available. (Chama, female, Tasselmante, Morocco, excerpt from interview conducted in March 2017 [4])

Informal discussions and interviews during the fieldwork for this case study confirmed what Bergh [39] had already mentioned—that there is mistrust about NGOs and associated work in Morocco because some people get rich at other people's expense by collaborating or participating with NGOs or associations.

> In Morocco, the notion of association in the modern sense was introduced by a royal decree (dahir) in 1941. It allowed only the French settlers to create associations and prohibited Moroccans from doing so. Only the Law on Public Liberties of 1958 (which was, in turn, largely inspired by the French law on associations of 1901) accorded the right to associate to everyone. [39]

After the pan-Arabist Allal al-Fassi's nationalist movement, many members of the leftist political opposition found refuge in associations. The law on public liberties was issued in 1958, after the French protectorate, and since then the parliament has adjusted this legislation and applied it to NGOs twice: first in 1973 and, after intense lobbying by civil society, in 2002 (see Reference [26,39]). The 1973 decree gave significant power to some authorities to sanction and dissolve associations, and the 2002 decree "strikes a balance between an opening up toward civil society and the maintenance of 'soft' state control" [39] (p. 47; and see Reference [26,40]). Now it is easier for an association to be considered legal, and the law introduced some additional bureaucratic control measures. These measures give a substantial role, including more power, to some local authority representatives, NGOs, and associations through the 'soft' state control [39]. In the area the author researched, this was particularly true for local

authority representatives like the Caïd[23] or the Moqaddam[24], but also for (international) NGOs, see the quote above by Chama. These negative experiences were very much highlighted in the interviews. Locals mentioned that a group of young people asked the DAR for financing for their own project to found an association. The DAR and the Caïd are responsible for managing the money for the fund. The young people told me that the Caïd refused to grant them permission. While the fieldwork did find that DAR argues that it organises meetings to review local needs, this did not happen often and the demands of the local people had not been considered during these sessions, according to local views. DAR administrators seemed to prioritise the development of projects which they believed would profit local people, however, the locals do not feel included, rather, they think that development decisions are imposed upon them. There is no transparency regarding the use of money and there are no direct cash payments; people are told to make official requests, to which there is either no response at all or none in a timely fashion[25].

> A group of young people had the idea to ask for the financing for a project of our own. But they (the DAR), along with the Caïd (the local state authority) are the ones responsible for the money. We wanted to fund an association with the money but the Caïd refused to grant us permission. We have the right to be the ones responsible for the fund, but they refused. (Addi, male ca. 24 years old, living in a village close to the Solar Project Ouarzazate, Morocco, excerpt from an interview conducted in March 2017)

The statement indicates that locals perceive a combination of disinterest from DAR and MASEN in involving them. It also discloses local power relations with elites, such as among village-level state authorities, who seem to control the fund and do not favour the local and bottom-up management of local people. The discourse of having ideas and wanting to set up their own projects indicates a will to have local control over the funds and projects. It also shows a desire for responsibility to be held not by state administrators but by local actors, a desire refused by the more powerful. This has led to the feeling of being unable to get involved and generate development ideas, even though this was the initial goal of the money raised from the sales.

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[23] 'After independence in 1956, Morocco set up a territorial administration in the form of local authorities, both urban and rural. The tribes and the segments that compose them are part of territorial administrations (deconcentrated administration) and local authorities (decentralized administration). Deconcentrated administration organises the tribal space in *Caïdats*. Each *Caïdat* is administered by a local authority agent, the *Caïd*, who is supervised by a Super-*Caïd*, who, in turn, reports directly to the governor. The *Caïdat* is divided into *Mashiakhat*, at the head of which is a *Cheikh*. The *Mashiakhat* are subdivided into *Douars*. Each *Cheikh* has a *Moqadmiin* under his command, and each *Moqaddam* is in charge of one or more *Douars*. *Cheikhs* and *Moqadmiin* are chosen from the population to which they belong. This organisation of deconcentrated administration (*Caïds*, *Cheikhs*, *Moqadmiin*) is part of a tribal tradition that the state has taken over by functionalising these agents and, especially, by detaching the institution of the *Caïd* from its tribal roots. Unlike the *Cheikh* and the *Moqaddam*, who are 'locals', the *Caïd* is an agent of the state with no ties to the tribe. One could say the institution of the *Caïd* has been detribalised. Decentralised administration divides the tribal territory into rural communes and electoral districts. It is in this context that representatives are elected, first at the municipal level then at the parliamentary level' [41] (own translation in English from original text below).

'À l'Indépendance, en 1956, le Maroc a mis en place une administration territoriale, et ce sous la forme de collectivités territoriales locales, urbaines et rurales. Les tribus et les segments qui les composent s'inscrivent dans des administrations territoriales (administration déconcentrée) et dans des collectivités territoriales communales (administration décentralisée). L'administration déconcentrée organise l'espace tribal en caïdats. Chaque caïdat est administré par un agent d'autorité local, le caïd, que supervise un super-caïd, qui, à son tour, rend directement compte au gouverneur. Le caïdat est divisé en mashiakhat, à la tête desquelles se trouve un cheikh. La mashiakhat est subdivisée en douars. Chaque cheikh a sous ses ordres des muqadmı̄n, et chaque muqaddam a en charge un ou plusieurs douars. Les cheikhs et les muqadmı̄n sont choisis au sein de la population dont ils sont issus. Cette organisation de l'administration déconcentrée (caïds, cheikhs, muqaddam) relève d'une tradition tribale que l'État a reprise à son compte en fonctionnarisant ces agents et, surtout, en coupant l'institution du caïd de ses racines tribales. Contrairement au cheikh et au muqaddam, qui sont des « gens du cru », le caïd est un agent de l'État sans lien aucun avec la tribu. L'institution du caïd est, pourrait-on dire, détribalisée. L'administration décentralisée découpe le territoire tribal en communes rurales et en circonscriptions électorales. C'est dans ce cadre que sont élus les représentants, au niveau communal d'abord, puis au niveau parlementaire' [41].

[24] The *Moqqadem* is the local representative of the Ministry of the Interior. He acts in the village as an interface between citizens and the Ministry of the Interior, as well as keeping an eye on everyday life in the neighbourhood [sig]' [26] (p. 100).

[25] Local community members in Tasselmante and Tiflit. Interviews conducted between September 2015 and May 2017.

6. Conclusions

For all these reasons, large-scale land acquisition processes accompanied by rural development programmes and women's empowerment, in the case of generating renewable energy, must be analysed regarding their implications for critical understanding. The Moroccan case is framed by a 'win-win-win' situation for all actors involved and therefore narratively legitimised. The deployment of colonial legal instruments for territorial dispossession are used to acquire the land necessary for national green energy production. Karen Rignall [3] used Huber's analyses of the foundation role of oil in shaping the "ecology of the forces of capital" [42] to extend it to renewable energy. She cleverly used it to explain the relationship between politics and solar power infrastructure. Huber points out, and supports, the above-mentioned correlation between capital accumulation and deprivation of the locals [42]. The discourse in favour of renewable energy, which supports existing ways of life as well as the production and consumption of (green) energy with the promise of capital accumulation for certain people, will reproduce those forms of power inequalities and capitalist ecologies in ways similar to Huber's analysis of oil and ways of life [42]. Deprivation of the local people affects the most vulnerable in society (see Reference [43,44]). The region in the area of the solar project the author researched is known to be one of the poorest in Morocco. As analogous to biofuel projects (see Reference [3,42]), the land in this case study is used for green energy production. Regions such as the stone desert in Morocco, used for generating renewable energy for industrialised economies, are not only ecological but also political. The complex land tenure system in these regions, influenced by former colonial power and 'traditional' laws, traditional property rights, and use rights, facilitates land transfers from marginalised populations, such as pastoralists and nomadic groups, and forecloses their claims regarding the impact of, or benefits from, renewable energy projects (see Reference [45]).

There is a tendency to make 'worthless' and 'unused' land available for investment (see Reference [46,47]), which helps to legitimise investments, in this case for renewable solar energy, in order to facilitate land acquisition in rural, mostly Amazigh, regions in Morocco. In other words, the land used, such as in the research area, is constructed in narratives as unproductive, as 'empty', and unused, to pave the way for renewable energy investments that will give it value, creating new opportunities for jobs in marginal Amazigh zones. Reality shows that access to new opportunities is not usually for local people but rather for (elite) capital accumulation (see Reference [3,43,44]). As stated by Karen Rignall [3], the land surrounding Ouarzazate appears at first sight to be unused, and is described in the national and international narratives as 'wasteland'; this is also because extensive pastoralism and also nomadism have long been considered unproductive land use by Moroccan policymakers [3].

Following the argument of Ferguson's (1994) anti-politics machine, it may be suggested that LSLA projects can hide the fact that they increase the ability of control and bargaining power of the state, local leaders, NGOs, and companies (see Reference [7]). Local leaders, NGOs, companies, and the state gain access to, and control over, the rural economy, which can then reduce local options and bargaining power, especially for women. The article stresses the effects of change under large-scale land investments for green energy development. It is not a question of whether solar energy production or the generation of energy through renewable energy resources is good or bad, nor for or against investments. There is also not simply ambiguity in local people's perceptions of the Noor Ouarzazate solar project, and also of all projects in Morocco generating green energy. People do want to be part of fight against climate change and global warming by both helping to reduce CO_2 emissions and generating energy in a really green manner, but therein lies the dilemma.

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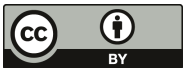

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Not Affected the Same Way: Gendered Outcomes for Commons and Resilience Grabbing by Large-Scale Forest Investors in Tanzania

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Abstract: The topic of large-scale land acquisition (LSLA) has attracted wide interest in the literature and the media. However, there is little work on the gendered institutional changes and gendered impacts on common pool resources (CPR) due to LSLA. The aim of this paper is to address these impacts. This is done by discussing data from participatory research (using the methods of participatory observation, semi-structured and narrative interviews, biographies, focus group discussions, value chain analysis, and household questionnaires) on a forestry plantation operated by the British investor, the New Forests Company (NFC) in the Kilolo district, in the Iringa region. The institutional arrangements regarding different land-related common pool resources from pre-colonial times until the arrival of this investment will be shown. Furthermore, how these arrangements have changed over time and since the LSLA is presented. Then, the effects on men's and women's access to CPR and, thus, the impacts on their capacities to perform their reproductive work and resilience will be addressed. Furthermore, the paper focuses on how different stakeholders in the land deal (the investor, the government, different local people) make use of these different institutions to push through their own interests regarding the land. Finally, the paper looks at collective compensation payments (such as monetary compensation and jobs) and forms of corporate social responsibility (CSR) schemes, and how they are perceived emically. It is argued that the LSLA in this case clearly grabs land and land-related common pool resources that were previously held in common. Women, such as daughters, sisters, and wives, had specific access and property rights to these. Thus, the paper concludes that this grabbing lowers women's resilience and deprives them of important resources for their livelihoods, and for food and cash production at critical times. CSR programmes and compensation rarely reach women and are, for them, an anti-politics machine, hiding the grabbing processes, and impacting the poorest of the poor, while the company uses a development discourse to legitimise its activities. In fact, the people perceive the investment as trapping them in underdevelopment.

Keywords: large scale land acquisitions; gender; institutions; common pool resources; common property; land tenure transformations; corporate social responsibility; resilience; social anthropology

1. Introduction

Much has been written on the impacts of large-scale land acquisitions (LSLA) in Tanzania [1,2] and Africa in general [3,4]. However, the impact on the commons, especially the commons to which women mainly have access, and issues of resilience[1] [5]. have rarely been addressed and, when they have, not from a long-term social anthropological perspective [6]. Scant literature in academia and

[1] I define resilience as the ability of a person and/or a household to restore basic livelihood capacities after a shock. Such capacities need to be available over time and remain high for the unit (household, community) to be resilient.

mainstream literature focuses on identifying the scope and scale for action in already historically transformed gender relationships that are now, in addition, being challenged under the context of large-scale land acquisitions. Doss et al. [6] for example, point at a gap in the literature on LSLAs regarding the impacts on local livelihoods and gendered land tenure systems, as well as how women react to and/or cope with changes due to LSLAs. The literature on LSLA in Tanzania also misses out in addressing especially the disaggregated gendered impacts on the household-level (intra-household level) and the larger clan level (inter-household level) from a broader new institutionalist perspective. In this paper, I discuss data from my research on large-scale land acquisitions of a forest plantation made by the British-based investor, the New Forests Company (NFC), in the two villages Makungu and Ukwega, in the Kilolo district of the Iringa region. The paper shows how large-scale land acquisitions consolidate commonly owned land (i.e., create common land enclosures) and impede access to this land and to land-related common pool resources (e.g., fruit trees, grasses), to which women previously had specific access and/or property rights, due to their own family clan affiliation and/or their husbands' family clan.

Furthermore, I will outline how this affects women's resilience and ability to perform reproductive work, which means looking after their children and relatives in need, such as the elderly, disabled, or sick persons. This paper also looks at the land deal processes and shows how the investor and the government, as well as different local people mainly within family clans, select from a plurality of institutions (institution shopping; for rules activation see [7]) to legitimate the deals or to make them profitable.

Finally, the paper focuses on collective compensation payments (such as monetary compensation and jobs) and forms of corporate social responsibility (CSR) schemes, which are supposed to compensate for the loss of the old common pool resources. However, I will show that CSR programmes are an asset for investors to increase acceptance and their international reputations, while these projects often fail to distribute the gains to former commoners, especially to women and less powerful local actors.

Thus, this paper looks at the gender aspects that play a role in CSR programmes and how these impact outcomes of LSLA—such as commons and resilience grabbing—differently for men and women. I argue that the LSLA provokes different types of land and commons grabbing on different social scales, specifically: (a) pure commons grabbing by the company of community and clan land; (b) internal grabbing within clans common land, meaning between households and lineages; and (c) grabbing processes within the households between husband and wife or brother and sisters. These forms of grabs lead to different degrees of competition regarding landed resources and the promise of access to CSR projects and other forms of compensations: on a macro-level, this is between investors and local communities; on a meso-level, this is between the clans/village communities; and on a micro-level/inter-household level, this is within families, competition about cash flows on an intra-household level, and within families and clans. This multi-scale process has negative impacts on women, involving increased workload, increased dependency of wives on their husbands, less access to cash, as well as lower security and reduced bargaining power of daughters and sisters when they get married. Because LSLA processes are directed towards men, land and related resources—such as fruit trees, which provided women with a source of cash controlled independently by them—have decreased or are no longer available, and land is mostly controlled by men. This negatively affects their resilience in terms of food security, [2][8] with an imbalance between gender and generation based on these power relations. Furthermore, compensation in the form of money and CSR projects that could balance the loss of access to the old commons is regarded by women as being insufficient, because there is a lack of transparency related to payout schemes, the distribution of scarce jobs available for

[2] I adopt the following definition of *food security* from the FAO: *'Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.'*

local people is generally extremely low for women, and the development and infrastructure projects are badly adapted to local needs.

The process of LSLA in Tanzania is not new and goes back to colonial times; however, the intensity and range have increased since the mid-1980s, following the political and economic shift to neoliberalism. It was increased even more by the so-called Triple F crisis (food, finance, and fuel) in September 2008 with the biofuel industry as the prime driving force behind the more recent LSLAs in Tanzania [9,10]. LSLAs have long been portrayed as win–win situations and green scenarios by global powers such as the World Bank, which are based on a neoliberal discourse to attract investment and development to the country [9,10]. Nevertheless, the Tanzanian government has also been actively attracting foreign investors under the current neoliberal order. Various laws, policies, and initiatives have been enacted or adapted, and a National Land Bank was established to accommodate private land investments, leading to an estimated area of around 200,000 to 1,000,000 ha of leased land [11] (p. 250). Very recent investments have focused on food and forestry production after many biofuel projects did not materialise or failed.

These LSLAs have impacted the local use of former common-pool resources on the land, especially agricultural land, water, pasture, and forests for subsistence and cash. This happens in the context of village common land formally protected by the Village Land Act of 1999, which respects customary land rights and, thus, should legally protect common property. The land transfer is a lengthy procedure involving several institutions from the local to the national level, including consultation and compensation of affected villagers [11]. The village assembly needs to agree, documented by village meeting minutes [12,13]. This has to be approved by the Land Commissioner on behalf of the President (ibid.). The village council needs to make recommendations about the planned investment to the Village Assembly, which can either reject or approve the land transfer in the case of land sizes below 250 ha. In cases of land areas above 250 ha, the Village Assembly cannot reject or approve the land transfer, but only make recommendations, while the President makes the decision. He can decide to expropriate landholders [13]. However, many authors criticize the implementation of the land laws and the procedures for land acquisitions therein - state officials on different levels are said to ignore regulations and laws [14], and community consent to the land deals is only considered to a limited extent [3] (p. 909). Thus, as is also shown by this paper shows, formal legal institutions do not provide security for local people and, under current commercialisation and privatisation pressures, they do this even less for women. On the contrary, different actors, from local men to central government, district government, and the investors, activate different rules of the game to grab women's rights to common pool resources and thus reduce their resilience.

2. Theoretical and Methodological Background

This paper follows a similar theoretical logic to other papers I have published (see [15]) and is based on a research project on LSLA and gender in Africa [16]. Thus, a new institutionalism perspective in social anthropology [17,18] is the basis of the background of this paper. The paper focuses on actors and looks at how external effects shape the internal bargaining power of actors and gender ideologies, and then shapes the institutional choice of—and distributional effects for—different actors. In the context of LSLA and gender, this means discussing the context of external changes (LSLA), which raise the value of land and, consequently, influence bargaining power in gender relations, the ideologies that justify these relations, and the choice of gender-specific institutions related to resource governance. This paper examines institutional transformations driven by change in the relative price of land due to the LSLA (changes in the value of land, rise of the relative price of land), which lead powerful actors to select from a plurality of institutions. These institutions can include rules and laws such as land acts, property rights, and regulations (see [17,18]), such as the 1999 Land Act [13], the 1999 Village Land Act [12], and the 2009 Water Resources Management Act [19], as well as local customary land rights, among others. The institutions employ ideologies through discourses and narratives that seek to legitimise land acquisitions in specific contexts. A new institutionalism perspective, combined with

theoretical insights on the governance of common-pool resources (CPRs) (see also [18]), also looks at the impacts that the institution shopping process [4,7,16] has on people with less power in negotiation, who are often women. Additionally, it shows how new norms and institutions emerge and are selected by powerful actors. This process has implications for women's and men's previous access to common-pool resources (CPRs). Thus, it shows how institutions change, but also how these CPRs were used and governed before investment and are now being replaced by new forms of governance at the expense of women's access to vital resources. Furthermore, neo-Marxist approaches that focus on the household mode of production, the reproduction of the workforce, and gender relations of exploitation (see [20]) indicate that the exploitation of women is increasing under the conditions of commons, and especially commons grabbing from females. However, many companies also claim that they bring betterment via investment based on the neoliberal order, especially for women who will profit from payments, jobs, corporate social responsibility (CSR) programmes, etc. This paper will show if these are truly projects that compensate for the loss of commons (land and land-related common pool resources) in a way that facilitates development, especially for women, or if women are facing an anti-politics machine in a gendered form, hiding commons and resilience grabbing from women.

The data for this paper were collected during several months of fieldwork from March 2015 to December 2015, April 2016 to December 2016, and February 2017 to October 2017, as well as a short period in August and September 2019. The scientific approach taken by this project is based on cooperation between social anthropology, human geography, and gender studies. I mainly used the following mixed research methods, and the data were cross-verified using data triangulation [21]: empirical data collection from participant observation, followed by open and semi-structured interviews that were conducted with members of different interest groups, as well as experts from the government and NGOs. Furthermore, biographies, narrative interviews, and focus group discussions focusing on the life histories of local actors provided a basis for obtaining emic views on land use, the land investment process, and its consequences for gender relations and institutional change (also regarding gender relations). Furthermore, value chain analysis and household questionnaires were used to obtain economic (household budgets, income, expenses) and demographic data. In total, 40 semi-structured in-depth interviews, 38 household questionnaires, 8 focus group discussions, and 15 narrative/biographic interviews, complemented by numerous informal conversations and structured and unstructured participant observations, were conducted. Between March 2015 and December 2015, I started with more unstructured informal conversations and participant observations, and then proceeded with more structured interviews and questionnaires from April 2016. The value chain analysis I conducted in February and March 2017.

3. National Historical, Socio-Economic, and Political–Legal Background and Institutional Changes from Pre-Colonial to Current Times

In order to understand today's investments and their impact on resilience for women, I will outline the historical institutional changes regarding land and CPRs from a gender perspective, because the actual investment is based on past institutional changes, and its outcomes cannot be understood without this background (see also [15] for a longer version of this section). In pre-colonial times, Tanzania was politically structured and organised into different chiefdoms comprised of diverse ethnic groups. Thus, resource rights and responsibilities regarding land and related common pool resources (CPR), such as wildlife, water, forests, pastures, and fisheries were in the hands of different local groups—based on kinship, clan membership, or other forms of belonging—who held/owned and managed these resources under complex systems of rules and norms (institutions) within their territories, usually under a common property regime, which was based on the connectedness of different resources [18]. Women had access and usually secondary or indirect rights to these CPRs through kinship ties, marital status, and personal relations, and based on gendered roles and responsibilities in reproduction and production, which defined women primarily as mothers and carers; thus, their rights were connected to food production [15,22–24].

The Germans colonised Tanzania in 1895 and, later, after World War I, the British moved in [25–27]. They introduced an export-oriented, commercialised agricultural economy. During this time, the management of land and related CPRs became increasingly controlled by the colonial state, with land vested in the State and Tanzanians having only the use rights for the land they occupied. Women's access to and control over CPRs and negotiation power was affected, because customary law was weakened, and colonial and indirect rule fostered men's authority over women [23]. Men were made responsible for tax payment and, thus, the notion of the male as the 'breadwinner' and the female as dependent housewife was reinforced [ibid.]. The cash men earned largely lowered women's bargaining power in the household, as well as men's respect for women's work for the household, because women did not have the same possibilities as men to earn cash [ibid.].

The United Republic of Tanzania was established in 1964 [26,27]. At that time, a kind of African Socialism (Ujamaa) was installed [28]. Two-thirds of the rural population from different 'ethnic' and local origins were mixed up and (re)settled in uniformly structured villages [14], where communal farms were cultivated by groups of village families [29]. Traditional leadership was abolished and, instead, new village governments were introduced (ibid.). Common property institutional regimes to manage CPRs were 'legislated out of existence', and CPRs were controlled and managed as state property by centralised state management agencies [18,28–30]. All the resources of Tanzania, including land, were declared as belonging to all Tanzanians; land was redistributed, and pre-independence land rights were abolished [18,28,30]. Women did not have equal access to land, because normally the head of a family, which was usually a man, was allocated one piece of land for the family [31].

In the mid-1980s, the Tanzanian government signed economic stabilisation agreements and reform programmes with the IMF and the World Bank, with the aim of reducing the role of the state in the economy, and opening up more space for the private sector after an economic crisis in the 1970s [14]. Private investment and property rights, including the promotion of foreign investment, were encouraged in the era of President Mwinyi (1985–1995). From the latter half of the 1990s, the Tanzanian state began the adaptation of the institutional and legal frameworks and, in 1997, the Tanzanian Investment Act was ratified. It established the Tanzania Investment Centre (TIC), which has a mandate to grant derivative land rights to foreign investors, to provide a certificate of incentive (which is a basic document for land processing and land allocation), and to establish a land bank [32]. A new land policy was presented to and accepted by the Parliament in 1995, based on two new land laws, which were enacted in 1999: the Land Act and the Village Land Act [12,13], which provide for the formal procedures for land application.

These land laws, which actually present a new legal pluralistic setting, divide land into three categories: reserved, village, and general land [13,14] (p. 42)[3]. The Village Land Act respects customary land rights and legally empowers village governments (i.e., village councils) to manage village land under customary law on behalf of the village assemblies [12]; however, the land still ultimately rests in state ownership [13] (p. 36).

Under Jakaya Kikwete, who entered presidential office in 2005, foreign investment was further emphasised, and land became more valuable locally as its relative price increased. The Kilimo Kwanza (Agriculture First, Transforming Agriculture) Initiative, launched in 2009, promotes, for example, large-scale commercialisation, bringing legal and institutional change, in order to prepare the ground for foreign investment in large-scale agricultural ventures, emphasising, for example, the need to amend the Village Land Act of 1999 [14,33].

[3] Village land can be further sub-divided into three categories: *communal village land* is to be used for public purposes, such as schools and public markets or grazing areas. *Individual land* is occupied or used by an individual or family or group of persons under customary law. The third category is *spare land* for future communal or individual use, and is sometimes referred to as reserve land.

Women's traditional rights to common pool resources and, thus, tenure and food security, have been increasingly undercut since then and, at the same time, heavy demands on their labour force continued, leading to coping strategies such as relying more and more on non-timber forest products (NTFPs) and other sources for earning cash, providing options for resilience. In current legal pluralistic contexts, such as in Tanzania, men and women use both different versions of customary and statutory systems to support their claims to land [34]. This can limit women's access to land and land-related resources. In the context of changing relative prices of land, this legal pluralistic setting provides a huge challenge because men, as well as government actors, are trying to sell land, because investors are becoming interested; thus, these men try to use and manipulate the different institutional provisions to their advantage. This is the context which, for women, means a weakened but still, somehow, working position in the power fabric; investment is introduced into this context, and makes these power relations starker, or changes them as cash flows in, as I will show in the following sections.

4. The Case Study Area: Local Ethnographic, Economic, and Ecological Background before Investment

The forestry plantation of the New Forests Company (NFC) is located in the Kilolo district, in the Iringa region in the Southern Highlands of Tanzania (see Figure 1). It was installed on land that the NFC acquired in the nine villages of Kidabaga, Idete, Isele, Kising'a, Ukwega, Ipalamwa, Magome, Kiwalamo, and Makungu, which are located within the three wards of Dabaga, Idete, and Ukwega. These villages lie in the highland zone (with an altitude that ranges between 1600–2700 m above sea level), with a moderate climate and mean temperature of 15°C [35,36]. Rainfall ranges from between 1000–1600 mm per year [36]. However, long-term climate records for the Southern Highlands of Tanzania show that the climate of the region has been changing with a steady increase of temperatures over the last 40 to 50 years, with a higher frequency of droughts during the last few decades, as well as a large inter-annual variability in rainfall [37,38]. However, the people in the area, as I will show later, have adapted to these conditions, and have developed measures such as CPR institutional management in order to be more resilient.

Most of the people in the area belong to the Wahehe, who perceive themselves as indigenous to the region, and to the immigrant Wabena ethnic groups, who originate from the Njombe region [11,36,39]. Both groups are patrilineally and patrilocally organised, and mostly Christian (ibid.), but polygamy is common in the area [40]. However, due to high immigration rates, the population in the Iringa region is now generally ethnically very mixed [39]; the area is home to some minorities of other ethnic origins, such as the Wakinga, Waudzungwa, and Wasagara.

Small-scale agriculture is the most important activity in the area, although there is also some livestock-keeping—mainly chicken and some pigs, goats, sheep, very few cows—and some people keep fish in small fish ponds in the rivers down in the valleys ([39], own research between March and July 2015, 2016, 2017). In 2011, the Kilolo district was home to 54,400 agricultural households, each with an average of 4.5 people [41]. Farm sizes are, on average, 1.6 ha per household [36]. Kilolo is a very hilly district; cultivation is practised on valley bottom farms known as '*vinyungu*' (a Kihehe word for valley and/or garden) in the dry season and on uphill slope farms in the rainy season, which falls in a single season from November through May ([40]; own research between March and July 2015). The *vinyungu* are the more productive areas, because they are permeated by different sizes of streams and the fertile soils are not flushed out like those on the hills; these are therefore preferred for agriculture (ibid., author's fieldnotes June 2015). These are red/yellow, well-drained, and highly weathered and leached clay soils (ibid.). Farmers practice crop rotation and shifting cultivation. They first slash, then burn, and thus fertilise, and then till the plots. Agricultural work is done by household labour, normally involving both men and women. In between or on the agricultural plots, there are often small areas with communal and private natural and planted forests, with trees producing timber and non-timber forest products (NTFPs), such as fruits or leaves used as food or medicine; people also plant different kinds of fruit trees there. Some trees are left for water conservation purposes. In the context of climate change, people are increasingly relying on NTFPs, such as wild mushrooms, wild fruits, and wild

vegetables for food, health, and income security [38,40], but the planted fruit trees also produce NTPFs. Many households are also involved in the planting of timber as savings. There is also temporary out-migration, especially involving young men looking for employment in forestry plantations in other regions.

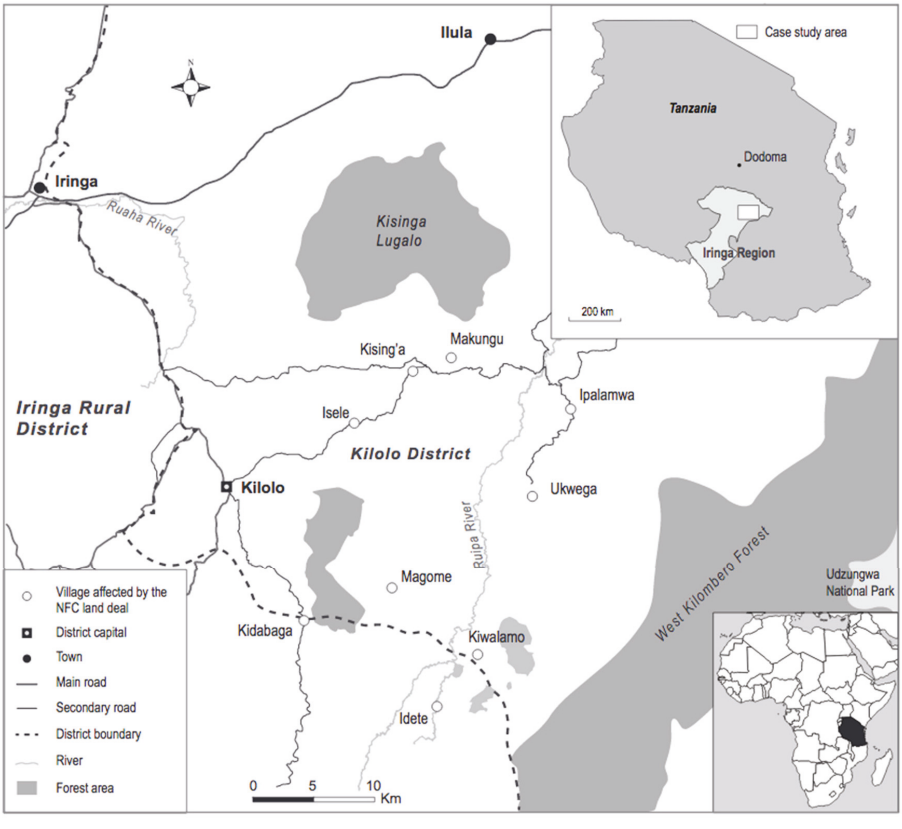

Figure 1. Map of the study area [15].

Institutions for the management of land and other CPRs, including tenure practices, are highly complex and very specific in the area. However, the following general land tenure tendencies exist: legally, most of the land falls in the category of *village land,* which is held in common by the community. This is under village management, and the village councils are empowered to manage village land under customary law on behalf of the village assemblies (the Village Land Act of 1999 respects customary land rights). Within the community, land is mostly a communal property of the clan, with clan heads and elders being empowered to allocate land and distribute land use rights, among which there are more communal (within the clan) and more individual rights (land for agriculture). This means people's rights to land are quite individualised rights, but still embedded in clan and lineage common property institutions, or, in other words, they are still the collective assets of the family, nuclear or extended (clan), i.e., they are family common property (FCP) or family lands, but with group members having specific individualised rights within them. Among the Wahehe and the Wabena, women are entitled to inherit land from their fathers. When a girl marries, she usually moves to the area of her husbands' clan, where she is given a piece of land for food production and leaves her land in her home area. Very often, the brothers then take care of the sister's land.

5. The New Forests Company's Investment in the Kilolo District

The Lukosi plantation, planted with pine and eucalyptus, is in the Kilolo district. In 2013, the NFC had already acquired land from seven villages. However, the NFC still wants more: mainly, more connected pieces of land. Thus, the NFC is still approaching new landholders to acquire more land [11,35], own research. To date, the NFC has planted a total of 2,125,671 ha of eucalyptus and pine trees (Kilolo District Council Strategic Plan), and has acquired more than 8000 ha of land [11], own research. In Makungu, the NFC has acquired around 2000 ha of land, and in Ukwega around 350 ha.

The following section demonstrates how the land was acquired and how the deals are perceived emically. This is important to know in order to see how the resilience capacities and the positions of local women and men within communities and clans are affected. It also shows which different institutions are used by the investor (institution shopping), the government, and local people alike to support their land interests, and which ideologies, discourses, and narratives[4][42]. (i.e., modernity, development, poverty) are used to legitimise these investments. In the final part, the CSR projects and monetary and job compensation are presented, and the local perspective is discussed.

6. Gendered Emic Perceptions of Land Deal Processes

6.1. Local land and CPR constellations in the context of the NFC Investment

The Tanzanian land laws stipulate that foreign investors can only acquire land which belongs in the category of general land. This is under the jurisdiction of the Ministry of Lands and Human Settlements Development. Seeing as most land in Tanzania belongs to the category of village land, it is necessary to transform its status to general land before becoming accessible for investors. The village assembly needs to agree, documented by meeting minutes. This has to be approved by the Land Commissioner on behalf of the President. Furthermore, the involved parties have to agree on the compensation, which should be based on market value, estimated by a government expert, and pay should include both the price of the land and unexhausted improvements, such as crops and/or trees). The investor then obtains rights of occupancy or derivative rights, and leases ranging from periods of 5 to 99 years [11–13].

The New Forests Company have owned land in Makungu and Ukwega since 2013 on uphill areas, as well as in valley bottom areas. After a first acquisition round, when the NFC tried to obtain village reserve land from villages, it moved to mainly approaching individual landholders. This land belongs to a category of land I call 'individual'. However, it is land that an individual or a group of individuals occupy as a member of a family or clan, and is managed under customary law; it is mostly inherited land, but it is embedded in common property institutions. Thus, it also includes land that individuals purchased or rented from other villagers, or that was allocated to them by the village council. The NFC has acquired granted land rights of occupancy for 99 years from villagers with a customary right of occupancy.

As the investor entered the game, the value of the land rose, due to the investor's interest. This created land scarcity and more powerful actors—especially men as fathers, husbands, and brothers, and the company itself—benefit from their higher power to sell and buy land. The less powerful members of families or larger groups, especially women, who have customary entitlement to the commons, lose out. Thus, depending on the perspective, position, and interest of the involved actors in the land deal, the narrative of the land acquisition can roughly be divided into 'voluntary' and 'involuntary' sale—in other words, loss of, or forced eviction from the land. This has resulted in

[4] *'Ideologies are considered here as worldviews that give major orientation and explain how the world is perceived. From a Marxist perspective, the term is of importance in analysing the legitimacy of actions taken in both global and local contexts. Ideologies also embody discourses, referring to how meaning and orientation are produced in a coherent way in spoken or written language, as well as narratives, referring to how a specific situation is logically described and explained.'*

different types of land grabbing and levels of competition, creating a series of conflicts with different actors employing different discourses and institutions to legitimise the transfer of land to the company. The narratives of the villagers clearly show the support of the investors' undertakings of acquiring land in the villages in Kilolo by the district, as in most narratives, people mentioned that the investor came with the district that was motivating the villagers to sell their land to the investor. Narratives from different villagers indicate that different people within the village reacted differently to the investors' request for land from the villagers when he came in 2012. Reactions roughly can be divided into, on one side, more suspicious people who did not sell, because they did not trust the investor—more educated people or more politically active villagers are among these people. Then there were people who did not have any land or not enough land to sell, and people who did not want to sell because they valued their land more than money. On the other hand there were people who had larger areas, some of them claiming it was "unused" land, which is, however, contested by some of their family and clan members as will be shown below.

6.2. Internal Grabbing:

In several cases—which I term 'internal grabbing', and can be categorised as voluntary or involuntary, depending on the position of the actors involved—there were complaints from members of different clans about the clan or family head who sold the land without the involvement of the rest of the clan. Sometimes, the clan head sold in cooperation with his sons, omitting the female members from the negotiation process and sale decisions. Sometimes, sons sold in cooperation with, or on behalf of, elderly fathers who were, according to them, too old to make decisions. Because the land rights and land practices in the area are still very much influenced by Ujamaa, this context was used in legitimation discourses and created tensions: on one side, some people use a 'wasteland' discourse, saying that land lost during Ujamaa is not used anymore, because it is far away from their settlement area, and became reserve land within the context of the family/clan, because prices were low. However, on the other side, many people still say that they want to keep the land for their own or future generations' use. Many people—oftentimes women—still claim to use it. Thus, with the arrival of the investor land rights to land held in common from before Ujamaa was contested, an internal competition about the land started. Exclusion of the sisters, wives, daughters, and mothers was often based on arguments pointing towards inheritance rules, such as it being the clan land of the husbands' clan—thus, the wives or sisters have no say in family land matters, because they live with the families of their husbands, and the land now belongs to the clan of the husband. Also, the rights of daughters to land left in the paternal home area upon marriage began to be contested, especially by brothers who sold their sisters' land and legitimatised the sale by challenging—i.e., denying—the customary rule of Wahehe and Wabena daughters as having the right to inherit land from their fathers. Thus, this undermines women's security, resilience, and bargaining power in their marriage. Women often claimed that they only got to know about the sale of the land after the land had been sold. Or they were informed before, but had no decision-making power, and some women just also agreed because they feared the men would sell anyway, so at least if they agree they would get some of the compensation, otherwise they would be overpowered by the men anyway. In the narratives of some younger women, it was the elderly people—men and women—who sat together, first among themselves, and then later together with the investor, to make all the arrangements for selling the land, omitting younger members of the clan—men and women—suspecting the investor bribed the old people. Regarding these deals with NFC, most female respondents within the families and the clan said that the NFC had first dealt with the fathers and the sons, mostly the oldest sons and then younger sons. Many women as sisters and daughters were totally left out, however, at the very bottom of the hierarchy in the decision making were the wives of sons whose clan, mostly the head of the clan, had sold the larger clan land, especially in pre-Ujamaa areas. Women as daughters and sisters, or as wives in cases where their own husband sold the land, had, in some cases, a little bit more say. There are also cases where women lost land on both sides—in their own clan and on the side of their husband's clan. In the narrative of

many women, the deals were closed between the men and the investor in the presence of the village government (Village Council and VEO) and the district. Thus, very often, the village assembly, of which women are part, was not involved or was bypassed. Furthermore, women complained that, because the village council mainly is composed of men, with female members having little say, the Village Council supported the claims of their fellow men. In cases where there were village assembly meetings, mostly only after the deals had already been closed, in the narrative of many women, they had little to no say in opposing the deals, before and after the deals were closed. They felt overpowered in the meetings, and often already muzzled at home before the assemblies took place, even though there were women who tried to complain, but were sidelined. Women coming from landless and land-poor families, who depended on products produced on land of other villagers that sold or lost land, were also at the very bottom of the land deal negotiation process, as they, and/or their family, did not sell land themselves, but depended on others who sold or lost land.

6.3. External Land Grabbing

For women, the most important cases are those of 'fertile bottom valley land grabbing' (*vinyungu* land), which I term 'external land grabbing'; this is straightforward grabbing of commons and is involuntary in all cases. Because the company was interested in the land, the district government started to implement and legitimise evictions of villagers from valley bottom areas. It used the 1999 Land Act and the 1999 Village Land Act [12,13], which purportedly respect 'customary land rights'. Specifically, the government used the institutional element of *The 1999 Land Act*, which implied that all land in Tanzania is public land, and is vested in the person who has power of making a final decision [13] (p. 36). Also, the company used existing laws, making reference to and activating Article 34 of the 2009 Water Resources Management Act [19] (p. 355). This article stipulates prohibition of human activities near water resources, which primarily includes *vinyungu* land. The district did not enforce this article until the investor became a powerful actor and a good taxpayer in the district. As soon as the NFC had acquired the upland areas, it started to prohibit villagers from using land in the *vinyungus* bordering the purchased upland areas. People were not compensated for the loss of the *vinyungus*, because, as legally stipulated by the Water Resources Act, it is illegal for people to use the *vinyungus*. This was a backed by the district. Additionally, the investor used environmental discourse to support its claim, saying that the water source needs to be protected, and the villagers are cutting down water friendly trees, thus destroying the water source. However, in the context of their local environmental knowledge, and as part of the institutional setting, the villagers claimed that they know exactly which trees they can cut and which not to cut to protect the water source. This also reflects an adaptation to the increasingly unpredictable weather conditions, in which context the *vinyungus* become more and more important for production, due to the water sources there. Villagers argue that the investor is simply afraid of fires, as well as wanting to protect the water source for its own use, which is why the investor acquired the *vinyungus*.

7. Gendered Impacts of the Investment on Access to Commons

The land acquisition made by the NFC had several gendered impacts, especially with regard to access to common pool resources. Most importantly, people lost access to a lot of agricultural land, the produce from which they used for subsistence and cash generation. In particular, the vinyungus are the more productive areas where beans are usually planted, and make the people more resilient in times of unpredictable weather. Beans are the primary cash crop, which brings the most cash income for women, as the following citation illustrates:

> *Income from the vinyungu is gone.... The community depended on these vinyungus to get extra income to get money to educate our children.... Most of these lands in the vinyungus have been purchased and the investor hasn't refunded us the money we used to purchase these vinyungus. ...Even the present village government didn't help ...yes, the village government didn't help us in demanding our rights (Female farmer, Ukwega, 05.10.2015).*

Many people depended on these *vinyungus*, as I experienced during my field stays and my observations living within these households. Their loss means the loss of possibilities to earn extra income to pay school fees, to buy extra food in cases of food scarcity when harvests on subsistence plots are bad, and to buy fertilisers. Due to the loss of the valley bottom land, food security is now said to be low. Even though this food shortage impacts the entire family, it mostly affects the mothers and the wives, who starve, as they give their food to their children, especially between November and December. This is because they usually harvest maize in June, which lasts until November. In November/December, they normally harvest the beans in the *vinyungus*, sell part of it, and buy maize, because the next maize harvest is not until March.

Generally, the LSLA has led to land scarcity. People do not have enough land to produce enough food for the whole seasonal cycle and now often have to rent land from others. However, the rented land often has less acreage and is less productive. Additionally, land rents have increased because of the investment. People now pay around 30,000 to 40,000 Tsh[5] per season per acre, whereas a few years ago it was half the price. Poorer people especially have difficulties paying the rent. Furthermore, many move to other villages far away to get land, which increases their workload, because they need to walk many hours to reach the land and then carry the produce home. This also complicates care work for women, because they have less time at home to look after the children. Some women also complain that the long-distance walks, sometimes in the dark late at night, make them more prone to harassment by men. In addition, many people also stated that since the operation of the plantation has started, i.e., the coming of the LSLA, maize production has been lowered in the villages. This raised the maize price within the villages from 7000 Tsh/18–20 kg to 10,000–13,000 Tsh./18–20 kg. As one farmer stated:

> *We don't expect maize this year because, even if those people bring maize from Iringa or Ilula bring maize, we don't have the capital from the beans to buy the maize because the beans were lost through drought in those vinyungus we still have, and because the other vinyungus are gone because of the investor. (Female farmer, Makungu, 8 October 2015)*

Another effect of this loss is that women increasingly start to brew beer with the remaining maize they have because this gives them a higher income than selling pure maize or flour. This is the only way to improve their income because they no longer have beans from the *vinyungus*. Beer brewing is a very important income strategy for women; they sell a 10l bucket for 10,000 Tsh, but the number of beer brewers have increased, so there is higher competition, and more men are also entering this market. However, the number of drinkers is still the same; thus, the market is still the same. Therefore, it can be said that the LSLA creates increasing competition between men and women for this cash flow.

While the valley-bottom lands are part of communal land and, thus, commons to which women have individual rights, there are other CPRs at stake with the investment which are important to women. Women especially complained about *losing fruit trees* such as lime, avocado, banana, pear, and Mikuti fruit (which is also a medicinal plant used for fever). Women often control the income from selling fruit. Fruit are also important for nutrition, because they are a source of vitamins in a food system that is very much based on starch (maize). Because the small amount of money women earned by selling fruits is gone, women have become more dependent on their husbands. Men generally have more other possibilities to earn an income from other jobs, such as carpentry or seasonal work in other areas, including other forest plantations, whereas women have more care responsibilities than men. This means that women suffer more because they do not have alternative income possibilities like men, and this can complicate care when men are away and women cannot ask them for money when it is needed. They become more and more reliant on other relatives in the family.

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[5] 10,000 Tsh is equivalent to around 4 Euro.

Another CPR loss is the loss of two kinds of grasses: namely, a thin reed-like grass called *Mlulu* (sg.) (*Milulu* (pl.)), used for making mats and baskets, and *Malolo* (sg.) (*Lilolo* (pl.)), which is thicker and mainly used for thatching roofs. Milulu especially gave women a separate income because it is mainly women who use it to make baskets and mats.

These losses created by commons grabbing are not just of land but of CPRs; as I have shown, this lowers the resilience of women for food but also for cash generation. These losses are hardly compensated for because the benefits proposed by the company (jobs, social services, schools, etc.) either do not materialise or do not cover the losses of fertile land and related common-pool resources, as I will outline in the next section.

8. Gendered Access to CSR Projects and Other Compensation Measures

When the investor approached the villages in 2006, its aims were presented as a long list of benefits, including to 'give better tree seedlings to villagers', 'create 10,000 jobs', 'give 300 Tsh million every year for social services', such as schools and health, 'engage in the provision of education, health, water, etc.', and to create infrastructure. On the company's website, it says that Corporate Social Responsibility (CSR) is a fundamental aspect of its business model, mainly as a strategy to reduce risks, because forest plantations are very vulnerable (e.g., fire, illegal harvesting) and long-term investments bring a return only after several years.

NFC created mainly CSR or community development projects, including income-generation projects and infrastructure investment, monetary compensation for the acquired land, jobs in the plantation, a planned outgrower scheme, and taxes and a lease, which they pay to the district. However, access to these projects consisting of infrastructure, income-generating projects, and jobs in the plantation, as well as monetary compensation and out-grower schemes, is limited, especially for women.

Regarding CSR, in terms of infrastructure in some villages, the people are somewhat disappointed, because there has been less infrastructure development than expected, and it has been slow, while the impact of the lost land has been immediate. In a few villages, building projects have included some dispensaries and houses for teachers, dormitories in secondary schools, and latrines for schools. Roads were also improved, but in Makungu and Ukwega these were mainly the roads connecting the main road to the plantation, and not to the village settlements.

There is one income-generation project in the form of the provision of beehives, from which people should be able to obtain an income from selling honey. The NFC gave 21 beehives to three groups; however, very few hives have bees—for example, one group has nine hives, but only three have bees. Thus, they have not experienced a good performance. Villagers also asked to put the hives into the NFC plantation because there are flowers there that attract bees. However, the NFC denied this request, because they are afraid that people will harvest illegally or make fires. They asked people to plant sunflowers in their own areas to attract bees, but the people are not educated about beekeeping, and they need their plots for food production, so they did not plant sunflowers.

In addition to this, many villagers were not aware of the CSR programmes. While the company highlights its social activity online, it remains unclear to the villagers if development or 'help' has come from the investor in the area, or if a certain project was from the NFC. The company seems to consider CSR to be a one-way process, even though, according to them, they used PRA methods to create projects according to needs. Most people in the villages where I lived did not associate any benefit at all with the investor. They feel rather suppressed in their development due to the lost land, and they employ an underdevelopment discourse due to the LSLA.

Another benefit the company claims are jobs in the plantation: according to the 2012 census, the investment-affected wards had a population of 19,982. The sustainability report of 2016 shows that the company created 548 jobs in 2016. This is very little compared with the population. Furthermore, very few women have been employed. Among the 78 full-time employees, 65 were men and 13 were women. Among the 486 employed seasonally, 385 were men and 83 were women (NFC 2016). Mostly

villagers work in the plantation or in the nurseries, with more women in the nurseries than in the plantation. However, of the 548 people employed, very few come from affected villages. As mentioned above, jobs for villagers are mainly seasonal jobs, officially paid on a daily basis with a salary of 6000 Tsh/day. A day has 9 hours and they work 6 days/week. They have three-month contracts, leading to job insecurity, about which employees complain a lot. People perceive the salary as being too low compared with the workload involved. Jobs are mainly available during the planting of the seedlings and the harvesting of the trees. However, there are many years in between (around 5–10 years on average) and there are only a few jobs in maintenance (such as cutting weeds around the trees, etc.) during that period.

Furthermore, the NFC claims to have paid monetary compensation for the acquired land, even though there are still some disputes. The *vinyungus*, however, were not compensated for, and probably will not be. Of those who sold voluntarily, many regret this now, saying that they were not aware of the drawbacks of selling their land and the extent to which they would no longer be able to access it after it had been sold. They also started to see that the amount they received was very little, and they used the money very quickly compared with the income they could have earned through their land. New Forests paid an average of 100,000 Tsh/acre in compensation, which is around 40 EUR This is very little if you compare it to the income they earned, for example, through the *vinyungus*. For example, two acres of land produced three bags of beans, which are sold at 300,000 Tsh per season. One season has a duration of three months.

In addition, women perceive a high level of nontransparency in payout schemes, especially in cases where clan heads sold the land without consulting other clan members, especially the female members of the clan. In these cases, the investor approached the clan heads or elders, who are mostly men, often through some kind of land broker and the village government, and also issued the payment through them; these intermediaries would have also skimmed off some of the profit. Many clan members say that they do not know how much the elders received in total; many wives say that they do not know how much their husbands received, because it is the land of the husband's clan. Many sisters do not know the exact price of the land they sold and received nothing or much less money than their brothers for the sold clan land, which points at privatisation of the commons in the form of money. There is generally a tendency for wives not to be involved in the land deals; many women expressed that, because most of the land was inherited clan land of the husband's clan, to which they only had usufruct rights of occupancy, they had no right to interfere or to take part in the decision.

Last but not least, the company's CSR package features outgrower schemes: There are plans to combine the plantation program with the adjacent communities in the form of out-grower schemes. Recently, this has started to motivate people to grow trees on their own land in order to be able to buy seedlings and trees from them later on. In March 2017, the company started to distribute seedlings to the villagers for free, and they also checked the plots where people started to plant the seedlings. However, they have not entered into formal contracts with people to date. At the moment, people are happy about the seedlings, even though there are complaints that there were not enough seedlings distributed for all the villagers.

9. Discussion and Conclusions

This case shows that women in the case of the NFC LSLA are affected differently by the companies' land investment than men: women lose access to land and other important common pool resources (e.g., fruit trees, *Milolo* grass). This impacts their ability to fulfil their care work in a negative way. If compensation occurs, it is mostly only men who are compensated. This impacts food security *negatively* and creates inter-generational and gender imbalances. It is mostly the mothers who suffer because the LSLA lowers food production and production of beans, fruits, and grasses that generate cash, which is used to buy food, health, and education services.

Furthermore, the investment increases relative prices for land previously used by women. Fathers and brothers dispose of land without involving other clan or family members; women (wives, daughters and sisters), in particular, are left out. The legal pluralistic context, including pre-Ujamaa contexts, leads to institution shopping of the more powerful local actors, who are mostly men. Furthermore, payout schemes are nontransparent, and the investors trades on the legal institutional framework with the help of the district; thus, by using the Village Land Act and the Water Protection Act, the NFC grabs the land in the very narrow sense of the term, providing no compensation payments and minimal job opportunities, especially for women.

As pointed out by neo-Marxist approaches, this further *negatively impacts women*, involving *increased workload* (see [20]. This is due to the fact that women need to look for alternative plots for agriculture, which often are located in further away villages, and that they need to intensify work on the remaining plots, as well as work as labourers on other people's plots to cope with the lost access to land, due to the LSLA. The capacity to fulfil their reproductive duties is hampered because the land investment reduces access to CPR to produce food and generate cash. Thus, wives become more dependent on their husbands, as they lose the resource base that gave them a certain freedom of action.

Furthermore, as shown by the new institutional approach, the LSLA leads to land scarcity and an increase of relative prices because it triggers more internal, albeit smaller, land acquisitions by domestic investors, adding to land scarcity. Women are increasingly marginalised and it becomes harder for them to access even less fertile land.

Historical changes from pre-colonial settings, where women had rights to clan commons; to colonial times, where losses started to occur; to independence, where a legal pluralistic setting between so-called customary and state laws emerge;, to changes from socialistic (Ujamaa) to neoliberal (investment laws) structures and conservation laws (Water Resources Management Act) led to institutional changes in the area where the land investment led to land scarcity and grabbing, which were legitimated by the more powerful on all levels (national and district level, company level, clan level, and household level). Women are, in most cases, at the bottom of that process, and have very little say, and not enough bargaining power to change that.

To conclude, I argue that this case clearly shows how land and land-related common pool resources previously held as common property—to which women as daughters, sisters, and wives had access—is grabbed by the investment. This furthermore leads to lowering women's resilience because they are more vulnerable to the loss of these common pool resources, which are vital to their livelihoods, and for food and cash in times of crisis and high expenditures. Their access to bottom valley land and all other land-related common pool resources needed to make a living are curtailed, while they experience an increased workload to a) perform reproductive work; b) produce subsistence foodstuff; and c) generate cash income for their children, the old, and themselves. CSR programmes and compensation do not reach women and are, for them, an anti-politics machine, hiding the grabbing processes, which hit the poorest of the poor, while the company uses a development discourse to legitimise its activities.

During my stay, there were no women trying to solve this situation, because they were too preoccupied dealing with men as fathers, brothers, and husbands performing what I call 'internal family or household grabbing'. However, they certainly claimed in a counter-discourse that the company does not bring development, but heralds the loss of their resources and livelihoods. This can be termed as one kind of a 'weapon of the weak'. However some women tried to complain but were muzzled by their family members before or after the deals took place, and when they complained to village governments they often were told that they have to deal with this within the families and clans, as it is family and clan land that was at stake, and mostly not land that belonged to the whole village. With regard to the vinyungus some women, but also men, at the beginning went stealthily to the vinyungus to cultivate them at night, until they were stopped by the district. In 2019, people had managed to get back access to some of the vinyungus they had lost, because they continuously went to complain to the village government, claiming that as they could not use the vinyungus, food security was severely endangered. It remains to be seen for how long this agreement lasts. Furthermore,

during my presence in the village, women started to be more and more curious about their rights, and started to think about possibilities to claim back their land, for example to build groups of affected and excluded women to inquire their rights at the village office. This realization came with the loss of land and related CPR and its implications, but also with my presence in the villages and my asking again and again about women's rights to land and common pool resources.

It remains to be seen if women react in a more organized way to these grabbings on several levels in the future. Development policies should consider these voices before taking action and recognise that poverty of women is being created, rather than occurring as a natural phenomenon to be addressed by development programmes.

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