

Putting Pastoralists on the Policy Agenda: Land Alienation in Southern Ethiopia

Eyasu Elias and Feyera Abdi



145: July 2010

**Key highlights
in sustainable
agriculture and
natural resource
management**

The gatekeeper series of the Natural Resources Group at IIED is produced by the Sustainable Agriculture, Biodiversity and Livelihoods Programme. The series aims to highlight key topics in the field of sustainable natural resource management. Each paper reviews a selected issue of contemporary importance and draws preliminary conclusions for development that are particularly relevant for policymakers, researchers and planners. References are provided to important sources and background material. The series is published three times a year and is supported by the Swedish International Development Cooperation Agency (Sida) and the Swiss Agency for Development and Cooperation (SDC). The views expressed in this paper are those of the author(s), and do not necessarily represent those of the International Institute for Environment and Development (IIED), the Swedish International Development Cooperation Agency (Sida), the Swiss Agency for Development and Cooperation (SDC) or any of their partners.

Eyasu Elias is an agriculture and natural resources management expert with a PhD in development studies from the University of East Anglia, England and an MSc in agronomy from the University of Manitoba, Canada. He has been engaged in research, development and teaching work with international and national institutions ranging from ICRAF, SOS-Sahel International UK and the Ethiopian Institute of Agricultural Research. Since 2009, he has been research and education programme co-ordinator for Wageningen University Research Centre. His focus is on participatory action research in pastoral areas to investigate pastoral development issues such as resource access and entitlement, resource conflict and mitigation, and climate change and its impact on pastoral livelihoods under restricted herd mobility. Contact details: Dr Eyasu Elias, PO Box 43064 Addis Ababa; Email: eyuelias@yahoo.com; Tel: +251 911 216 258

Feyera Abdi is Executive Director of SOS-Sahel Ethiopia (and formerly Programme Director of SOS-Sahel International, UK). He received his BSc Degree in agriculture (Plant Sciences) from Alemaya College of Agriculture (now Alemaya University) and MSc in the Management of Natural Resources and Sustainable Agriculture from the Agricultural University of Norway. Over the past 25 years, he has been engaged with action research in natural resources management and smallholder agriculture in Ethiopia. As part of the rural development programmes, his organisation has been active in implementing research, development and policy in pastoral areas. His special concern has been how to best inform policy on the results and best practices of action research and development at the grassroots. Contact details: SOS-Sahel Ethiopia, PO Box 3262, Addis Ababa; E-mail: sos.sahel@ethionet.et

Executive Summary

Pastoralists in Ethiopia make an immense contribution to the national economy despite living in some of the most inhospitable and drought-prone parts of the country. Their traditional migratory lifestyle and knowledge of dryland resource management has allowed them to generally withstand drought and to maintain a healthy and biodiverse ecosystem in their communally-managed rangelands.

However, fundamental misconceptions about the pastoral production system in Ethiopia (like in many other countries in Africa) have led to a general perception among policy makers that pastoral lands are underused and therefore should be 'developed'. Such misperceptions have subjected pastoral communities to political and economic marginalisation. Policies have favoured externally-imposed development schemes which often alienate and expropriate pastoral lands in favour of large-scale commercial activities. Resource alienation and curtailment of mobility has made pastoral households vulnerable to frequent droughts, food insecurity and famine.

This paper illustrates this scenario with recent research done among the pastoralist and agropastoralist communities of Southern Ethiopia. The research found that livestock numbers are declining dramatically in the area, land degradation is increasing, people are becoming more vulnerable to drought and famine and resource-based conflicts are increasing in severity. The traditional pastoralist way of life is increasingly making way for sedentary farming and enclosed private grazing land. The main reasons for these transformations are development projects, such as commercial sugar plantations and the declaration of the Awash National Park, which have prevented pastoralists from accessing their traditional grazing and watering areas.

The authors suggest the following policy solutions:

- Support and scale up pastoralists' efforts to diversify their livelihoods.
- Allow the communities alienated by the sugar enterprises and national park to instead benefit from these initiatives.
- Advocate for land use and tenure legislation specific to pastoral areas in Ethiopia.
- Protect and promote pastoralists' culture and practice of mobility to ensure effective use of the dispersed dryland resources.
- Give legal backing to customary institutions.
- Recognise group user rights.
- Integrate ecological considerations into land policies.

Putting Pastoralists on the Policy Agenda: Land alienation in Southern Ethiopia

Eyasu Elias and Feyera Abdi

Introduction

Pastoral communities represent 10% of Ethiopia's population (which is about 72 million) and approximately 40% of the land area of Ethiopia is considered to be under pastoral production (Helland, 2006). The pastoral populations tend to live in the drier and hotter lowlands of the country: these include the whole of Somali region (accounting for 57% of the pastoralists in Ethiopia) and the Afar region (26% of Ethiopian pastoralists). The *Borena* and *Karrayu* pastoralists in Oromiya Regional State together account for about 10% of the total pastoral communities in Ethiopia (Figure 1). The remaining 7% of Ethiopian pastoralists inhabit the lowlands of the Southern, Gambella and Beni Shangul regions (Yacob, 2000; Sandford and Habtu, 2000). Pastoral production makes an immense contribution to the national economy by raising 40% of the cattle, 75% of the goats, 25% of the sheep, 20% of the equines and 100% of the camels (Yacob, 2000). The total direct economic contribution of pastoralism to the Ethiopian economy (through the production of milk, meat, skin, hides, etc.) is estimated at US\$ 1.53 billion, which accounts for about 6% of the agricultural GDP per annum (Berhanu and Feyera, 2009).

However, despite their economic contribution, there has been a fundamental misunderstanding of the pastoral production system in Ethiopia (like in many other countries in Africa). There is a general perception among policy makers that pastoral lands are underused and therefore should be brought under the plough or put to other uses such as ecotourism. Such misperceptions have subjected pastoral communities to political and economic marginalisation. Policies have favoured externally-imposed development schemes which often alienate and expropriate pastoral lands in favour of large-scale commercial activities. Resource alienation and curtailment of mobility has made pastoral households vulnerable to frequent droughts, food insecurity and famine.

Policy engagement by pastoralists on key environmental issues has been weak partly due to a lack of field-based empirical evidence on pastoral land alienation and destitution. SOS-Sahel and the Drylands Coordination Group (DCG) have been collaborating in promoting equitable, inclusive and sustainable management of dryland resources in the

pastoral setting. DCG has provided financial resources to SOS-Sahel to implement projects that address environmental challenges leading to food insecurity and that improve access to natural resources for the most vulnerable households. The aim of this study was therefore to generate important empirical evidence that would form the basis for pastoralists' engagement with policy makers. Building on an existing body of knowledge and institutional experience, we explore the following broad research questions:

- What policy gaps and misconceptions have resulted in lack of recognition and protection of pastoral land rights?
- What different forms of pastoral land alienation and expropriation (both development-induced and internal pressures) are currently taking place in *Borena* and *Karrayu* rangelands?
- What are the impacts of land alienation and consequent curtailment of mobility on the fragile lowland ecology and on pastoral livelihoods in terms of loss of livestock assets and food security? Is land alienation the primary cause of pastoral vulnerability and destitution?
- What should be done to protect pastoral land rights and livelihoods? What are the policy implications of the findings and are there areas that can be improved?

Methods

The study was conducted among the *Borena* and *Karrayu* pastoral groups in Oromiya Regional State between July and November 2007 (Figure 1). These two pastoral communities reflect many of the pastoral land rights problems and the predicaments of pastoral livelihoods in the country's socio-political system today.

The study involved informal and formal surveys at community and household levels in the *Borena* and in *Karrayu* (Table 1) areas. Four sites were selected from three *woredas*¹ (Yabello, Liben and Dire) in the *Borena* pastoral lands; and five *Karrayu* sites in Fentale *woreda* in the East Shoa zone. Table 1 summarises the characteristics of each site and its selection criteria. The formal and informal surveys were conducted between July and November 2007.

Informal surveys

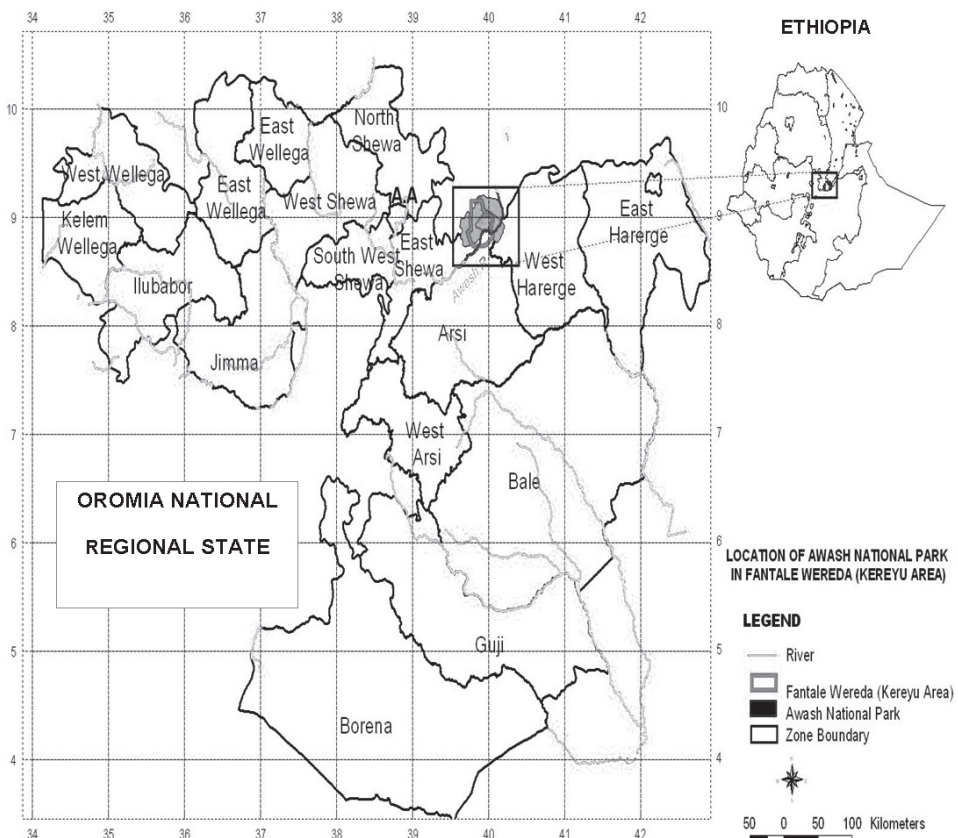
The community survey (with elders) involved a semi-structured questionnaire to generate qualitative information on pastoralist land rights concerns. Group discussions, semi-structured interviews and consultation meetings were held with pastoral elders and their council leaders to explore pastoral land rights problems, such as the various forms of land alienation that are currently taking place in the selected sites, the internal and external pressures confronting the pastoral land use systems, and adaptations and adjustments to cope with such pressures. Individual interviews and group discussions were further enriched and substantiated in an official consultation meeting with representatives of elders from all the *woredas* in the *Borena* zone.

¹ A *woreda* is an administrative unit equivalent to a district.

Formal surveys and sites

A formal household survey was administered to a total of 400 households: 300 in *Borena*, split among four sites, and 100 in *Karrayu*, split among five sites (Table 1). The sites were systematically selected to represent pastoral land right concerns (eg. conflict, privatisation of rangeland, etc.) and to capture the diversity and dynamics of the system. The different production scenarios included were pure pastoral systems, agro-pastoral systems and urban commercial activities. Sandford and Habtu (2000) define pure pastoralists as 'those who derive most of their livelihood from keeping domestic animals in conditions where most of the feed that their livestock eat is natural forage rather than cultivated fodder and pastures'. Agro-pastoralists are different from pure pastoralists because they also cultivate crops and are less dependent on livestock than pure pastoralists.

FIGURE 1. LOCATION OF THE *BORENA* AND *KARRAYU* STUDY SITES IN OROMIYA REGIONAL STATE (SOURCE: DELTA CONSULTANCY SERVICES)



The questionnaire was administered to the 400 households, which were divided into three wealth categories (rich, medium, and poor) using local indicators of wealth. Live-stock ownership was the main indicator of wealth in all locations. Some characteristics of households in the three wealth groups are presented in Table 2. A proportional random sampling procedure was used to draw the samples from a sampling frame of households disaggregated by the three wealth categories.

TABLE 1. MAJOR CHARACTERISTICS AND LAND RIGHT CONCERNS IN THE SELECTED STUDY SITES IN <i>BORENA</i> AND <i>KARRAYU</i> LANDS	
Study sites	Production scenarios and land right concerns
<i>Borena</i> area	
1. <i>Diid Yabello</i>	Dominantly agro-pastoralist but highly affected by ranches and expansion of farm plots
2. <i>Surupa</i>	Commercial urban activities combined with farming, but highly affected by ranches and conflict with the <i>Guji Oromos</i>
3. <i>Wachille</i>	Pure pastoralist zone but privatisation leading to the enclosure of communal rangelands is becoming a major cause of concern
4. <i>Bulbul</i>	Agro-pastoralist zone affected by the expansion of private enclosures
<i>Karrayu</i> area	
1. <i>Gidara</i>	Dominantly pastoralist and affected by sugar plantations (<i>Nura Era</i> farm)
2. <i>Faate Leedi</i>	Agro-pastoralists highly affected and displaced by the sugar factory and the Awash National Park (ANP)
3. <i>Tututi</i>	Agro-pastoralist zone highly affected by land alienation by state farms, conflict with the <i>Arogoba</i> tribe and Lake Basaka expansion problems
4. <i>Haro Qarsa</i>	The only pure pastoralist community in <i>Karrayu</i> but seriously affected by the Awash Park and conflict with the <i>Arogoba</i> ethnic group
5. <i>Banti Mogassa</i>	Pure pastoral system but displacements due to the ANP and conflict with the Afar group are major environmental concerns.

Location	Wealth group	Household characteristics			
		Age of HH head (mean)	Family size (mean)	Male headed HH (No)	Female headed HH (No)
<i>Borena</i> (n=300)	Rich	56	13	21	1
	Medium	48	11	55	5
	Poor	44	7	172	46
	Overall mean	46	9	248	52
<i>Karrayu</i> (n=100)	Rich	48	11	10	0
	Medium	44	10	20	0
	Poor	39	7	64	6
		41	8	94	6

Land alienation in the case study sites

The household survey revealed that 100% of the *Karrayu* and 79% of the *Borena* households have lost their grazing and watering resources to non-pastoral uses. The causes of this loss of land are many and complex, but the main ones include alienation by the state for commercial production, national parks and ranches for wildlife conservation; and border disputes involving tribal conflicts. There are many traditional grazing and watering resources that are no longer accessible to pastoralists (Table 3). More than 90% of respondents indicated that they have experienced some fundamental changes in their mobility and grazing patterns through losing their traditional migration sites.

Land alienation and destitution are most severe among the *Karrayu* pastoralists. All households interviewed (100%) expressed bitterness and anger over the loss of grazing sites and water points to centrally-planned development schemes. The irrigation potential and the unique animal and plant biodiversity around the Awash River have attracted commercial agriculture and the establishment of wildlife conservation parks.

The Awash National Park (ANP) alone has expropriated about 75,000 hectares, while the state sugar farms have taken 15,000 ha. These sites represent some of the best dry season grazing areas along the Awash River. It is estimated that together the two development schemes have reduced pastoral grazing areas by 60% (Ayalew, 2001). It is not only the total area lost to commercial farming that is a serious problem for pastoral production, but also the quality of those lost grazing resources. Furthermore, part of the eviction involved the destruction of sacred ritual places and funeral sites. Elders point to the fact

that the sites between Abadir and Nura Era were where the *Karrayus* used to celebrate their annual *Gadda* ceremony.²

In the sections below we outline in more detail some of the reasons for this resource loss.

TABLE 3. SOME EXAMPLES OF THE GRAZING AND WATER RESOURCES ALIENATED FROM BORENA AND KARRAYU PASTORAL USE			
Location	Lost grazing sites	Lost watering points	Causes of resource alienation
<i>Diid Yabello</i>	<i>Chalalaka</i> (dry season), <i>Adona</i> (wet season) sites	<i>Modi Sooro, Buyii, Ariste, Hardimitu</i> and <i>Arboji</i> ponds	<i>Tuura</i> state and <i>Surupa</i> private ranches and conflict with the <i>Gabra</i> group
<i>Surupa</i>	<i>Diid Tuura</i> , and <i>Diid Hara</i> wet season grazing sites	<i>Harbor</i> and <i>Ariste</i> ponds	<i>Tuura</i> state and <i>Surupa</i> private ranches and conflict with <i>Guji Oromos</i>
<i>Wachille</i>	<i>Woyama</i> (wet season), <i>Udet-Dawa</i> (dry season) sites	<i>Dawa</i> River water and <i>Goof Leeal</i> and <i>Udet</i> Wells	Border demarcation and conflict with the Somali tribes
<i>Gidara</i>	<i>Merti</i> plain (dry season grazing site)	Awash River water	<i>Merti</i> state farm (sugar farm)
Fate Leedi	<i>Merti</i> plain and park area	Awash River water	<i>Merti</i> state farm and ANP
<i>Tututi and Haro Qarsa</i>	<i>Choppa</i> mountain (wet season grazing site) <i>Harolle</i> plain (dry season grazing site)	Surface ponds and Awash River water	Conflict with the <i>Argoba</i> tribe and expansion of the salty <i>Basake</i> Lake
<i>Banti Mogasa</i>	<i>Illala Sala</i> plain	Ponds and wells in the park area	Awash National Park and conflict with the Afar

Sugar enterprises in the *Karrayu* rangelands

Traditionally, the fertile floodplains of the Upper Awash Valley (Figure 2) provided the best pastures and water resources for the *Karrayu* pastoralists during the dry season. They used to graze their animals in the Metahara, Merti and Illala plains during the dry season and water them in the Awash River. In the wet season, the *Karrayus* would move to the foothills of the Fentale and Choppa Mountains up to the borderlands of Bulga River near the *Argoba's* land. There was a natural balance among the people, natural resources and

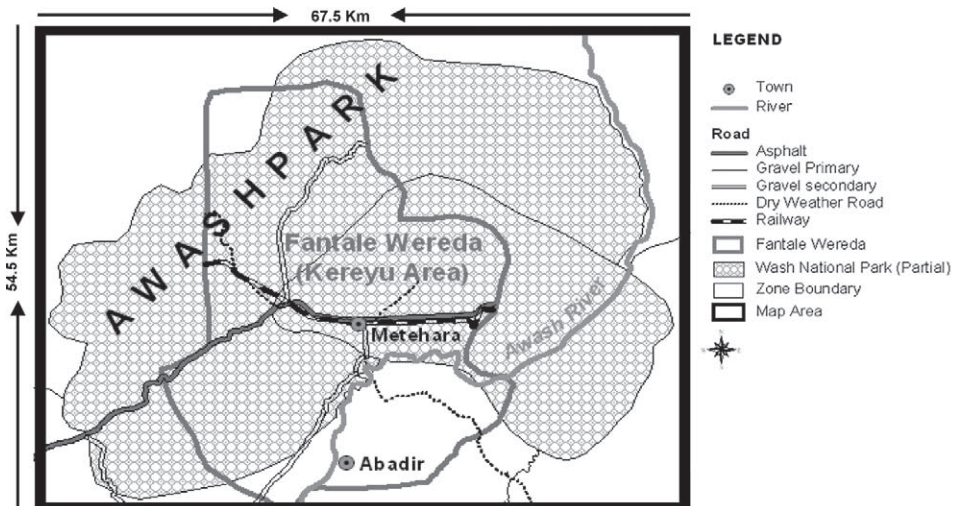
² The *Gadda* is the customary institution responsible for social administration and natural resources management (rangeland, water, grazing, etc) led by elders in the Oromo society. The annual general *Gadda* assembly (*Gumi Gayo*) involves the movement of elders along a defined route that includes ritual sites.

animals due to opportunistic migration between the dry and wet season grazing and watering sites.

However, following the establishment of the sugar enterprises in the early 1950s, with their series of irrigated sugar cane plantations, the *Karrayus* were forced to leave the plains to inhabit the marginal lands around the hills that are less suited to pastoral production. They are now forced to move very long distances in search of pasture and water for their animals. Prior to the introduction of the development schemes, the *Karrayus* seldom moved more than 50 km from their place of residence (Ayalew, 2001). Now, they move with their camels along the Modjo-Ziway-Arsi-Negelle-Shashemene route, covering about 250 km during severe dry seasons.

The loss of water is most severe for the *Karrayus* as they have lost rights to access the Awash River. The sugar plantations are not willing to provide livestock corridors to the Awash River in case the animals damage the cane plantations. In order to compensate for the loss of access to the Awash River and to keep the *Karrayus* out of the estate, large ponds were dug by the sugar enterprise. But the estate's processing plant releases contaminated water into the ponds, which humans and livestock alike are forced to drink, with serious health risks. The absence of proper waste disposal by the estate has been questioned on both practical and moral grounds (Ayalew, 2001). This has triggered hostilities and conflict between the enterprise and the community. The community have expressed their grievances and resentment by disconnecting the safety valves of irrigation canals and grazing livestock over cane plantations, and sometimes by killing enterprise employees.

FIGURE 2. MAP SHOWING THE AWASH RIVER, AWASH NATIONAL PARK AND THE VARIOUS SUGAR ESTATES (METAHARA AND ABADIR) THAT WERE ESTABLISHED ON PRIME GRAZING LANDS OF *KARRAYU* PASTORALISTS.



Despite such resentments and community appeals to the regional authorities, the sugar enterprise is planning to develop additional tracts of land for sugar plantations. A *Karrayu* elder had the following to say, reflecting the anger and resentment of the community:

'By denying us access to the flood plain pastures and the Awash River water, the sugar enterprise has already brought us to the verge of death. And out of brutality, they are now planning to deprive us even a burial place for the dead among us. We shall all die before an inch of additional land is expropriated by the sugar enterprise.'

Awash National Park in the *Karrayu* rangelands

The south-west part of the ANP area was inhabited by the *Karrayu* and the *Ittu Oromos* and the *Afar* inhabited the north-eastern part. These groups coexisted with each other and the wildlife for centuries, each group having its own territory for grazing and watering their livestock. The park was enclosed as a wildlife sanctuary in 1961 (to conserve the unique animal and plant biodiversity), but without properly understanding the needs and priorities of the pastoral communities. They have lost the major dry season grazing areas and access points to the Awash River water (locally called the *Melka*). This has triggered conflict among the pastoral groups and between pastoralists and the park administration (several households are still living within the park).

The park administration complains that the pastoral communities are troublemakers who threaten the protection of the park. But the core of the problem lies in the policies that tended to rely on land use segregation and forceful dispossession of land, ignoring the rights of the local communities. Local elders, on the other hand, argue that the park has failed to protect the ever dwindling wildlife under which pretext it has been pushing human inhabitants out of the area. They further say that before the establishment of the park, the wildlife coexisted with the livestock (Ayalew, 2001). On this account, a *Karrayu* elder stated):

'We know how to rear cattle and how to live with the wildlife. Our cattle are more familiar with the Oryx than the cars of the government are to the Oryx. Our spears are less harmful than the guns of the government and the foreign hunters. We are forbidden to live in harmony with nature while hunters are allowed to kill the wildlife in our own land.'

This view prevails among all pastoral groups in the area (ie. the *Karrayus*, the *Ittu* and the *Afars*), who have been trying to invade the park area since the 1984/85 drought. Conflict and animosity is mounting between the ANP administration and the community. The ever-increasing livestock density and human population on the already degraded rangeland outside the park has forced people and cattle to illegally encroach the park area for grazing/browsing, watering and settled cropping. Today, much of the park area, including the core wild animal reserve, has been converted into grazing land.

Ranches in the Borena rangeland

In the *Borena* area, 60% of respondent households reported that they have lost their prime rangeland due to the establishment of state and private ranches. Today, there are about five big ranches in the *Borena* rangelands occupying about 33,000 ha of the rangeland (Table 4) (Eyasu, 2007). This is contrary to the general perception that ranches have been abandoned in the *Borena* rangelands. The area represents some of the best grazing and watering resources in the rangelands.

The establishment of ranches on communal grazing lands has displaced pastoralists from their prime grazing lands. Most often, the areas allocated to private or group ranches were the best parts of the rangelands. The remaining areas were either too degraded or infested with encroaching weeds (see below). Loss of key grazing and watering resources has exacerbated environmental degradation and weakened drought survival strategies on the remaining land.

Name of the ranch	Area (ha)	Ownership, purpose and management
<i>Diid Tuura</i> state ranch	5,550	State-owned and established for conservation of <i>Borena</i> breeds and production of heifers for the national breeding programmes
<i>Surupa</i> private ranch	4,467	ELFORA ^a ranch used for animal fattening for live export and domestic markets
<i>Diid Liben</i> private ranch	1,058	ELFORA-owned for animal fattening for live export and domestic market
<i>Damballa Wachu</i> cooperative ranch ^b	15,000	Group ranch used for animal fattening by members only; the community is excluded
<i>Sarite</i> community ranch	7,750	Community managed and used as fodder reserve for the dry season
Total	33,805	

Notes:

a. ELFORA is a private agro-industrial company.

b. Group ranches are owned and managed by a few individuals who have obtained a licence to run the ranch as a co-operative. The ranch, with a total area of over 15,000 ha, contains excellent pasture and several surface ponds. This huge rangeland is owned by only 170 members, most of whom are engaged in animal trading. They use the ranch resources for animal fattening purposes. Previously, the area was a grazing site for the residents of six *Kebeles* who are now denied access rights to use the pasture and water inside the ranch. Residents of some *Kebeles* used to get their water supply from the alienated pond, which was originally excavated by the *Hado Liben* clan whose property rights have been violated.

The community, the original owners of the land, were not consulted when the land was illegally taken from them. Instead they are charged huge fees per head of cattle to be allowed access to the ranches in the event of extended drought.

One pastoral elder near *Dambala Wachu* ranch expressed his anger and resentment as follows:

'We feel cheated and exploited that our land is given out to a few rich people, while we, and with birth rights to the land, are left displaced. It is shocking to know how feudalism is still alive in Borena.'

Regarding the process of allocation of the ranch to individuals, Gufu (1998) reports a similar statement by another *Borana* elder:

'The Booran leaders were not consulted on allocation of land to individuals. The Qallu were not consulted. The Raba gada were not consulted. The Hayu were not consulted and the Booran elders were not consulted. The people consulted are those from towns with political powers. These individuals are influenced to cooperate with the administration, but they have little interest in the community. By the time the community hears about it, the signatures of prominent persons have been presented to the authorities. Booran leaders have access only to the woreda administrator. They tell the Boorans that a decision has been made by the government and it is final. We, the Booran, think that the decisions are not in our interest. What is happening in Diire is something new and it scares everyone.'

Inter-ethnic conflict

The border conflict with the *Afar* in the east and the *Argoba* tribes in the north has become a serious threat to *Karrayu* access to the eastern rangelands and the Awash River. Resource shortages and access rights are among the root causes of this conflict. There is constant conflict with the *Afar*, resulting in killing and looting of animals. Key informants in this study told us that about 200 cattle were looted from *Karrayu* herdsmen when they were herding their animals near the *Afar* border in May 2007. The case was presented to the heads of the respective regional states, as well as the Prime Minister's office, but has not yet been resolved.

Recently, clashes between the *Karrayu* and the *Argoba* tribes have been growing increasingly tense. Having lost their prime grazing lands (for reasons discussed above), the *Karrayus* are now being pushed into *Argoba* territory in the undulating hillsides of the Bulga River and the Harolee Plain. Traditionally, the *Karrayus* used to migrate to Choppa Mountain and the Harolle Plains during the wet season. The *Argoba* and *Karrayus* are now in constant dispute over land rights; in recent years this conflict has developed into serious clashes with casualties on both sides.

The Oromiya Regional State plans to develop a large-scale irrigation scheme in the area, which has enticed the *Argoba* agro-pastoralists who have vested interest in this fertile flood plain. The result has been a furious fight between the *Karrayu* and the *Argoba* tribes. The fight escalated as the *Argobas* penetrated into *Karrayu* territory claiming land for settlement along the Nazreth-Methara highway. The *Argoba* agro-pastoralists are fight-

ing for the pasture and water around Haro Qarsa and neighbouring Kebeles. Recently, the *Argoba* settlers occupied a *Karrayu* village called Korki and set up a small town there, which exacerbated the conflict. The situation is tense and delegates from the Amhara and Oromiya Regional States are trying to resolve it.

Inter-ethnic conflict is less severe in the lowlands. Here, some pastoral households (35%) have indicated that boundary claims with the *Gabra/Gari* have caused them to lose access to prime grazing lands. The conflict intensified following regional border demarcation and a referendum in 2003. In the past, the two groups have also clashed over different land use strategies. Whereas the Somali groups move as a family, the *Booran* land use by the *foora*-herd management is intermittent. When the *Booran* moved out of their wet season grazing areas (ie. the south-eastern rangelands) and into their dry season rangelands, the Somali groups (*Gari* and *Gabra*) occupied the wet season rangelands, and resisted the return of the *Boorans*.

A referendum in 2003 gave the rangeland to the Somali ethnic groups for their use. The *Boraan* elders claim that they have lost the whole of the eastern rangeland: about two-thirds of the *Borana* rangeland, and with it some of the deepest known wells, the Gofa and Lael wells. Shrinking pasture has put the remaining grazing land under immense pressure and caused severe land degradation. As a result of loss of access to the Dawa River and Gofa/Lael wells, water shortages have become rather serious. Households have been forced to excavate wells everywhere and as a result the groundwater table has been lowered. Livestock morbidity and mortality have increased resulting in the reduction of livestock herd size by about 80%. Pastoral households succumb to drought and famine more frequently. Many households were forced to move out of the pastoral sector and have settled somewhere in the highlands.

Impacts of land alienation

Loss of livestock assets

The most important asset owned by pastoralists is their livestock. However, the cumulative effect of the dramatic cut in the area of grazing lands and the loss of strategic pasture and water areas is a severe decline in the size of the individual livestock holding. We found that the livestock herd size has now declined to the point that a sizeable portion of the *Borena* (7%) and *Karrayu* (5%) households now own no animals at all.

Our results show that some richer households among the *Borena* used to own about 150 cattle, about 10 camels and a number of smaller livestock species. Among the *Karrayu*, livestock wealth was even greater, with richer households owning over 400 cattle and 100 camels in the past. Even the poorest *Karrayu* family used to own 100 cattle and 35 camels. The average herd size in *Karrayu* today is only 12 cattle and 16 camels—a 90% decline in the cattle numbers and 80% decline in camel numbers (Table 5). The productivity of the remaining livestock has also diminished with the deterioration of the rangelands.

Location/ wealth group	Average livestock numbers in the past (30 years ago)		Average livestock numbers today	
	Cattle (nos.)	Camel (nos.)	Cattle (nos.)	Camel (nos.)
<i>Borena</i>				
Rich	94	12	74	12
Medium	39	9	23	6
Poor	22	10	6	3
Average	30	11	12	5
<i>Karrayu</i>				
Rich	176	111	36	30
Medium	108	79	19	23
Poor	109	35	6	5
Average	133	79	12	16

This implies that pastoralists are worse off both economically and socio-politically today than in the past, particularly the *Karrayus*. Many households have had to sell their livestock to buy day-to-day necessities, including food and medical needs. Such distress sales, coupled with drought-induced losses, explain the decrease in livestock numbers among pastoral households. The tragic case of a *Borena* pastoralist, Ato Jilo Huka from Dirre Woreda (Box 1), illustrates the level of pastoral destitution and the transitory nature of livestock wealth.

BOX 1. JILO HUKA: AN IMPOVERISHED HERDER

Jilo Huka is a herder who lives in Tadi Katello Kebelle of Dirre Woreda. He is 65 and has 5 children from two wives. Once owning over 400 head of cattle, Jilo Huka was one of the richest pastoralists in *Borena* land. Over the years, the herd size has diminished mainly due to drought and destitution sales to get basic necessities. The 1999/2000 and 2002/2003 droughts were the worst droughts ever and wiped out almost all of his livestock. Having lost his herd he tried an unsuccessful suicide attempt. His son became mad and is now begging in Yabello town. Jilo Huka now works as a waged labourer herding the animals of a fellow pastoralist, Molu Tadi.

Food insecurity and famine

Our study revealed that 85% of the *Borena* households and 93% of the *Karrayu* households face food insecurity, irrespective of their socio-economic group. The majority of these households are in need of food for about five months of the year. During these months, households have to subsist by selling their livestock (which are also assets) and sometimes by getting help from food aid programmes. The average food self-sufficiency period from their own production is only six months, suggesting that even livestock-

rich households cannot subsist from their own production the whole year. Furthermore, about 15% of the *Borena* and 20% of the *Karrayu* pastoralists are food insecure throughout the entire year. These are livestock-poor households who have no other sources of income. These households are enlisted for food aid throughout the year, which signifies the seriousness of destitution among pastoral households in Ethiopia.

Periodic drought or sub-normal rainfall are characteristic of the lowland pastoral production systems. Even in climatically normal years, there are localised parts of the lowlands which suffer from drought. Many famines of various magnitude have affected the pastoralists, the most recent ones being the droughts of 1973/74, 1984/85, 1994-97, 1999/2000 and 2002/03. The famine of 2002/03 was one of the worst droughts in recent years, and claimed thousands of animal and human lives in the *Borena*, Somali and Afar regions that were the hardest hit. In some areas, about 80% of the entire animal population was estimated to have been decimated (Yonis, 2002).

But not all droughts cause famine. In the past, pastoralists were better able to withstand drought because they were more freely able to move to more productive pastures. In recent years in pastoral areas however, drought is resulting in famine more frequently than before. The serious impacts of these are not entirely the result of rain failure and poor resource management. It can be argued that development induced land alienation and restriction of pastoral mobility is largely responsible for the drought and famine problems. In other words, to a large extent land alienation has weakened the capacity of pastoralists to cope with drought (through mobility) and exposed them to food insecurity and famine.

Environmental degradation

The impact of land alienation on the pastoral economy and fragile lowland ecology is rather dramatic (Figure 3). The gradual curtailment of seasonal migration between wet and dry season grazing areas, coupled with increasing livestock and human population, has created pressure on the already fragile ecology due to overgrazing. Due to the expropriation of dry season grazing and watering areas, the wet season grazing areas are now grazed continuously throughout the year, leading to severe degradation involving loss of vegetation cover and soil erosion. Soil erosion has become a serious problem in areas that are exposed to constant trampling by animals—this destroys the soil structure and aggravates water runoff. In the *Borena* areas, soil erosion is severe around Surupa and Fichawa and gullies have been formed in many places. The result is lack of adequate pasture and a decline in animal productivity. Regarding the level of land degradation in *Karrayu*, Ayalew (2001) records the following comment by a pastoral elder:

'A point was reached where the area could no longer grow any vegetation, even if there had been abundant rainfall throughout the year. In the past we regulated the grazing intensities through seasonal migration that allowed the vegetation and the environment to rest and recover.'

Another feature of range degradation is bush encroachment—the invasion onto grazing lands of undesirable woody species and unpalatable fobs and the loss of the grass layer. Bush encroachment is prominent in rangelands where grazing pressure is high. Estimates

show that about 50% of the *Borana* rangeland is covered by unwanted bushes, mainly *Commiphora africana* (Gufu, 1998). It is believed that this species spread rapidly following the ban on the use of fire and due to seed dispersal through camel and goat dung. Traditionally, pastoralists use fire (rotational burning of the range) as a tool for range management to control undesirable plant species. Burning removes moribund grass, renews the pasture and reduces tree saplings. Following the official banning of fire, the woodlands have thickened, with tree regeneration out-competing the herbaceous layer.

Resource conflict

Hostilities among the pastoral groups have been aggravated by land alienation and expropriation for externally-planned development interventions (in this case the ANP and the sugar plantations). The shortage of pasture and water resources has caused the different pastoral groups to clash with one another. This is most pronounced in the Awash floodplain which is inhabited by various nomadic groups.

Conflict over grazing and watering resources and boundary claims have become a major livelihood challenge for pastoral communities. Some areas, such as in the *Wachille* and *Surupa* areas in *Borena* rangelands, have been abandoned in fear of conflicts, resulting in the underuse of available resources. A solution has to be found for defusing the growing conflict between *Karrayu* and *Argoba*, *Karrayu* and *Afar*, and between *Borana* and *Guji*, *Borana* and *Gari* communities. Alternative dispute resolution mechanisms need to be strengthened and customary institutions that regulate access and use of communal resources need to be empowered.



FIGURE 3. LAND DEGRADATION IN THE BORENA RANGELANDS. PHOTO: ELIAS EYASU

Coping strategies

In response to these changing circumstances and land alienation, the pastoralists have developed various coping strategies. One coping strategy is for pastoralists to sedentarise and take up farming. There has been an increasing move towards the settlement of pastoralists, combining opportunistic farming with livestock management, petty trading and wage employment. A sizeable proportion of the interviewees (35% in *Borena* and 21% in *Karrayu*) reported being engaged in activities other than pastoralism. All respondents stated that they do not prefer these activities to pastoralism, but that they are desperate attempts to diversify their livelihoods. Below we discuss some of these forced transformations of pastoralism as a way of life.

Opportunistic farming and private closures

The survey found a common and growing trend towards crop cultivation and the establishment of private fodder reserves, accompanied by land grabbing by fencing communal rangelands. With the decline in livestock numbers and their productivity due to loss of pasture and water points, most families can no longer live on animal production alone. Many have therefore started opportunistic farming (a form of dryland farming in which there is a successful harvest in one in three seasons) to supplement household food needs and diversify the means of subsistence.

We found that 62% of the *Borena* respondent households and 78% of the *Karrayu* households are engaged in opportunistic farming in the rangelands along with livestock keeping. When asked, 'Why did you decide to start cultivation in the rangeland instead of grazing?' the majority of the respondents (62%) explained that they cultivate in order to diversify their source of income beyond pastoralism. A few of the *Karrayu* pastoralists (12%) reported that they were settler farmers who had migrated from the non-pastoral highlands. These were invariably from the resource poor households.

Another reason for the expansion of opportunistic farming is to ensure security of holdings. Farming generally establishes user rights and cultivated fields can be claimed to be privately owned. However, this denies access to others—mostly the poor—to particular patches of land often containing key resources. As privately-owned areas take up large tracts of land, mobility is further restricted and conflict is triggered among the community members.

Private livestock enclosures, locally called *kaalo* closures, are also expanding, particularly in the *Borena* rangelands. These are private fodder reserves established by fencing parts of the communal rangelands. About 70% of the households reported having *kaalo* closures, with an average size of 35 ha. These further restrict livestock mobility and enflame a growing conflict among community members. Pastoral elders have tried to halt the privatisation of communal lands through customary land use planning rules (locally known as *Dongoraa Seeraa*). This is a participatory process in which the community delineates areas for settlement, grazing, fodder reserves and farming. But this proved to be problematic since the owners reinforce their holdings by paying a land tax to the local administration. The implication is the need for regulation of land allocation in order to harmonise individual and community interests.

Commercial activities

Out of those involved in non-pastoral activities, 65% in Borena and 43% in Karrayu reported engaging in petty trade, such as trading in animals, charcoal, the contraband trade of used cloth along the Moyalle-Negelle-Shashemene route, and trade in animals across the Ethiopia-Kenya borders. There are some cases of pastoralists moving into urban-based commercial activities such as house rentals, transport and the hotel business. These are cases of pastoralists evolving from petty traders to wealthy merchants, suggesting a positive transformation of pastoralism (Box 2).

BOX 2. ENTERPRISING PASTORALISTS

Galgalo Dheda, 45, lives in Arero Woreda. Following the death of his father, he inherited 30 cattle. Fifteen years ago he decided to conduct pastoralism and commercial activities side by side. Initially, he started trading in hides and skin with an initial capital of 800 Birr and traded in the *Moyalle-Yabello* route. As his capital increased, he moved to contraband trade in the *Moyalle-Shashemene* route. Gradually, he shifted to the cross-border trade of live animals. He uses his profits to build houses in major local towns for rental. He now owns over 400 cattle, 15 camels and 250 goats. He is a member and a vice chairman of the *Damballa Wachu* group ranch, which he uses for oxen fattening. He buys thin and weak cattle from fellow pastoralists and fattens them on the ranch for 5-6 months and then sells them at double the cost price. He believes that some cattle in a herd must be sold annually in order to minimise the loss of livestock to drought.

Dulacha Agale is a part-time pastoralist living in Dubluque Kebele in Dirre Woreda. He owns 150 cattle, 100 goats and several camels. He is engaged in commercial activities during the wet season; in the dry season he moves with his animals to their migration sites. Years back, he started petty trading in salt along the Yabello-Agremariam route. As he created enough capital, he switched to live animal trading in the local markets. Following the establishment of the ELFORA project, he was sub-contracted to supply cattle and sheep for the ELFORA fattening programmes in Liben and Surupa ranches. Gradually, he accumulated enough capital to buy a truck and moved into the transport business. Now he owns two trucks. He has built three big houses in Dubluque and Yabello towns for residence and rentals and his children go to school in Yabello. At the same time he continues pastoral herding of animals.

Conclusions and policy recommendations

To answer one of the major questions posed in the introduction, this study provides strong evidence to support the hypothesis that land alienation is behind many of the problems detected in the pastoral areas today. These problems include environmental degradation, food insecurity, drought vulnerability and ultimately destitution. At the root of these problems lies the fact that policy tends to be biased against pastoralism in favour of alternative economic activities such as commercial agriculture, wildlife conservation parks and modern ranches.

One could ask whether pastoralism will cease as a way of life. It is evident that the system is under a process of transformation as more and more people shift towards farming and diversification of economic activities outside pastoral production. The integration of marketing into the livestock economy is an important aspect in this process. The cases

from *Borena* show that pastoral engagement in urban commercial activities is an important route for livelihood diversification and positive transformation of the system (Box 2). Such trends need to be properly understood, and indeed supported and scaled up so that pastoralists can be integrated into the market economy.

Below we make some specific policy recommendations for improving the situation for pastoralist communities:

- *Support and scale up pastoralists' efforts to diversify their livelihoods.*
- *Allow the communities alienated by the sugar enterprise and the national park to benefit from these initiatives.* This could include greater employment opportunities in the sugar enterprise, community-based eco-tourism around the national park and provision of services such as clean water, health and education. Indeed, these are part of the government promises for the compensation of loss of land.
- *Advocate for land use and tenure legislation specific to pastoral areas in Ethiopia.* All concerned governmental and non-governmental actors should join forces to advocate on behalf of the Ethiopian pastoralists. Pastoral communities should also be empowered to help formulate a more appropriate pastoral legislation that protects their land rights and supports sustainable livelihoods.
- *Protect and promote pastoralists' culture and mobility practices to ensure effective use of the dispersed dryland resources.* Many of the pastoralists' problems are manifestations of a lack of mobility, which is the pastoralists' traditional strategy for adapting to dryland environments.
- *Give legal backing to customary institutions that regulate the use and management of common property.* These require legal recognition so that they can cope with the internal and external challenges of common property resource management in pastoral areas. Mechanisms are also needed to allow customary institutions to function in harmony with current modern government structures.
- *Recognise group user rights.* Pastoral land rights are communal rights. But land policy in Ethiopia does not consider common property systems, preferring to deal with simple concepts of individual or state property. This cannot provide solutions for pastoral resource management. Therefore, it is essential to legitimise common property systems through land tenure legislation. This allows a broad spectrum of management alternatives, from the transfer of management responsibility to communities to joint management by the state and the community.
- *Integrate ecological considerations into land policies.* Proper understanding of the ecology of the traditional pastoral production system and the complex customary arrangements for resource management is necessary to formulate appropriate land policies that secure the environmental rights of the pastoralists.

Acknowledgements

SOS-Sahel Ethiopia is grateful to the Drylands Coordination Group (DCG) for their generous financial support for this study. We are also very grateful to the enumerators who administered the household survey. We thank Ato Worku Chipisa for kindly translating the oral testimonials from *Oromifa* into English. Thanks are also due to Ato Huka Garse of SOS-Sahel Borena, who facilitated the fieldwork in Borena and the consultation meeting with pastoral elders at Yabello. The authors would also like to thank Ato Asefa Guchie of DELTA Consultancies for preparing the maps of the study sites in Borena and Karrayu. Finally, we thank the many pastoral elders, key informants and household heads who kindly provided us with valuable local information.



References

- Ayalew, G. 2001. *Pastoralism Under Pressure: Land alienation and pastoral transformations among the Karrayu of eastern Ethiopia, 1941 to the present*. PhD thesis, Institute for Social Science, The Netherlands.
- Behnke, R.H and Scoones, I. 1993. Rethinking range ecology: implications for range management in Africa. In: R.H. Behnke, I. Scoones and C. Kerven (eds). *Range Ecology at Disequilibrium: New models of natural variability and pastoral adaptation in African savannas*. Overseas Development Institute, London.
- Berhanu, A. and Feyera, A. 2009. Economic values of pastoralism in Ethiopia. In: Beyne T., Bezabih E. and Degnet N. (ed). *Proceedings of the 11th Annual Conference of the Agricultural Economics Society of Ethiopia*. Agricultural Economics Society of Ethiopia. May 2009, Addis Ababa.
- Eyasu, E. 2007. Environmental rights and pastoral livelihoods: the case of Borena and Karrayu pastoralists. In: SLUF (2007). *Land Tenure and Resource Management in Pastoral and Sedentary Areas*. Sustainable Land Use Forum, Addis Ababa.
- Eyasu, E. and P. Trench. 2000. Common property resource management – a real solution for environmental management in Ethiopia. In: *Proceedings of the Symposium on Environment and Development Policy in Ethiopia*. FFS and SOS-Sahel.
- Gufu, O. 1998. *Extension Plans for Pastoralists in Borena: Unpacking extension plans for pastoralists: proposals and guidelines for future range development in the lowlands of Borena, Southern Ethiopia*. GTZ, Bonn.
- Helland, J. 2006. *Property Rights, Collective Action and Poverty Reduction in Pastoral Areas of Afar and Somali National Regional States*, Ethiopia.
- Sandford, S. and Habtu, Y. 2000. *Report of the Pastoral Appraisal Team on Emergency Response Interventions in Pastoral Areas of Ethiopia*. UK Department for International Development, London. Available at http://repository.forcedmigration.org/show_metadata.jsp?pid=fmo:5300
- Yacob, A. 2000. Pastoralism in Ethiopia: the issues of viability. Paper presented at the *National Conference on Pastoral Development in Ethiopia*, Addis Ababa, 2 February 2000.
- Yonis, B. 2002. Magnitude of famine in pastoral areas of Ethiopia. *Proceedings of the Workshop on Drought and Famine in the Pastoral Regions of Ethiopia*. Pastoralist Forum Ethiopia.

PREVIOUS GATEKEEPER PAPERS

The Gatekeeper Series has been published since 1987. Here we list the most recent titles. These, plus many earlier titles, can be downloaded free from our website: www.iied.org/pubs/

SUBSCRIBING TO THE GATEKEEPER SERIES

To receive the Gatekeeper Series regularly, individuals and organisations can take out a subscription. Subscribers receive nine Gatekeeper papers a year. Subscriptions are free. For more details or to subscribe contact: IIED, 3 Endsleigh Street, London, WC1H 0DD, UK. Email gatekeeper@iied.org Tel: +44 020 7388 2117; Fax +44 020 7388 2826, or complete the online order form at www.iied.org

OTHER IIED PUBLICATIONS

For information about IIED's other publications, contact: EarthPrint Limited, Orders Department, P.O. Box 119, Stevenage, Hertfordshire SG1 4TP, UK Fax: +44 1438 748844 mail to: orders@earthprint.co.uk

There is a searchable IIED bookshop database on: www.iied.org/pubs

80. Community-based Conservation: Experiences from Zanzibar. 1998.
Andrew Williams, Thabit S. Masoud and Wahira J. Othman

81. Participatory Watershed Research and Management: Where the Shadow Falls. 1998.
Robert E. Rhoades

82. Thirty Cabbages: Greening the Agricultural 'Life Science' Industry. 1998.
William T. Vorley

83. Dimensions of Participation in Evaluation: Experiences from Zimbabwe and the Sudan. 1999.
Joanne Harnmeijer, Ann Waters-Bayer and Wolfgang Bayer

84. Mad Cows and Bad Berries. 1999.
David Waltner-Toevis

85. Sharing the Last Drop: Water Scarcity, Irrigation and Gendered Poverty Eradication. 1999.
Barbara van Koppen

86. IPM and the Citrus Industry in South Africa. 1999.
Penny Urquhart

87. Making Water Management Everybody's Business: Water Harvesting and Rural Development in India. 1999.
Anil Agarwal and Sunita Narain

88. Sustaining the Multiple Functions of Agricultural Biodiversity. 1999.
Michel Pimbert

89. Demystifying Facilitation in Participatory Development. 2000.
Annemarie Groot and Marleen Maarleveld

90. Woodlots, Woodfuel and Wildlife: Lessons from Queen Elizabeth National Park, Uganda. 2000.
Tom Blomley

91. Borders, Rules and Governance: Mapping to catalyse changes in policy and management. 2000.
Janis B. Alcorn

92. Women's Participation in Watershed Development in India. 2000.
Janet Seeley, Meenakshi Batra and Madhu Sarin

93. A Study of Biopesticides and Biofertilisers in Haryana, India. 2000.
Chayur Alam

94. Poverty and Systems Research in the Drylands. 2000.
Michael Mortimore, Bill Adams and Frances Harris

95. Forest Management and Democracy in East and Southern Africa: Lessons From Tanzania. 2001.
Liz Alden Wily

96. Farmer Learning and the International Research Centres: Lessons from IRRI. 2001.
Stephen Morin, Florencia Palis, Karen McAllister, Aida Papag, and Melina Magsumbol

97. Who Benefits From Participatory Watershed Development? Lessons From Gujarat, India. 2001.
Amita Shah

98. Learning Our Way Ahead: Navigating Institutional Change and Agricultural Decentralisation. 2001.
Clive Lightfoot, Ricardo Ramirez, Annemarie Groot, Reg Noble, Carine Alders, Francis Shao, Dan Kisauzi and Isaac Bekalo

99. Social Forestry versus Social Reality: Patronage and community-based forestry in Bangladesh. 2001.
Niaz Ahmed Khan

100. Global Restructuring, Agri-Food Systems and Livelihoods. 2001.
Michel P. Pimbert, John Thompson and William T. Vorley with Tom Fox, Nazneen Kanji and Cecilia Tacoli

101. Social Networks and the Dynamics of Soil and Water Conservation in the Sahel. 2001.
Valentina Mazzucato, David Niemeijer, Leo Stroosnijder and Niels Röling

102. Measuring Farmers' Agroecological Resistance to Hurricane Mitch in Central America. 2001.
Eric Holt-Giménez

103. Beyond Safe Use: Challenging the International Pesticide Industry's Hazard Reduction Strategy. 2001.
Douglas L. Murray and Peter L. Taylor

104. Marketing Forest Environmental Services – Who Benefits? 2002.
Natasha Landell-Mills

105. Food Security in the Context of Crisis and Conflict: Beyond Continuum Thinking. 2002.
Benedikt Korf and Eberhard Bauer

106. Should Africa Protect Its Farmers to Revitalise Its Economy? 2002.
Niek Koning

107. Creating Markets with the Poor: Selling Treadle Pumps in India 2003.
Frank van Steenberg

108. Collaborative Forest Management in Kyrgyzstan: Moving from top-down to bottom-up decisionmaking. 2003.
Jane Carter, Brieke Steenhof, Esther Haldimann and Nurlan Akenshaev

109. The Contradictions of Clean: Supermarket Ethical Trade and African Horticulture. 2003.
Susanne Freidberg

110. Risking Change: Experimenting with Local Forest Management Committees in Jamaica. 2003.
Tighe Geoghegan & Noel Bennett

111. Contract Farming in India: Impacts on women and child workers. 2003.
Sukhpal Singh

112. The Major Importance of 'Minor' Resources: Women and Plant Biodiversity. 2003.
Patricia Howard

113. Water For All: Improving Water Resource Governance in Southern Africa. 2004.
Emmanuel Manzungu

114. Food Industrialisation and Food Power: Implications for food governance. 2004.
Tim Lang

115. Biodiversity planning: Why and how should local opinions matter? 2004.
Sonja Vermeulen

116. Laws, lore and logjams: Critical issues in Indian forest conservation 2005.
Madhu Sarin

117. **Adapting to Climate Change in East Africa: A strategic approach** 2005. Victor A. Orindi and Laurel A. Murray
118. **Facing up to Climate Change in South Asia.** 2005. Mozaharul Alam and Laurel A. Murray
119. **State Policies and Land Use in the Chittagong Hill Tracts of Bangladesh.** 2006. Golam Rasul
120. **Organic Cotton: A New Development Path for African Smallholders?** 2006. Simon Ferrigno, Saro G. Ratter, Peter Ton, Davo Simplicio Vodouhé, Stephanie Williamson and John Wilson
121. **The Market for Voluntary Carbon Offsets: A new tool for sustainable development?** 2005. Nadaa Taiyab
122. **Getting the Message Across: Promoting ecological agriculture in Bangladesh.** 2006. Dipankar Datta and Kamal Kar
123. **Climate Change and Development Links.** 2006. Saleemul Huq, Hannah Reid and Laurel A. Murray
124. **Mysteries and Myths: De Soto, property and poverty in South Africa.** 2006. Rosalie Kingwill, Ben Cousins, Tessa Cousins, Donna Hornby, Lauren Royston and Warren Smit
125. **Working Together: Forest-linked small and medium enterprise associations and collective action** 2006. Duncan Macqueen, Sharmistha Bose, Septi Bukula, Cornelius Kazoora, Sharon Ousman, Noemi Porro and Horst Weyerhaeuser
126. **Seed diversity in the drylands: Women and farming in South India.** 2006. Carine Pionetti
127. **State-farmer partnerships for seed diversity in Mali.** 2006. Didier Bazile
128. **Mainstreaming participatory forestry within the local government reform process in Tanzania.** 2006. Tom Blomley
129. **Banishing the Biopirates: A new approach to protecting traditional knowledge.** 2006. Krystyna Swiderska
130. **A People's Plan for Biodiversity Conservation: Creative strategies that work (and some that don't).** 2006. Tejaswini Apte
131. **Legislators and Livestock: Pastoralist parliamentary groups in Ethiopia, Kenya and Uganda.** 2007. John Morton, John K. Livingstone and Mohammed Mussa
132. **Who benefits from land titling? Lessons from Bolivia and Laos.** 2007. Susana Lasterria-Cornheil
133. **Keeping CAMPFIRE Going: Political uncertainty and natural resource management in Zimbabwe.** 2007. Everisto Mapedza
133. **Keeping CAMPFIRE Going: Political uncertainty and natural resource management in Zimbabwe.** 2007. Everisto Mapedza
134. **Land Reform and Rural Territories: Experience from Brazil and South Africa.** 2008. Julian Quan
135. **Democratising Technology Choices? European Public Participation in Agbiotech Assessments.** 2008. Les Levidow
136. **Underfed, Underpaid and Overlooked: Women, the Key to Food Security in South Asia.** 2008. Nira Ramachandran
137. **Understanding and Supporting the Role of Local Organisations in Sustainable Development.** 2008. David Satterthwaite and Gabriela Sauter
- 137a. **Association ANDES: Conserving Indigenous Biocultural Heritage in Peru.** 2008. Alejandro Argumedo and Tammy Stanner
- 137b. **The Evolution of Casa Pueblo, Puerto Rico: From Mining Opposition to Community Revolution.** 2008. Alexis Massol-González, Avril Andromache Johnnidis and Arturo Massol-Deyá
- 137c. **IIED-América Latina: neighbourhood credit funds in Buenos Aires, Argentina.** 2008. Florencia Almansi and Andrea Tammarazio
- 137d. **The Organisation of Rural Associations for Progress, Zimbabwe: Self-reliance for Sustainability.** 2008. Dumisani Nyoni
- 137e. **The Pastoral Women's Council: Empowerment for Tanzania's Maasai.** 2008. Maanda Ngoitiko
- 137f. **The Urban Resource Centre, Karachi.** 2008. Arif Hasan
- 137g. **The Urban Poor Development Fund in Cambodia: Supporting local and city-wide development.** 2009. Somsak Phonphakdee, Sok Visal and Gabriela Sauter
- 137h. **Renovation, Not Relocation: The work of the Paguyuban Warga Strenkali (PWS) in Indonesia.** 2009. Wawan Some, Wardah Hafidz and Gabriela Sauter
- 137i. **Reconstructing Life After the Tsunami: The work of Uplink Banda Aceh in Indonesia.** 2009. Ade Syukrizal, Wardah Hafidz, and Gabriela Sauter
- 137j. **Uplink Porong: Supporting community-driven responses to the mud volcano disaster in Sidoarjo, Indonesia.** 2009. Mujtaba Hamdi, Wardah Hafidz, and Gabriela Sauter
- 137k. **The How, When and Why of Community Organisational Support: Uplink Yogyakarta in Indonesia.** 2009. Awali Saeful Thohir, Wardah Hafidz and Gabriela Sauter
138. **Public Participation and Oil Exploitation in Uganda.** 2008. Christoph Schwarte
139. **Unlocking the Potential of Contract Farming: Lessons from Ghana.** 2008. Comfort Kudadjie-Freeman, Paul Richards and Paul C. Struik
140. **Resilience to Climate Change in Patagonia, Argentina.** 2008. Rodrigo José Roveta
141. **Towards Food Sovereignty.** 2009. Michel Pimbert
142. **Adaptation to Climate Change: A vulnerability assessment for Sudan.** 2009. Sumaya Ahmed Zakieldeen
143. **New Hope for Indian Food Security: The System of Rice Intensification.** 2009. Biksham Gujja and T.M. Thyagarajan
144. **Can Biomass Power Development?** 2010. Keith Openshaw
145. **Putting Pastoralists on the Policy Agenda: Land Alienation in Southern Ethiopia.** 2010. Eyasu Elias and Feyera Abdi
146. **Equity and Social Justice in Water Resource Management in Bangladesh.** 2010. Golam Rasul and A. K. M. Jahir Uddin Chowdhury

SUBMITTING PAPERS TO THE GATEKEEPER SERIES

We welcome contributions to the Gatekeeper Series from researchers and practitioners alike. The Series addresses issues of interest to policy makers relating to the broad area of sustainable agriculture and resource management. Gatekeepers aim to provide an informed briefing on key policy issues in a readable, digestible form for an institutional and individual readership largely comprising policy and decisionmakers within aid agencies, national governments, NGOs and research institutes throughout the world. In addition to this primary audience, Gatekeepers are increasingly requested by educators in tertiary education institutions, particularly in the South, for use as course or seminar discussion material.

Submitted material must be of interest to a wide audience and may combine an examination of broad policy questions with the presentation of specific case studies. The paper should conclude with a discussion of the policy implications of the work presented.

Style

Gatekeepers must be short, easy to read and make simple, concise points.

- Use short sentences and paragraphs.
- Keep language simple.
- Use the active voice.
- Use a variety of presentation approaches (text, tables, boxes, figures/illustrations, bullet points).
- Length: maximum 5,000 words

Abstract

Authors should also include a brief summary of their paper – no longer than 450 words.

Editorial process

Please send two hard copies or an electronic version of your paper. Papers are reviewed by the editorial committee and comments sent back to authors. Authors may be requested to make changes to papers accepted for publication. Any subsequent editorial amendments will be undertaken in consultation with the author. Assistance with editing and language can be provided where appropriate. All illustrations and graphs, etc. should be supplied separately in their original format (e.g. as jpeg files) as well as being embedded within documents. This will allow us to modify the images where necessary and ensure good reproduction of the illustrations in print.

Papers or correspondence should be addressed to:

Gatekeeper Editor
Sustainable Agriculture, Biodiversity and Livelihoods Programme
IIED, 3 Endsleigh Street,
London WC1H 0DD,
UK
Tel: (+44 020) 7388 2117
Fax: (+44 020) 7388 2826
e-mail: gatekeeper@iied.org



The Sustainable Agriculture, Biodiversity and Livelihoods (SABL) Programme coordinates the editorial process for the Gatekeeper Series. The Programme seeks to enhance and promote understanding of environmental sustainability and equity in agri-food systems and the use of biodiversity. It emphasises close collaboration and consultation with a wide range of organisations and takes a multidisciplinary approach. Collaborative research projects are aimed at identifying the constraints and potentials of the livelihood strategies of marginalised groups who are affected by ecological, economic and social change. These initiatives focus on the development and application of participatory approaches to research and development; resource conserving technologies and practices; collective approaches to resource management; the values of wild foods and biodiversity; rural-urban interactions; strengthening citizen voice and agency in policy processes, and policies and institutions that work for sustainable agriculture and biodiversity-based livelihoods.

SABL is part of the Natural Resources Group (NR Group) at IIED, which encompasses two other programmes: Drylands and Forestry and Land Use. The NR Group and its partners work to enable greater participation of marginalised groups and to promote more sustainable and equitable patterns of land and natural resource use. We build partnerships, capacity and wise decision-making for fair and sustainable use of natural resources. Our priority is the control and management of natural resources and other ecosystem services by the people who rely on them, and on the necessary changes needed at international and national level to make this happen.

The Gatekeeper Series is co-ordinated by Su Fei Tan and edited by Fiona Hall.

ISSN 1357-9258

Design: Piers Aitman

Print: TARA, an enterprise of Development Alternatives Group
100% recycled paper handcrafted by tribal women in India

tara

International Institute for Environment and Development

3 Endsleigh Street, London WC1H 0DD

Tel: (+44 020) 7388 2117

Fax: (+44 020) 7388 2826

E-mail: sustag@iied.org

Website: www.iied.org