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The Impact of the Increasing Demand for Biofuels in the EU on the Possibility to Conduct Collective Action for Reaching a Common Good

The Changes in the Community-based Management of the Common Pastures in Ethiopia

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The Impact of the Increasing Demand for Biofuels in the EU on the Possibility to Conduct Collective Action for Reaching a Common Good: The Changes in the Community-based Management of the Common Pastures in Ethiopia[1]

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Abstract: The negative impact of EU biofuel policy on the agricultural markets, carbon emissions and global land use has been evidenced through many studies. Besides the often affirmed negative implications, the paper suggests that in countries targeted by land investments for biofuel production, there are further implications for the social structure of their societies i.e., for the institutionalized relationships among the individuals living in those societies. More specifically, the paper suggests that there are implications for those relationships that command the conducting of collective action for reaching a common good, such as the successful management of a common-pool resource (CPR). For this purpose, the paper chooses to focus on the community-based management of the pastures in Ethiopia. The paper analyzes the changes that the traditional institutions for pasture management in Ethiopia are experiencing by applying Elinor Ostrom's design principles, while trying to determine *whether* and *how* the increased demand for biofuels affects these changes. The paper concludes that the increased areas under biofuels, by affecting the size and functionality of the pastures, provokes the formation of clearly defined boundaries of these resources and of their appropriators *and* causes inconsistencies between the rules that govern this resource and the local conditions. The increased demand for biofuels also incentivises governmental actions that further threaten the rights of the pastoralists to manage their resources. The justification of the paper is to add value to EU policies that attempt to mitigate negative impacts of the biofuel policy, so the paper ends with recommendations in this direction.

Key words: biofuels, design principles, Ethiopia, pastures, institutions for CPR management

JEL classification: D7, F5, Q15, Q28

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List of Abbreviations:

CFS – Committee on World Food Security

EC – European Commission

EU – European Union

GHI – Global Hunger Index

ILUC – Indirect Land Use Change

MoA – Ministry of Agriculture

MOARD – Ministry of Agriculture and Rural Development

MoME – Ministry of Mines and Energy

PCD – Policy Coherence for Development

SNNPR – Southern Nations, Nationalities and Peoples' Region

SSA – sub-Saharan Africa

1. Introduction

The negative impact of EU biofuel policy on the agricultural markets and global land use has been evidenced through many studies, many of them emanating from the EU. Without the EU biofuel policy, the production of biofuels would be greatly reduced, which in turn, would lower the demand for arable land, while also having a positive effect on deforestation and ILUC (JRC, 2013: 22). The EU recognises that the main method for satisfying the increased demand for biofuels will be the expansion of agricultural land under crops for biofuels. The intensification of land use will most likely play a greater role in Latin America and Asia where higher yield reaching technologies are applied, but less in sub-Saharan Africa (EC, 2013a: 83).

The developing countries are increasingly being targeted as a source of 'unutilised' or 'degraded' agricultural land for biofuel production. Private companies, funds and governments are buying up access to land to grow crops for biofuels to supply especially the growing EU market. The sale of land traditionally used by local communities to outside investors is becoming commonplace in sub-Saharan Africa, one of the hungriest regions in the world (GHI, 2012).

Besides the often affirmed negative implications from biofuel production such as food price hikes, food insecurity or a rising carbon footprint from land use change, the paper suggests that there can be further implications for the social structure in less resilient societies targeted by land investments for biofuel production, where social structure is understood as the institutionalised relationships among individuals living in a community. The paper suggests that there might be implications for those relationships that command the conducting of collective action for reaching a common good. Common goods are the common natural resources such as pastures, forests or fisheries, whereas collective action in these cases is the successful management of those resources.

The community based management of natural resources is a main feature of the African socio-economical system. The existence of communal arrangements in governing these common property resources is an existing phenomenon, recognised in international law, which is of extreme importance for the wellbeing of the indigenous population on the African continent. This phenomenon is undergoing some changes, so the challenge of the paper will be to define these changes, as well as to recognise whether the increased demand for biofuels plays a role.

The paper especially engages with the community-based management of common pastures i.e., with the institutionalised relationships among the pastoralists in managing their pastoral resources. Pastoral communities are least resilient to climate change, food insecurity and now land grabbing, and Ethiopia is home to many such communities.

As an obligation arising from the Maastricht Treaty, the EU has developed the concept of Policy Coherence for Development which requires the mitigation of spill-over effects to developing countries when the EU pursues domestic policy objectives, such as the objectives from the biofuel policy. Although the EU records positive developments in reaching synergy between its domestic and external development policies, it admits that there is still much to be accomplished in terms of evaluation and impact assessments of specific policies in specific regions (EC, 2013b: 11).

Using the findings of the EU's Final Report on impact assessment of biofuels under the PCD framework as a starting point, the justification of this paper is to add value to the PCD concept by investigating some lesser acknowledged negative implications for developing countries arising from the increased demand for biofuels in the EU.

The paper is structured as follows: the next part gives an introduction to the concept of common-pool resources, based on Elinor Ostrom's design principles as well as an explanation of those principles. The third part analyses the changes in the traditional institutions for community-based management of CPRs, while trying to determine *whether* and *how* the increased demand for biofuels affects these changes. The fourth part offers a summary of the analysis, while the fifth part offers policy recommendations based on the analysis, that attempt to add value to EU's PCD concept.

2. Common-pool resources and Ostrom's design principles

2.1. Common-pool resources (CPRs)

CPRs are resources that have two attributes: it is difficult (costly) to exclude individuals from using them through physical barriers or legal instruments *and* the utilisation of the resource by one user, decreases the availability of the resource for other users. For example, overgrazing a common pasture decreases the availability of fodder for other users. This is also the case with

overfishing a common fishery, or cutting too many trees from a common forest. CPRs are different to *public and private goods*. Public goods are also non-excludable, but they are not subtractive, for example: breathing the air does not decrease the availability of it for other individuals. Private goods, meanwhile, are both excludable and subtractive (Ostrom, 2000: 337, 338).

A CPR is also different to *common property.* While the former, is related to the characteristics of the resource itself, the latter relates to the human arrangements applied in managing the resource i.e., to the property rights regime that regulate its usage. In this sense, a CPR can be in common property (owned by a group/community), but also may be owned by the state, or by private individuals or companies. When there are no property rights that define neither the user, nor the usage of the resource, then it is under a *open access* regime (Ostrom et al. (eds.), 2002: 17, 18).

2.2. Ostrom's design principles

In her seminal work *Governing the Commons,* Elinor Ostrom (1990) deals with the question of *whether* and *how* the usage of CPRs can be organised in a way that is not too costly and does not lead to overconsumption. When resources are held in common by many individuals i.e., there are no well defined individual property rights over them, the often suggested solution of economists to avoid the problem of overconsumption, is privatisation or the enforcement of rules from an outside force. Ostrom on the other hand, offers an alternative solution: creating stable institutions of self-governing, by solving certain problems of supply, credibility and monitoring. In her work, she offers a close study of a broad range of CPR cases, such as meadows, fisheries and water projects from different parts of the world. By comparing them, she identifies some fundamental characteristics that provide for successful CPR management, which she names design principles (p.xi).

The paper uses these principles as guidelines throughout the analysis, so that all important aspects of the community-based management can be covered. The 1st design principle is related to the specificities of the resource itself and of its users, the 2nd to 6th design principles refer to certain institutional arrangements that make the governing of the resource possible, while the 7th refers to the external environment.

Principle 1: 'Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself' (Ostrom, 1990: 90).

This principle incorporates two elements: well defined boundaries of the resource and of the user group. According to Ostrom (1990: 91), the definition of boundaries in this fashion forms the basis for collective action. If the resource and the individuals who will use it are not specified, no one knows what is being managed and for whom, so one set of appropriators must be able to exclude another set of appropriators from accessing the CPR.

Principle 2: 'Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labour, materials and/or money' (Ostrom, 1990: 92).

Appropriation rules are concerned with the flow of the resource units by restricting time, place, technology and/or the quantity of resource units to be appropriated, while the provision rules deal with the stock of the resource units i.e., with the construction and the maintenance of the resource by regulating investment of labour, materials and/or money (ibid: 92).

The second principle is also made of two components: congruence of the rules with the local conditions (spatial and temporal heterogeneity of the resource and the local culture) *and* congruence between the appropriation and the provision rules alone which is understood as congruence between the costs incurred and the benefits acquired by the users (Cox et al., 2010).

Principle 3: 'Most individuals affected by the operational rules can participate in modifying the operational rules' (Ostrom, 1990: 93).

The principle is drawn from the premise that CPR institutions would be better tailored to the local circumstances, if individuals who directly interact with one another and with the physical environment, are the ones who modify the rules, so that the compliance with the rules does not necessitate external enforcement (ibid).

Ostrom makes a differentiation between operational, collective-choice and constitutional-choice action undertaken within a set of rules. Operational rules (specify for example who can access the grazing area and how much resource units can be withdrawn) are created through a collective-choice action, while the collective-choice rules (specify who can participate in

changing the operational rules) are created through a constitutional-choice action. The levels of action are associated with **bundles of rights** belonging to the users. Operational level property rights encompass the right to 'access' and of 'withdrawal'. Meanwhile, collective-choice property rights include also the right of 'management', 'exclusion' and 'alienation'. Each of the rights includes in its essence the previous ones. The superiority of the collective choice rights over the operational rights is proven through the fact that the collective-choice right of 'management' is authorising its holders to devise operational level 'withdrawal' rights to the resource, while the right of 'exclusion' authorises its holders to devise the operational level rights to 'access'. The right of 'alienation' is a collective-choice right that permits its holders to transfer (sell or lease) one or both previous collective-choice rights to an individual or a group. A user who holds all the five rights is an *owner*, while the user without the right of 'alienation' is a *proprietor;* users without the right to 'exclusion' are *claimants;* an *authorized user* has only right to 'access' and 'withdrawal', while an *authorised entrant* has only the right to 'access' (Ostrom, 2000; Schlager and Ostrom, 1992).

Table 1: Bundles of Rights with their Holders

	Owner	Proprietor	Claimant	Auth. User	Auth. Entrant
Access	X	X	X	X	X
Withdrawal	X	X	X	X	
Management	X	X	X		
Exclusion	X	X			
Alienation	X				

Source: Ostrom (2000: 340)

Differentiating between the operational level and collective-choice right is crucial for Ostrom, since the first means only exercising rights while the second means participating in the definition of the future rights that will be exercised (Schlager and Ostrom, 1992).

Principle 4: 'Monitors, who actively audit CPR conditions and appropriator behaviour, are accountable to the appropriators or are the appropriators' and **Principle 5:** 'Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, by officials accountable to these appropriators, or by both' (Ostrom, 1990: 94).

Although separate, Ostrom discusses these two principles together as most related to each other, since the fourth makes the fifth principle possible. Based on the many case studies she has conducted, she concludes that even in repeated settings where users share the norms of keeping agreements, reputation and the shared norms are not sufficient for providing stable cooperative behaviour in the long run, and therefore, appropriators invest in monitoring and sanctioning (ibid, p.93). Monitoring and sanctioning should not be externally imposed and the monitors/sanction assessors should be the appropriators themselves or be responsible to them.

Principle 6: 'Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials' (Ostrom, 1990: 100).

Conflicts over an exhaustible resource are unavoidable. CPR management systems that can establish low-cost conflict resolution mechanisms are more likely to survive and maintain the collective action (Cox et al, 2010).

Principle 7: 'The rights of appropriators to devise their own institutions are not challenged by external governmental authorities' (Ostrom, 1990: 101).

Local users often devise their rules without having formal jurisdiction from the government when doing so. If the government accords at least minimal recognition to the legitimacy of those rules, the users might be able to enforce them by themselves. But, if the government presumes to have the sole authority to create those rules, long-enduring CPR management is hard to sustain (ibid).

Principle 8: *'Appropriation, provision, monitoring, enforcement, conflict resolution and governance activities are organised in multiple layers of nested enterprises'* (Ostrom, 1990: 101).

This principle will not be used in this paper because it refers to complex CPRs rather than all CPRs. Complex CPRs are those where all the previous principles are organised in multiple layers of nested enterprises with different levels of jurisdiction such as local, regional or national (Ostrom, 1990: 90). While certain Ethiopian pastures function as complex CPRs, the paper engages with the Ethiopian pastoral communities and common pastures as a general category.

Thus, in order to draw general conclusions the paper deals only with the principles that apply to all types of CPRs.

3. Analysis of the changes of the traditional CPR management

3.1. First design principle

'Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself' (Ostrom, 1990: 90).

C*learly defined boundaries of the resource* form the first constituent of this principle. In this regard, the Ethiopian pastures share a specificity typical for the SSA pastoral economies in having so called 'fuzzy' or flexible access rights for their users, derived from their flexible boundaries.

Transhumance, or moving the livestock from one grazing area to another in a seasonal cycle, is typical for the arid and semi-arid regions of SSA. The high variability and unpredictability of the rainfall in these regions raises the value of access to wider grazing areas that help ameliorate the shocks of the weather. In this sense, the grazing areas in SSA do not correspond to the typical common property concept where defined groups of users have equal access to defined forage. In fact, the fuzziness of the resource boundaries are preferable to well defined boundaries in a double sense. First, they provide better income realisation for the pastoralists who adjust their access to common resources in relation to the outcome of their other grazing areas, and second, by allowing for greater mobility, the flexible boundaries help reduce the risk (Goodhue and Mccarthy, 2000: 193).

Mobility is the mechanism that provides for maintenance of the pastoralism, by ensuring the equilibrium between humans, animals and natural resources. The scarcity and the spatial and temporal variability of water and pasture as the two most critical resources, makes mobility and flexible geographical boundaries a necessity (Aredo, 2004).

Besides risk reduction and economic viability, another aspect to the nature of the land tenure which adds to the argument that strictly defined resource boundaries are not viable for this type of tenure system, is the existence of overlapping territories between two groups on a certain

grazing area that even have different forms of tenure rights (Scoones, 1995: 27). Niamir-Fuller (1998: 268) posit that the pastoral groups use these overlapping territories as fall-back areas in case of difficult years, so depending on the climate conditions they might spread their grazing area into these territories. So called buffer zones, are even wider than the overlapping territories and are usually used by more than two groups based on *ad hoc* negotiations (ibid).

Aredo (2004: 15) uses the example of the Nuer and Annuak people living in the Gambella regional state in the south-west of Ethiopia, to describe how seasonally flexible the grazing practices might be i.e., how flexible the resource boundaries are in practice and how this creates different tenure niches for different user groups regarding a same common. Namely, the Nuer people are pastoralist and inhabit the low lands, while the Annuak people are mainly crop cultivators and inhabit the highlands. However, when parts of the lowlands are flooded during the rainy season, the Nuer people migrate to the highlands and temporarily make use of the Annuak's grazing areas as secondary users in exchange for milk or cattle, but having fewer rights to this common in comparison to the Annuak people.

As evident from this example, when it comes to the *clearly defined boundaries of the group*, the situation seems pretty much the same: absence of clear group boundaries and access to pastures based on different access rights.

Speaking of pastoral land tenure in the Sahel region, Thebaud (1995) widely describes the openness of these pastures to different users. Although under customary tenure, the pastures fall within a certain community whose members are primary users, besides the more common allowance for accessing pastures for other closely related communities, in certain periods of the year they can be open to casual herders in exchange for animal manure.

Drawn from the examples, a common pasture can be located on an overlapping territory or in a buffer zone, in which case on-spot negotiations take place for managing its usage among different groups, *or* it can fall within the territory of a certain community where access can be allowed to a certain group as a secondary user for a certain period. In the case of the overlapping territories and buffer zones, no group of appropriators can exclude the other group, but still there is some controlled access system that stops this resource being an 'open access' resource. In the case of primary and secondary users, one might say that the first group can exclude the second so

the resource can be treated in a similar fashion to a private good, but the fact that the access for the secondary users is largely allowed based on reciprocity and mutual benefits, makes exclusion difficult.

Examples from the (agro-)pastoral tenure systems from the Sub-Saharan and especially the Sahelian region are often used as CPRs that function without having to strictly satisfy Ostrom's first principle. There are a set of authors that criticise Ostrom's position defined in this principle. They favour loose geographical and group boundaries in certain CPR arrangements like the African pastures, as a necessary condition for them to function better. For example, Turner (1999: 649) states that many practitioners expect the community of users to be a permanent group that jointly manages a precisely determined resource through clearly defined rules of access. He finds the Sahelian (agro-)pastoral communities in reality very different from this model, since the access rules can be politically influenced while the spatial limits of the resource can be very fluid.

It is evident that the strict pasture borders and the high specification of claims on the pasture by its users, are considered counterproductive to its well functioning. According to Goodhue and Mccarthy (2000: 193), this consensus existing among many scholars that the well-defined limits of the resource and its users are not necessary for its successful management, represents a stark contrast to the standard common-property findings expressed by Elinor Ostrom among others.

Therefore, it can be argued that the Ethiopian pastures with their specificities of flexible geographical boundaries, overlapping territories, overlapping tenure niches where different (sometimes not predetermined) users have different bundles of rights on the resource – do not have clear resource nor clear group boundaries and yet are managed successfully. Ongoing changes however affect this type of CPR and its long-enduring governance.

Analysing the trend of change in property rights among (agro-)pastoral communities from the Somali regional state in the period from the 1950's until 2005/06, Beyene (2006: 13) notes the remarkable change from unclear boundaries of pastures when users were spread through large grazing areas, to conditional access and strong protection of pastures from certain clans or sub-clans. The results from this study show that there is a gradual change in property rights towards

individualisation resulting from many factors, with the most important being, state politics affecting clan relations, resource scarcity and the resulting conflicts.

Aredo (2004: 10) offers an example with the Afar pastoral community from the Afar regional state. Afar have two types of institutional arrangements for accessing pastures, namely, *waamo* which grants exclusive and inalienable rights to a specific Afar group and *isso* which grants secondary rights to non-members. Aredo notices the trend of undermining the *isso* institution and denying secondary access rights to grazing lands and water points to non-members of Afar clans. The latter happens largely due to a decrease of the resource base of the Afar area which is influenced mainly by external factors such as: commercialisation of agriculture; direct interference by state authorities; or displacement and migration of people. He claims however, that the adverse internal factors like population or animal pressure on the resource base are not endogenous for the Ethiopian pastoral economy, but rather, they are induced by external factors like state supported resettlements or population concentration due to unwise undertakings by donor projects[2] (2004: 8).

What might be more alarming in terms of appearing features that are nonviable or even destructive for the pastoral economy are the emerging boundaries of the pastures in the form of enclosures. Enclosure refers to the fencing of communal land, with the objective of improving natural resource management, securing access to grazing in dry season and reducing the competition for resources. Several types of enclosures appear, such as individual, communal and group enclosures. However, all of them are manifestations of the ever growing individualisation of communal land for livestock feed production or for grazing purposes of private households. In the field study he conducted among Kereyu in East Oromia in 2006/07, Alemu claims the reasons for the growing enclosures to be the spread of commercial farming, irrigation based sugar cane projects, demarcation of conservation areas, population growth as well as recurring droughts (2013: 15).

[2] Southern Rangelands Development unit (SORDU) is a donor sponsored rangeland project under whose authority water holes were dug in a contested grazing area used by Oromo and Somali pastoralists in South-eastern Ethiopia. These water points provided for high degradation of the resource because of the unusual concentration of cattle they triggered. Furthermore,, by disrupting the traditional movement of livestock they eroded indigenous rangeland management systems, undermined cooperative relations between Somali and Oromo clans, and contributed to the accentuation of conflict (Aredo, 2004: 17).

Although enclosures are not always a new feature among the Ethiopian pastorals, they tend to acquire new dimensions. A study from Kamara (2000) shows that in the case of calf-enclosures there were already existing communal enclosures as an exclusion method for managing pasturage among the Borana pastoralists. More important, however, is the recent increase of communal calf-enclosures at the expense of the *warra* grazing areas which are considered as the most important form of common property regime on the Borana Plateau. According to Kamara, even more prevalent is the tendency towards enclosure of communal land by individual households for grazing and even crop cultivation which until recently was a totally alien practice among Borana. He further states the drivers for this phenomenon are partially population driven, but also market driven especially due to the state's biased policy towards cultivation and the dominant policy incentives for land marketisation. He concludes that under the condition of recurring droughts, this type of sedentarisation that imposes limitations on livestock movement can barely be a stable production system for the Borana pastoralists (pp. 420-423).

Although absent in the case of the Ethiopian pastures, the first principle proves to be extremely useful in measuring the changes of the condition and management of the common pastures. As a matter of fact, those changes are represented by the emergence of clearly defined boundaries of the resource and of the group of users. The spread of commercialised agriculture, conservation areas, land enclosures, population growth, as well as policy incentives for land marketisation cause land scarcity which seems to be the dominant factor for these changes. Although in the presented cases there is not always a clear linkage between the occurring transformation of the common pastures and the increased demand for biofuels, one can still argue that the often met factor of 'commercialised agriculture' incorporates in its essence also the commercial production of biofuel crops. In certain cases, as among the Kereyu in Oromia regional state, it is clear that the transformation is occurring because of land demanding irrigated sugar cane projects. The state owned Metahara sugar factory has 15,000 ha of land under sugar cane plantation along the valley of the Awash River with an additional 10,000 ha under way (Behnke and Kerven, 2013: 25). This land was the best dry season grazing area for the Kereyu, but because of the sugar cane plantations and the Awash National Park it was reduced by 60% (Elias and Abdi, 2010: 7). A similar outcome is expected for the Afar people because of the state-owned Tendaho sugar factory, and for the people in SNNPR because of the planned 245,000 ha of state owned sugar plantations along the Lower Omo Valley (Behnke and Kerven,

2013: 31). Production of bioethanol from sugar is at the peak of the Ethiopian Biofuel Strategy (MoME, 2007). The state owned sugar factories and sugar cane plantations are important means for reaching the goal of the Ethiopian Biofuel Strategy: decreasing their oil dependence and exporting the excess products (MoME, 2007: 9).

3.2. Second design principle

'Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labour, materials and/or money' (Ostrom, 1990: 92).

In relation to pastures, the appropriation rules define mainly what season the grazing occurs, how long the grazing should last on one specified area, the number and type of grazing cattle etc. Pastures as CPRs have more simple provision rules in comparison to an irrigation system or a fishery for example, since they do not require construction of big installations, infrastructure or any kind of special equipment. Pastures, however, cannot be functional without water points, so the digging of wells and construction of cisterns and ponds should be regarded as a possible source of provision problems which could be avoided by applying provision rules.

The first element of this principle says that *rules should be locally derived* i.e., in accordance with the ecology of the resource and the local culture. Due to climate and environmental conditions, Ethiopian pastoralism is characterised by high mobility and movement of herders and livestock from one grazing area to another, in predictable but also unpredictable patterns. As stated by Ostrom (1990: 48), the spatial and temporal distribution of resource units in regard to certain resources are frequently heterogeneous and uncertain, thus, risk reducing rules pertaining to these resources are of extreme importance. Ethiopian pastoralists reduce the risk through mobility. In addition and inseparable from mobility, rules on reciprocity are of extreme importance among Ethiopian pastoralists since they regulate the extension of resource availability to other grazing areas outside their own community. The mobility and the reciprocity arrangements for mutual access to pastures are two of the most developed traditional risk-management strategies among the pastoral communities (Ngaido, 2000: 304). So the transformation of the rules of mobility and reciprocity will be analysed in the following.

Beyene (2006), in his field research among Oromo clans in Somali regional state, notes that when the non-members are facing extreme drought and ask for access to a grazing area, the members of the clan allow them full and equal access rights, while they receive less rights when they ask for access under normal conditions. This happens because the members of the clan expect the same in return if they face the same situation (Beyene, 2006: 7).

Reciprocity, as often present in the pastoral economies, is a diffuse type of reciprocity and is recognised as one of the manifestations of the social capital of a community. This type of reciprocity does not refer to simultaneous exchange of items with similar value, but to continuing relationships of exchange which at a certain point might seem unreturned but over the long run are repaid and balanced. This type of relation creates long enduring commitments between individuals and between communities, increases the feeling of belonging to a certain group, which in return improves the conditions for successful collective action (Pretty and Ward, 2001).

Although crucial for providing access to the resource, a number of studies show that these two institutional arrangements are undergoing serious transformation. During the last two decades, many pastoralists have found it much more difficult to trace forage resources across the landscape, due mainly to restricted access to transhumance routes and especially to dry-season grazing resources. Among the factors that affect the migration routes of the herders, and obstruct the utilisation of dry-season reserves and important water points, are the spread of national parks, conservation areas, state-sponsored farms and the expansion of agriculture (Swallow and McCarthy, 2000: 7).

While the effects on mobility are unambiguous, the impact with regard to reciprocity is not so clear cut. Field studies conducted in the period 2004-2006 in three districts in Eastern Ethiopia (Mieso, Kebribeya and Harshin in Oromia and Somali regional states) found that the spread of private enclosures in two of the districts is jeopardising the reciprocal system of granting access to grazing resources. Some clans have subdivided their territory and distributed the land to individual holders. Sometimes, influential clan members violated clan rules and constructed fences around cisterns or pastures. In this way, large parts of clan territories in the northern Somali region are becoming enclosed, and consequently cannot be subject to inter–clan negotiations, creating discontent and sources for violent conflict among neighbouring clans (Beyene and Korf, 2008: 15).

In addition to destroying reciprocity, another tendency is the altering of reciprocity. Group reciprocity becomes of secondary importance to individual reciprocity and benefit sharing among a smaller circle of people. A study conducted among the Karrayu settled in the Upper Awash Valley Region in Oromia regional state, confirms growing crop cultivation among the Karrayu pastorlists as a consequence of the pressure on pastoral land due to land appropriation for commercial farms and national parks. Among the newly formed agro-pastoralists, a sort of reciprocity emerges in the process of herd management. Due to their engagement in agriculture, and lack of grazing areas, they cannot conduct the usual pasture pursuit so they apply informal semi-contractual arrangements and entrust their cattle to more distant kinsmen that have access to pastures. The benefits of this kind of cooperation are shared between the kinsmen, while the economic unit on which agro-pastorals are strongly dependent, reaches beyond the household. The study concludes that this is one of the forms of social and economic cooperation adopted by the locals in order to maintain pastoralism while searching for alternatives to cope with the changes (Gebre, 2004: 22).

Another remarkable tendency is the substitution of reciprocity with market-based access options as a strategy of coping with scarce pastoral resources (Ngaido, 2000; Beyene, 2006). A study which examined several SSA pastoral communities proves the appearance of grazing contracts among farmers and pastoralists, where the farmers allow pastoralists to graze their cattle on harvest land in order to increase its fertility with animal manure. The farmers might also ask for 'one-quarter' of the livestock products in order to allow the cattle to graze on their fields (Beyene, 2006: 4). Besides 'one-quarter' grazing contracts, supplementation of fodder often happens through cash payments giving rise to a fodder market which exacerbates the land enclosure even further (Ngaido, 2000).

Regarding the second element of this principle, namely the *congruence between appropriation and provision rules* i.e., the congruence between costs and benefits, the general economic reasoning applies. The costs for maintaining and managing the resource should not be higher than the expected benefits from it. However, the nationalisation and privatisation of common pastures undermines the pastoral property rights, and shifts the transaction costs onto the pastoralist production system (Kirk, 2000: 33). One of the manifestations can be the following: the decreased availability of grazing land means pastoralists must travel longer

distances in dry seasons in order to find forage for the cattle. The time and labour (human and animal) costs increase the mobility costs. Additionally, the longer absence of the pastoralists, usually men, often means the wife is wholly burdened with maintaining the household. This greatly reduces her ability to directly generate income, which in turn leads to increased general livelihood costs.

It can be concluded that the increasing scarcity of grazing areas and the restricted access to transhumance routes hindered mobility and altered reciprocity. The scarcity on the other hand, happens because of previously mentioned factors such as the spread of large-scale agriculture, enclosures, farming and of conservations areas. In accordance with Ostom's reasoning, the change in size and functionality of the resource, disturbs the congruence between the local conditions and the most important rules for resource appropriation, namely mobility and reciprocity. This on the other hand increases the costs for maintaining the traditional institutional arrangements and creates incentives for new institutions. New conforming rules that provide for appropriation of resource units, such as individual reciprocity and market-access rules have emerged in order to cope with the newly developed situation.

3.3. Third Design Principle

'Most individuals affected by the operational rules can participate in modifying the operational rules' (Ostrom, 1990: 93).

This principle proposes users are able to take not only operational, but also collective-choice action, in order to create successful CPR management institutions. In this part of the discussion, the paper analyses whether collective-choice arrangements are present in the management of the Ethiopian pastures, whether they are changing and in which manner.

Article 40(3) from the current 1995 Constitution of the Federal Democratic Republic of Ethiopia states: 'The right to ownership of rural and urban land, as well as of all natural resources, is exclusively vested in the State and in the peoples of Ethiopia. Land is a common property of the Nations, Nationalities and Peoples of Ethiopia and shall not be subject to sale or to other means of exchange.' According to Article 40(4): 'Ethiopian peasants have right to obtain land without payment and the protection against eviction from their possession. [...]' and Article 40(5): 'Ethiopian pastoralists have the right to free land for grazing and cultivation as well as the

right not to be displaced from their own lands. […]'. The quoted articles entrench the constitutionality of state ownership of the land in Ethiopia. Farmers are allocated free parcels of land for cultivation, while pastoralists are granted rights to free grazing and cultivation areas. Farmers and pastoralists have only the right to use the land for free, and since they are not owners they do not have the right to transfer, sell, lease, use as collateral or in any other way exchange the land, except through inheritance (similar Teklu, 2005: 6). The formulation in Article 40(5) affirms the legal and constitutional recognition of the rangeland resources as a common property regime (Beyene, 2006: 2).

Besides the common property regime of the pastures, the state of Ethiopia recognises the customary and the religious law of the indigenous people as well as their established courts. Article 34(5) of the Constitution states as follows: 'This Constitution shall not preclude the adjudication of disputes relating to persona! and family laws in accordance with religious or customary laws, with the consent of the parties to the dispute.' And Article 78(5) continues: 'Pursuant to sub-Article 5 of Article 34 the House of Peoples' Representatives and State Councils can establish or give official recognition to religious and customary courts.'

Following the established rules in the Constitution, when Ostrom's **bundle of rights** concept is applied, it follows that *de jure* farmers and pastoralists can only be *proprietors* of the land since the right of 'alienation' has been denied and the State is the sole owner of the land. The rights to 'access' and usage ('withdrawal') of pastures are explicitly declared in the Constitution, which makes the operational-level rights of such users constitutional. Although the rights of 'management' and 'exclusion' are not explicitly defined in the Constitution, they are part of the customary law. The constitutional recognition of the customary and religious law including the religious and customary courts, implies not only that a whole system of traditional rules is being recognised, but also the fact that their enforcement should stem from local arenas familiar with their understanding.

Studies on Ethiopian pastoral communities show the role of traditional institutions such as traditional authorities or councils of elders in governing the pastures and their *de facto* practice of the 'management' and 'exclusion' collective-choice rights.

One of the many examples in this regard is the Borana pastoralists in Oromia and the institutional arrangement central for their pastoral system, namely the *Gada* institution. According to many authors, the *Gada* institution is a remarkable and extremely complex system of self-rule that governs the economic, social, spiritual, political and military life of the Borana (Legesse, 1973; Kamara, 2000; Berhanu et al, 2008; Taye, 2012). *Gada* is a system of generational classes that replace each other every eight years in executing political, legislative, judicial, and ritual responsibilities. The supreme legislative organ of this traditional self-rule is *Gumi Gayo* or the general assembly of the Borana from all grazing territories. *Gumi Gayo* is held every eight years and functions as a forum for deliberations and traditional policy making. Important community issues such as redefinition and enforcement of rules are discussed, usually in participatory assemblies (for men only) until consensus is reached. Above all, *Gada* is concerned with regulating the use of the Borana resources, maintaining peace among the users and ensuring their protection from outsiders (Kamara, 2000: 406, 407). Due to the conflict-free and cost-efficient transition of the power every eight years, as well as the fashion in which decisions are reached, scholars argue that the Gada system serves as a model for modern participatory democracy in the world (Taye, 2012; Legesse, 1973).

In accordance with Ostrom's third principle that the affected individuals should be able to participate in changing the operational rules, the outcome is that *de jure* (according to the Constitution) and *de facto* (according to the practice), the pastoralists are exercising operational level and collective-choice rights. They are equipped with collective-choice arrangements to conduct a collective action for changing or adapting the rules without the necessity of imposition of external actors.

However, the constant decrease of pastoral resources shows that there is an absence of collective action for sustainable maintenance of the common pastures. So what might be the factors that hinder this type of cooperative collective action?

The field study from Beyene and Korf (2008) among the Eastern Ethiopian (agro-) pastoralists, presents findings on the current practices of collective action in pasture and water management. Under climate conditions of unstable rainfall and recurring droughts, which are typical for this region, the management of water points is of strategic significance. The study finds that the higher difference in wealth between the resource users proves to be of extreme

importance in conducting a collective action to maintain the communal water points. The ability of the wealthier (agro-)pastoralists to build their own water cisterns, a recent tendency recognised by the authors, represents a turning point in the collective action for joint management of water resources, since it diminishes the incentives of the wealthier to contribute to the maintenance of the common good. This makes the collective action unaffordable for the poor leaving them worse off and dependent on the water from the private cisterns.

A similar outcome is documented by a study done among the Borana pastoralists, but in this case, the poor pastoralists are weakening the collective action for maintaining the pastures, because they tend to enclose land and shift from pastoralism to farming and other activities as a means of diversifying their income. The study shows that the level of reliance on pastoralism increases with wealth status, which is determined based on the number of cattle. Groups classified as very poor derive almost 44% of their income from farming, groups classified as poor derive almost 30% while the rich receive only 10% of their income from farming. Besides farming, the poorer pastoralists increasingly replace pastoralism with trade activities or wage employment in order to generate income. (Berhanu et al, 2008: 10).

In line with the above mentioned argumentation, Agrawal (2002: 53-60) in his comparative study on the commons discovers that Ostrom, by focusing mainly on institutional arrangements in achieving successful collective action for governing the commons, is not capturing the dynamism of the relationship between the resource and its users. However, the other two authors he compares, namely Wade and Baland & Platteau, have a wider approach and include non-institutional variables in their discussions. Of greater importance for them, as well as for this paper, are the characteristics of the group, such as the level of interdependence between the users, the level of dependence on the resource, heterogeneity in endowments or heterogeneity in interests.

In this part of the discussion, it has been shown that while the pastoralists have the capacity to conduct collective-choice action as defined in Ostrom's third principle, other factors hinder this type of conduct. Mutually related factors such as wealth heterogeneity, different interest in the resource and poverty driven income diversification are currently important aspects of the pastoral livelihoods which weaken the collective action for sustainable governance of the common pastoral resources.

3.4. Fourth and Fifth Design Principles

'Monitors, who actively audit CPR conditions and appropriator behaviour, are accountable to the appropriators or are the appropriators';

'Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, by officials accountable to these appropriators, or by both' (Ostrom, 1990: 94).

Monitoring as part of the management of pastures is an institutional arrangement that due to the mobility of the pastoralists and their herds, is not so easily applicable. In return, the rule enforcement relies not so much on the fear of the penalty after being discovered in the encroachment, as on the inner fear imposed by religious beliefs and most importantly on the reciprocal obligations created from social trust. The social trust reduces the monitoring costs as individuals believe that the others will act as expected and it exists because of their confidence in the known social structure (Pretty and Ward, 2001: 211).

Beyene (2006: 8) in his study among pastoralists in the Somali regional state, notes that when non-members access members' grazing areas on the basis of reciprocity, usually no one monitors the non-members in using the resource. There is a detailed monitoring of the non-members' cattle only when there has been some critical conflict between the communities that has eroded their mutual trust.

This is confirmed by Lawry (1990: 417), who claims that the traditional authorities in SSA rarely exercise intensive control over the individual use of the resource. Centralised control over livestock and range management is not seen as a feature of the SSA pastoral societies, so there is in general no centralised decision-making regarding the herd size or where the movement should take place. There is in a way individual freedom among the pasture users limited by the traditional patterns of behaviour.

When it comes to sanctioning, interestingly enough the consulted literature speaks mainly about imposing sanctions on free-riders that do not participate in maintaining the resource, i.e., do not obey the provision rules and less about individuals that did not obey appropriation rules and used more resource units than they should have. The latter is in line with the previously

mentioned difficulty of monitoring the usage of the pastures, which means the enforcement of the restrictions is mainly based on mutual trust. This situation means the functionality of the monitoring and sanctioning in the management of the Ethiopian pastures, differs from the definition in Ostrom's related principles. Since their role is exhausted in larger scope by the institution of mutual trust, one can speak not about transformation of the institutions of monitoring and sanctioning, but of derogation of trust.

The trust is an epiphenomenon of the social capital which is an 'instantiated informal norm that promotes co-operation between two or more individuals' (Fukuyama, 2001: 7). Although social capital is difficult to generate through public policy, the state can have an indirect impact regarding the creation or destruction of social capital, by providing or not, the necessary public goods such as protection of property rights and of public safety (ibid: 18). In addition to the role of the state, Fukuyama (ibid: 19) highlights the importance of globalisation as a process that might dismantle dysfunctional traditional and social groups by introducing modernity into traditional societies. But, globalisation can also easily erode social capital by breaking down customary institutions without leaving anything positive in its wake. Referring to the societies in SSA, he claims that the ethnic and sectarian conflicts in the past decade have significantly undermined social capital (2004: 42).

An interesting question related to monitoring and sanctioning is: why when individual land enclosures happen on grazing lands, this is not sanctioned by the other users or by the traditional authorities? Among the Borana pastoralists in Southern Ethiopia, elders tried to halt the privatisation of common pastoral areas and apply the customary rules for land planning. These rules provide for a participatory process where the whole community decides which areas will serve for grazing, farming, human settlement or fodder reserves. But, the process proved inefficient, since the new 'owners' of the enclosures reinforced their holdings by paying land tax to the local administration (Elias and Abdi, 2010: 17).

The weakening of the role of traditional institutions as in this example is the most important change the natural resource management is going through and one of the consequences of the eroded social capital. This change is traceable through all of the institutional arrangements presented in the 2^{nd}-6^{th} design principles, but, the effects are most noticeable for the monitoring and sanctioning, since the social trust proves to be a substitute for their function, which

otherwise is too difficult or too costly for realisation. The paper does not intend to take up the challenge of identifying all the reasons for the complex process of erosion of the social capital and traditional institutions among African societies. It is, however, a looming issue at this moment, that the erosion of the traditional institutions for resource management is also a consequence of the state's incapacity to manage the complex individual-property system, while protecting the common property from assertive encroachments of private interests.

3.5. Sixth Design Principle

'Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials' (Ostrom, 1990: 100).

The conflict resolution mechanism in pastoral economies is provided by traditional customary institutions which, as already mentioned in the discussion on the third principle, are recognised in the Ethiopian Constitution with the recognition of religious and customary law and their courts.

Aredo (2004: 12, 13) for example, presents the institution of *arrara* as a reconciliation mechanism for managing internal and external conflicts that appeared among the Karrayu people from the Oromian Upper Awash region and their neighbouring ethnic groups like Afar and Argoba. The reconciliation process starts when a messenger from one of the conflicting parties expresses its intention to the other party of starting a peace-making process. The process involves the elders of the conflicting clans, who together decide, depending on the seriousness of the insult, the level of compensation to be paid by the wrong-doer. Blood money (*guma*) is the price for taking a human life in the conflict, which is usually paid with a hundred heads of livestock. The whole process is followed by rituals that symbolise the commitment to peace of the both parties.

Naimer-Fuller (2000: 120) identifies the environmental variability of the grazing resources in times of droughts as a constant factor in the creation of conflicts among different pastoral groups in Africa. Most often, the conflicts are resolved through customary conflict resolution arrangements like elders' councils or tribunals *or* through warfare. The objective of the traditional conflict resolution mechanism is not so much the restoring of the patrimony of the individual, but, rather social cohesion and stability. The customary judges, by using a few

broadly recognised cultural and religious principles, shape the decisions according to the situation, trying to reach a kind of a balance between the interests of the individual and the needs of the whole group.

The conflict-resolution mechanism in pastoral economies generally incur low costs, since the local tribunals or elders' councils are established and led by the appropriators themselves. The fact that they are mostly familiar with the conflict situation and with the local rule settings, means information costs are also minimal. However, the traditional conflict resolution mechanism is under significant pressure to change, which cannot be understood without the inclusion of some actors elaborated on the following paragraph.

Agrawal for example, notes that although Ostrom focuses at some point on the state in the seventh principle, as do many other scholars of the commons, she does not adequately consider the role of the state as an external factor that affects the governing of commons (2002: 58). Although under the constitutional framework, the local communities in Ethiopia are free in improving old, and crafting new institutions for natural resource management, the state is still the ultimate guarantor of this freedom and also the guarantor of property rights, which gives it a decisive role in facilitating the communal governance of the commons (similarly Agrawal, ibid).

The role of the Ethiopian state in facilitating the functioning of the traditional institutions is quite ambiguous.

In his fieldwork in assessing the changing of the conflict resolution mechanisms among Afar, Somali and Karamojong pastoralists settled in Afar, Somali and SNNPR regional states, Unruh (2005) emphasises the growing interaction between the traditional institutions for dispute resolution, with the governmental authorities. The recognition of customary institutions by the state as a national policy, means positioning the traditional council of elders as an official part of the regional government. In the Somali regional state, the council members receive salaries from the state in order to advise on local policies. However, this becomes problematic since locals feel the real motive of the state is control over the communities and their resources. The community elders in Somali regional state are first given the opportunity to solve the conflict and then they report to the regional authorities about the outcome with the possibility to receive support (p. 231). Unruh concludes that the degree to which the government will operationalise this

'recognition' and support local customary institutions, depends on the degree to which it perceives it benefits from the local customary arrangements (p. 234).

Unruh (2005) notices that traditional conflict resolution mechanisms are dissolving and weakening, unable to cope with resource competition and usually end up in armed confrontations as an exclusion mechanism. This tendency is traceable among many Ethiopian and African pastoralists in general and is documented by numerous other studies (such as: Beyene, 2006; Aredo, 2004; Venderlin, 2000; Kirk, 2000; Kamara, 2000; Ocan, 1994).

Gebre (2001, In: Aredo, 2004: 12) reports an increase of conflicts over grazing areas in the last two decades among Karrayu and Afar ethnic groups. According to him, it is due to the increased arbitrary involvement of government authorities in resolving the conflicts. Governmental interventions contribute to the erosion of the *arrara* conflict resolution institution by interfering through corrupt and unwise practices. He further reports that in regions where the influence of the government was weaker, traditional institutions remained intact and the communities were living in peace by sharing resources.

Flintan and Tamrat (2002: 252) cannot recognise a single source for conflict over resources in Ethiopia, but point out that the critical dimension is the ultimate control over resources by the state and other factions, which allows it to implement biased policies that marginalise some groups and favour others. The latter is again reflected in the absence of democratic institutions and the exaggerated role of the state in the prevention and management of high-level conflicts, as opposed to employment of the traditional institutions. Due to the respect they command among the local people, the religious and customary institutions can be far more successful in peacemaking and conflict prevention (ibid: 253). In contrast, the customary judicial system is left to deal with minor internal conflicts, meaning the traditional authorities lose ground to state authorities (Niamir-Fuller, 2000: 110).

In the consulted literature on the African and especially on the Ethiopian pastoral economies, several tendencies related to conflict resolution mechanisms can be differentiated. Namely, there is an increase of the number and intensity of conflicts over land; the traditional conflict resolution institutions are weakening; and there is an increased but also selective presence of the state in resolving conflicts over resources. Although there is not one simple answer to the

question why the traditional institutions are weakening, it seems that it is possible to conclude that out of all the institutional arrangements discussed up until now, the conflict resolution mechanism reflects most clearly the deterring role of the state in relation to the successful functioning of the customary institutions. Paradoxically, the weakening of the traditional conflict resolution mechanisms aggravates violent and armed conflicts that require immediate intervention in the peace-making process by the state itself.

3.6. Seventh design principle

'The rights of appropriators to devise their own institutions are not challenged by external governmental authorities' (Ostrom, 1990: 101).

As it was explained in the third principle, the Ethiopian Constitution recognises explicitly the pastoralists' operational rights of access and withdrawal, and by recognising the customary law, implicitly recognises the collective-choice rights of management and exclusion.

The Ethiopian Environmental Policy adopted in 1997, confirms the right of the communities to access land and resources and to independently manage them. It has the following guiding principles: provision of sustainable environmental conditions, that can be reached only through acquisition of power by communities to make their own decisions on matters that affect their environment; assuring social equity, particularly in resource usage; provision of a system that ensures uninterrupted access to the traditional pieces of land and resources, because only in this way, conditions for sustainable natural resource management are created (EPA, 2000: 4, 5).

In addition, the devised traditional institutions for managing natural resources and the right to shape new institutions are not formally challenged, but instead are supported as a means of achieving social and economic development and environmental sustainability.

In reality, the situation looks quite different.

In 2010, under the so called 'villagisation' programme, the government began a massive resettlement of the Annuak people from the Gambella region. The justification being that the resettlement would give public agents better access to communities, in order to provide them with essential services such as health, education and clean water. The interviewed locals name this the 'clearance programme' because they are convinced that the government clears the land

for big investors. Currently in the region, the company Saudi Star leases 139,000 ha for production of soya beans and rice along the Alwero River, mainly intended for export (Rahmato, 2011: 20).

A Human Rights Watch Report from 2012 reveals that the Ethiopian government under the 'villagisation' programme is forcibly relocating 70,000 indigenous people from the Gambella region to new villages that lack adequate farmland, healthcare and educational facilities, while a resettlement of 1.5 million people was scheduled by 2013 in four regions: Gambella, Afar, Somali, and Benishangul-Gumuz. The 'villagisation' programme is taking place in areas where big land investments for commercial crops are occurring or planned (HRW, 2012a).[3]

Another wave of massive evictions of pastoralists is underway in the SNNPR regional state along the Lower Omo Valley, which is the most culturally diverse region in the world. Eight unique indigenous communities such as Mursi, Kara, and Bodi totalling 200,000 people, are currently being evicted or are under threat of eviction, because the government is constructing the highest dam in Africa – the Gibe III Dam, on a territory where the indigenous communities have been living for centuries. Gibe III should allow the irrigation of huge tracts of land for sugarcane plantations and other commercialised agriculture (HRW, 2012b). The government promises creation of employment for the locals, so that 'even though this area is known as backward in terms of civilisation, it will become an example of rapid development' and the pastoralists will no longer serve as a 'tourist attraction' (Meles Zenawi, late Prime Minister of Ethiopia, 2011).

More than one-third of the allocated land in the period 1998-2008 is given out to large-scale investors between 2004 and 2008. According to Rahmato (2011: 9), the trigger for this was the Ethiopian 2002 Investment Proclamation that provoked extremely favourable incentives for land investments.

[3] After the allegations that money from foreign donors like the UK, EU, USA and the World Bank financing Ethiopia's Protection of Basic Services (PBS) programme are indirectly used to finance the 'villagization' programme, the donors have denied involvement and have undertaken a human rights assessment of this programme in the Gambella region. Not surprisingly, the outcome was that the resettlements are voluntary. Interviews with local villagers done by HRW prove that the resettlements were done in the presence of the military, under threat for food and even for life (HRW, 2012b; HRW, 2012c).

The Ethiopian government is giving away peoples' land for next to nothing, stimulating large-scale acquisitions and export of agricultural commodities, without considering local demand.

Investors who export at least 50% of their products or services are eligible for income tax exemption for 5 years. A benefit sharing mechanism is not included in the contracts with the investor, meaning the investor is not obliged to create jobs, transfer technology, build infrastructure or provide services that will benefit the local community. Also, land rents are extremely low and do not reflect the market price of the land (5-10 USD/ha/year) (Tamrat, 2010). Land investors can get a grace period from 2-5 years for paying the lease and 100% exemption from custom duty for importing capital goods and construction materials for business expansion. Furthermore, the foreign investor is not obliged to reinvest its profits inside the country; the land lease period lasts from 25-50 years depending on the crop and for foreign investors, land acquisition starts with minimum 5,000 ha (MoA, 2013).[4]

The Ethiopian government fiercely promotes big land investments. The biggest projects in Ethiopia involve the production of biofuels for international markets. Data from field visits, MOARD documents, as well as media reports show that at least 30% of the large-scale land investments in the period 2004-2008 were exclusively for biofuel crops, while the rest were for sugar and other food and industrial crops. Since the sugar can be used for ethanol production, while the division between food and biofuel crops is blurred, it is certain that the biofuel land investments take a larger land share (Rahmato, 2011: 28, 29)[5]. Sugarcane and palm oil are two of the four prioritized agricultural commodities for attracting land investments (MoA, 2013).

Since the land is nationalised, compensation is eventually paid for the lost harvest and improvements on the land but not for the land itself. Compensations are usually paid in cash by the investor, and are not enough to provide access to alternative land (Cotula et al., 2009: 92).

[4] For example, the Indian company Karuturi besides the 300,000 ha in Gambella leases additional 11,000 ha in Bako, for which it got the first 6 years rent-free. There is no contractual obligation for benefit sharing or for domestic food supply. According to the company owner, the cut flowers and the biofuel crops he produces are for international markets while the cereals might be offered first on the domestic market depending on the market price. Food aid agencies are his important costumers (!) (Documentary: Planet for Sale part 2, 2011, available online: http://www.youtube.com/watch?v=IU1-PpxqeZc).

[5] The accounts are made according to data presented in Table A1 and A2 in: Rahmato (2011: 28, 29). The biofuel percentage is calculated by considering the share of the investments stated only as biofuels in the total land investments, without considering the land surfaces under sugar or under biofuels with other crops because the share of land only under biofuels is not known. This will increase additionally the portion of 30% under biofuels.

According to the discussion, it can be concluded that although the Ethiopian government formally recognises the right of the communities to devise their own rules in managing their natural resources, in reality this right has been severely challenged by the state that violates the constitutional right to land and the rights of the indigenous people as granted under international law. During the last decade, the government created political incentives for cheap land investments for commercial crop production that cause massive evictions and threaten the life, safety and access to natural resources of the local communities. The time frame and the type of land investments that happen in Ethiopia can certainly be linked to the global demand for biofuels, driven largely by the EU biofuel policy.

4. Summary of the analysis

4.1. Changes in the traditional CPR management

The analysis has shown that the traditional community-based management of the common pastures in Ethiopia is going through very important changes that affect their existence. Through the 1st design principle, it was shown that, mainly due to an increase in land scarcity, the wide grazing areas are attaining clearly defined boundaries of the resource and a stricter definition of the appropriators – features not compatible with mobile pastoral economy.

With the 2nd- 6th design principles, the changes of several institutional arrangements have been analysed: congruence of rules to local conditions, collective-choice arrangements, monitoring and sanctioning, and conflict-resolution mechanism. The analysis has shown that the traditional rules of mobility and reciprocity no longer comply with the local conditions because the size and functionality of the resource has been changed, so mobility becomes limited and reciprocity decreases its radius or is substituted with market access options. Pastoralists are able to take collective-choice action and create their own rules, but due to wealth or interest heterogeneity in the users' group, it often leads to a disassembling of the CPR and not towards cooperative action for its maintenance. The functionality of monitoring and sanctioning is mainly substituted by mutual trust. The derogation of the mutual trust is evidenced through the weakening of the customary institutions, and their replacement with state authority. Higher state control of natural resources, and its increased presence in the local arenas, leads to the

weakening of the traditional conflict-resolution mechanism, which often results in rising conflicts over resources.

The 7th design principle revealed that although the Ethiopian government formally recognises the right of the communities to devise their own rules in managing their natural resources, in practice it creates incentives for cheap land investments, expropriates land unjustifiably and conducts massive evictions threatening the life and safety, violating human rights, the right to land and other rights of the indigenous people granted under the Ethiopian Constitution and under international law.

4.2. The possible impact of the increased demand for biofuels on the changes in the traditional CPR management

The analysis has shown that the increased demand for biofuels has a direct impact on the traditional management of the common pastures in Ethiopia and the 1st, 2nd and 7th principle have proven most useful in reflecting it:

Increasing areas under biofuel crops increase land scarcity and lead to delimitation of the resource and a stricter definition of the appropriators, which are features not compatible with the functionality of the mobile pastoral economy. In the same way, it affects the size and the functionality of the pastures, which implies inconsistency between the rules that govern the resource and the local conditions: mobility is hindered and reciprocity reduced or substituted. The increased demand for biofuels serves as an incentive for governmental policies and strategies for attracting private land investments for commercial crop production, as well as for expanding the state production of biofuel crops on huge tracts of contested land, which triggers human rights violations and tenure insecurity. At this point, it is worth noting that the large-scale production of biofuels is not a phenomenon old enough to be completely defined in the social fabric of the affected societies. Although some effects are already recognisable, the full potential of the impact from biofuels in this sphere is yet to be fully understood.

5. Policy Recommendations

Under the PCD concept stipulated in the Maastricht Treaty, the EU has an obligation to mitigate spill-over effects in developing countries when it pursues domestic policy objectives

(EC, 2013b: 16). In order to reach coherence between its biofuel policy and other development policies, in its Final Report on impact assessment of biofuels under the PCD framework, the EC calls for fulfilment of the Voluntary Guidelines on Responsible Governance of Land, Fisheries and Forests and the Principles for Responsible Agricultural Investment developed by CFS (EC, 2013a).

The paper posits that the EU's attempt to discipline large-scale land investments is ill-founded. The abovementioned acts, presume an abundance of land in developing countries and a control mechanism for 'responsible investments' made of corrupted domestic governments, weak civil society and mostly self-centred international actors. So this aspect is not considered as a solution for mitigation of negative impacts from the biofuel policy. The paper focuses more on the developmental aspects traced through these acts, that target land issues and the achievement of land tenure security in developing countries, and offers the following recommendations:

The 'farming' discourse is predominant in comparison to the 'pastoralism' discourse,[6] and no attempt is made to distinguish these two tenure systems in the suggested solutions for achieving land tenure security. Through the EU's rhetoric, registration or any other type of formalisation or official recognition of tenure rights is suggested as a general solution for achieving tenure security. When it comes to pastoral tenure, this move may simplify the transfer of the tenure rights, but worsens many other aspects. **The tenure rights of the pastoralist must be treated separately from the ones of the farmers in policies that try to provide tenure security;**

Having a title to certain piece of land might serve well for a farmer, but not for a pastoralist. There are pieces of land such as buffer zones or transhumance routes that cannot be attached to an individual or to a group, because they have a number of user groups, so this will lead to conflicts over resources. Even if a communal area becomes formally attached to the community as a whole, this might improve tenure security, but can undermine the ability of the pastoralists to maintain reciprocal relations with other communities. **Some pastoral resources are not attachable to individual pastoralists or to a group of them, because the tenure belongs to pastoralists as a category. Although these resources cannot be personalised, their role for the well-functioning of the pastoral economy must be recognised;**

[6] For example, celebrating the endorsement of the Voluntary Guidelines, FAO only states that this helps improving the lives of smallholder farmers and their families (FAO, 2014, online: http://www.fao.org/about/en/).

The protection of the pastoral infrastructure must be done for the sake of all the pastoralists and not only for current users. The flexibility in accessing pastoral resources must be acknowledged, and hence, the often present discourse of recognition of 'existing tenure rights' cannot be taken as a fixed category when it comes to pastoral tenure. **Pastoralists need general use rights and freedom of movement granted and respected;**

This presupposes national land policies with sensibility for the pasture management, transhumance movements and resource conditions, which ensure the encroachment of pastoral resources through widening agricultural or conservation areas is minimised. In the absence of such land policies, and until they are properly established, **it is an obligation of especially the donor countries to correctly assess and refrain from domestic and external policies with negative impacts over land use in developing countries.**

The **EU has a capacity to provide development assistance that protects and supports pastoralists in pursuing their nomadic way of life** through: initiatives for providing basic services such as schools and hospitals whose location is adapted to the transhumance patterns of the pastoralists; financial and technical assistance for restocking the livestock after droughts; location-focused missions with the goal of understanding customary relations and reasons for conflicts over resources. Development assistance and other EU programmes should be tailored based on that knowledge and with accordance to the circumstances, so they avoid doing more harm than good.

Pastoralism is a way of life, and land is not only an economic asset but a social object that represents pride and sense of belonging, defines group's identity and guarantees personal integrity. Livestock production is traditionally the most important economic activity for all African societies. In arid areas like Ethiopia, the only viable way to do so is through transhumance which is unimaginable under individualized grazing resources.

Many national and international actors whose actions cause change in land use patterns in pastoral communities need to revisit their reckless conception of pastoralism as a mode of production that is not economically efficient enough to be retained.

The longstanding traditional institutional arrangements existing among the pastoralists emphasise the higher viability of the common property over the individual property, and mobility over sedentarisation for the sustainable functioning of the pastoral economy. The common property arrangements must be regarded as a culturally embedded, institutional necessity for efficiently coping with the severe climatic conditions, and not as a backward system of land rights that needs to develop until private property emerges.

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