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An analysis of land management stakeholders in Lushoto (Tanzania) and Ntcheu (Malawi)

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An analysis of land management stakeholders in Lushoto (Tanzania) and Ntcheu (Malawi)

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Community terracing, Lushoto, Tanzania.

Disclaimer

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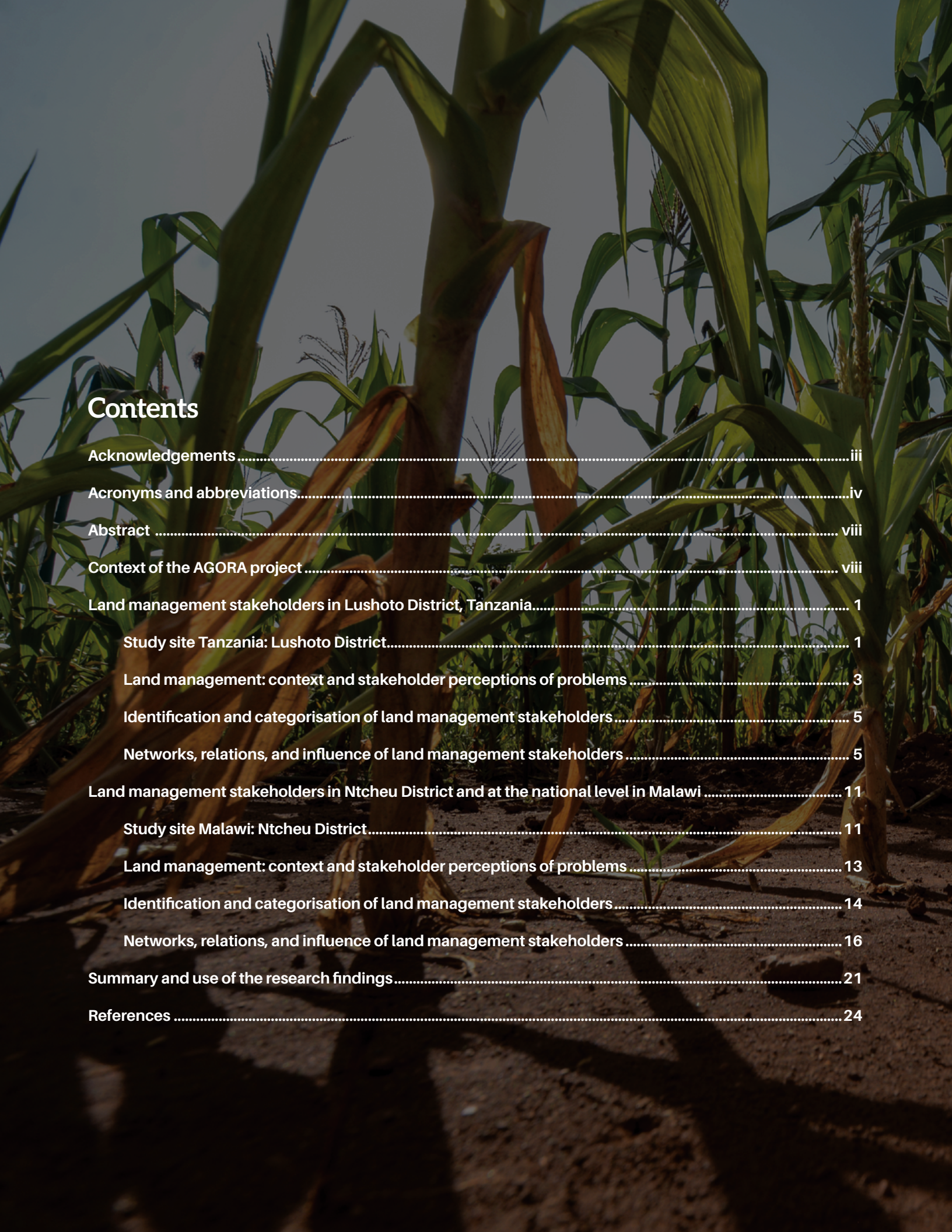
Acronyms and abbreviations

ADC	Area Development Committee
ADD	Agricultural Development Division
AEDEC	Agriculture Extension Development Coordinator
AEDO	Agriculture Extension Development Officer
ANRMC	Area Natural Resource Management Committee
ARET	Agricultural Research and Extension Trust
ASP	Area Stakeholder Panel
CADECOM	Catholic Development Commission of Malawi
CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security
CEPA	Centre for Environmental Policy and Advocacy
CIAT	International Center for Tropical Agriculture
CISANET	Civil Society Agriculture Network
CISONECC	Civil Society Network on Climate Change
CRS	Catholic Relief Services
DA	District Assembly
DADO	District Agriculture Development Office
DAES	Department of Agricultural Extension Services
DEC	District Executive Committee
DED	District Executive Director
DF	Department of Forestry
DFID	Department for International Development
DFO	District Forest Offices
DSP	District Stakeholder Panel
EAMCEF	Eastern Arc Mountains Conservation Endowment Fund
EPA	Extension Planning Area
EU	European Union
FISP	Farm Input Subsidy Programme
GAC	Group Agricultural Committee
GBI	Green Belts Initiative
GEF	Global Environment Facility
GIZ	German Agency for International Cooperation
GTZ	German Technical Cooperation Agency (since 2011 replaced by GIZ)
GVDC	Group Village Development Committee
GVH	Group Village Head(man)
IASS	Institute for Advanced Sustainability Studies
ICRAF	World Agroforestry Centre
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agriculture
(I)NGOs	International nongovernmental organisations
ITCZ	Indian Ocean and the Intertropical Convergence Zone
JICA	Japan International Cooperation Agency

LGAs	Local government authorities
LOMADEF	Lipangwe Organic Manure Demonstration Farm
LIKOVEG	Lushoto and Korogwe Vegetable Growers
LUANAR	Lilongwe University of Agriculture and Natural Resources
MAIWD	Ministry of Agriculture, Irrigation and Water Development
MCA	Millennium Challenge Account
MNREA	Ministry of Natural Resources and Environmental Affairs
NA	National Assembly
NAC	National Assembly Constituency
NASFAM	National Smallholder Farmers Association of Malawi
NGO	Non-Governmental Organization
PMO	Prime Minister's Office
RO	Regional Office
RRC	Rural Resource Centre
SARI	Selian Agricultural Research Institute
SECAP	Soil Erosion Control and Agroforestry Project
SEKOMU	Sebastian Kolowa Memorial University
SIMLESA	Sustainable Intensification of Maize-Legume cropping systems for food security in Eastern and Southern Africa program
SLM	Sustainable land management
SNIC	Support for Nutritional Improvement Component programme
SNV	Netherlands Development Organisation
SoHCoM	Soil Health Consortium of Malawi
TA	Traditional Authority
TAFORI	Tanzania Forest Research Institute
TANAPA	Tanzania National Parks Authority
TDCU	Tanga Dairy Cooperative Union
TIP	Traditional Irrigation Programme
TLC	Total Land Care
TMA	Tanzania Meteorological Agency
TSP	Training Support Project
TTSA	Tanzania Tree Seed Agency
ULT	Usambara Liche Trust
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VAC	Village Agricultural Committee
VDC	Village Development Committee
VEO	Village Executive Officer
VH	Village Head(man)
VICOBA	Village Community Bank
VNRMC	Village Natural Resources Management Committee
WEO	Ward Executive Officer



Contents

Figures

Abstract

Widespread land degradation has serious negative ecological, social, and economic consequences. This is particularly true for smallholder farming systems in sub-Saharan Africa, which are crucial for the livelihoods of the majority of the population and the national economies. Sustainable land management (SLM) is seen as the best way to combat or even reverse land degradation. However, the contexts and conditions hindering land users' uptake of SLM techniques are often poorly understood. The *AGORA* project explores the drivers of land degradation at two sites in Tanzania and Malawi. It focuses on the social and economic hindrances to the adoption of SLM practices. This Working Paper presents key findings of a stakeholder analysis of both sites. The analysis builds on interviews, a stakeholder workshop, and NetMap outputs. It sheds light on particular challenges, especially a lack of support, for successful sustainable land management by smallholders in both sites. Potentials and entry points for improvement lie in existing knowledge on SLM and attempts for coordination of service providers. Some findings were used to initiate a stakeholder engagement process that aims to enhance SLM in the two regions.

Context of the AGORA project

Widespread land degradation in sub-Saharan Africa has serious negative ecological, social, and economic consequences, particularly in smallholder farming systems crucial for the livelihoods of the majority of the population and the national economies [1]. SLM is seen as the best way to combat or even reverse land degradation. However, the contexts and conditions hindering or fostering land users' uptake of SLM techniques are little understood. The research project *AGORA: Acting Together Now for Pro-poor Strategies Against Soil and Land Degradation* explores the drivers of land degradation at two sites in Tanzania and Malawi. It has a focus on the social and economic hindrances to the adoption of SLM practices. The project takes a landscape approach and includes multiple stakeholders in a transdisciplinary research process. It aims among other things to provide insights on how the implementation and planning of SLM could be improved. The ultimate goal is to improve the livelihoods of resource users and sustain the long-term productivity of the landscapes in Lushoto District in northeastern Tanzania and Ntcheu District in southwestern Malawi. Working over three years (2014–17), the project interdisciplinary team collects and generates data, and engages with stakeholders through research and transformation-focused engagement processes. One of the first data collection activities aimed to gain a better understanding of the complex social, economic, and political context of land management at the two study sites. This included identifying the relevant stakeholders, their perceptions, and analysing the relations between them to find possible entry points for improvement of support for SLM. This was achieved through semi-structured interviews that were conducted with stakeholders, through a stakeholder workshop, and through a NetMap analysis of the actor landscape and social networks. After a brief description of the two sites, the data collection procedures and findings of the stakeholder analysis will be described for both sites, and a concluding summary presented.

Photo: Georgina Smith/CIAT

Photo: Georgina Smith/CIAT

Land management stakeholders in Lushoto District, Tanzania

Study site Tanzania: Lushoto District

Lushoto District covers an area of approximately 3,500 km² and is located in the Western Usambara Mountains in the Tanga region in northeastern Tanzania. The Usambara Mountains form part of the Eastern Arc Mountains, which comprise thirteen separate mountain ranges and stretch from southeast Kenya through south-central Tanzania. The Eastern Arc Mountains constitute a large part of an important hotspot of biological diversity and provide a range of ecosystem services and related human benefits at local, regional, and global scales [2]. The topography of the mountains, together with the Indian Ocean and the Intertropical Convergence Zone (ITCZ), regulate the varying climate [3], with the Western Usambaras being notably influenced by oceanic climate. Lushoto District has an elevation of 900–2,250 metres above sea level and is characterised by a prevalence of steep slopes with inclines of 35 degrees and more [4]. The area is significantly cooler and more humid than the surrounding lowlands. Lushoto District has a bimodal rainfall pattern, and annual precipitation varies significantly depending on location from 400 to over 2,000 mm [5]. Lushoto's four agro-ecological zones feature umbric acrisol soils and are of varying crop suitability (good to low) [6]. The region was originally covered with mountainous rain forest, the remnants of which are now held in forest reserves.

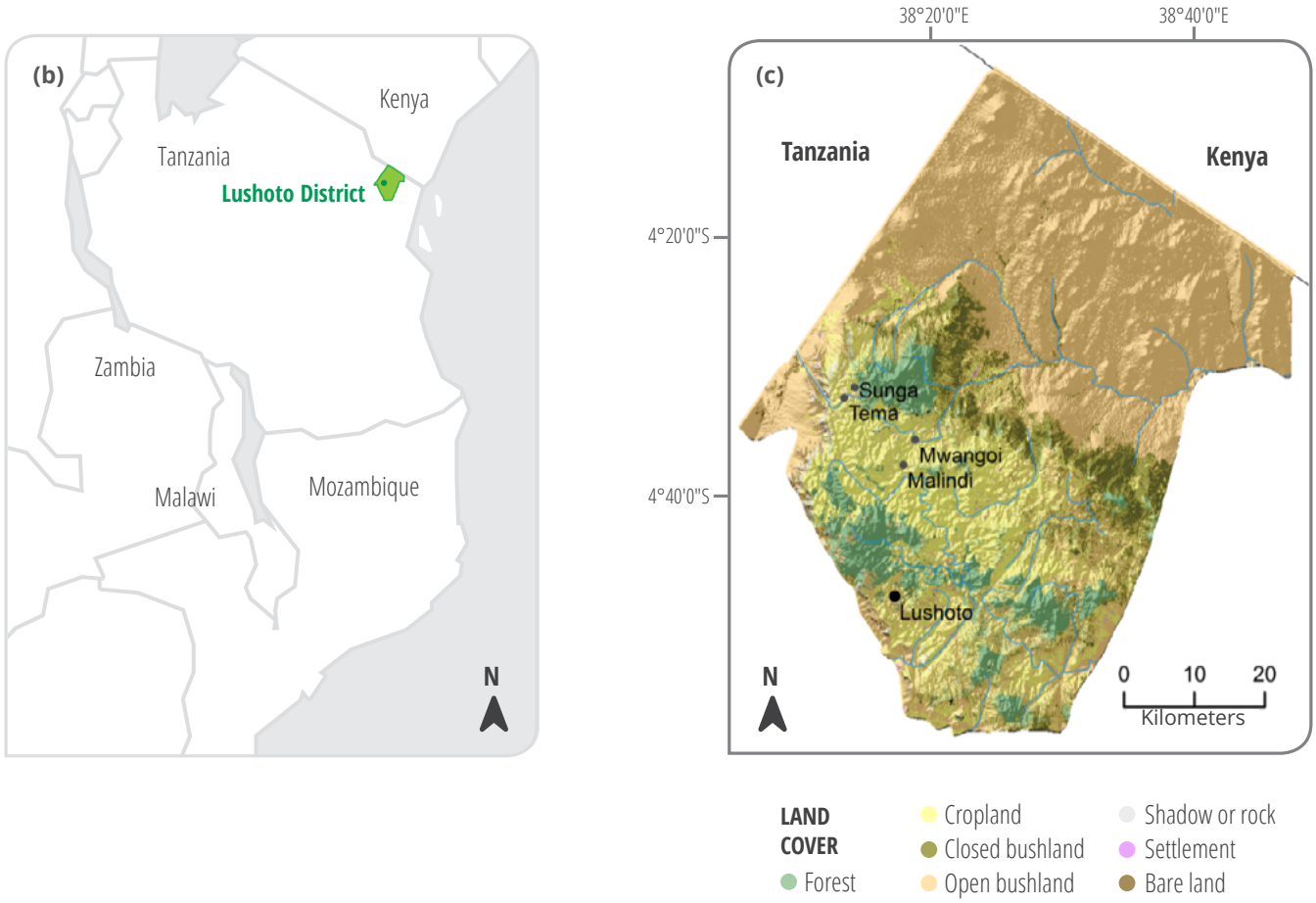


Figure 1 Location of the study in Africa (a) and in Tanzania (b) with Lushoto District shaded in green and the site within Lushoto District marked with a green dot. The location of the town of Lushoto and the four focus villages are shown within Lushoto District (c). Land cover was mapped in 2014 and shows major land cover categories.

Source: J. Cordingley (CIAT).

The number and density of the population of Lushoto District is the highest in the Tanga region. The population almost tripled between 1957 and 2002, from about 150,000 to 423,000 inhabitants, with an average household size of five persons [7] and a population density of approximately 120 people per km². Agriculture is by far the single most important livelihood [8], and most of the land is under cultivation. Other dominant land-use types are natural forests, grassland, urban areas, and woodlands [6]. The land-use system changed from a subsistence agroforestry system in pre-colonial times to a dominant two-part land-use today. In the largest part of the district, the fertile valley bottoms are used for intensive (and usually irrigated) vegetable production for the markets, while the less fertile and often steep upland areas are used for subsistence rainfed farming, predominantly maize [9]. The more recent history of the West Usambaras includes colonial and post-independence interventions [10] as well as massive development projects over almost 20 years in support of soil and water conservation [11]. In spite of this, some studies find that only 3 to 20 per cent of agricultural land is conserved [12], and investment in SLM is not economically attractive [13]. The region is a major production site of vegetables and fruits of national importance.

The region today is characterised by its high population growth and density as well as poverty and environmental degradation. Challenges include forest and land degradation, increasing land scarcity, fragmentation of lands into small uneconomical plots, widespread cultivation on marginal lands and the encroachment of forest lands [14], poor access to information and markets, workforce out-migration [15], and a limited availability of government services. Most of the mentioned biophysical and social characteristics relate to land degradation, either as proximate drivers – i.e. biophysical conditions – or underlying drivers. The main proximate drivers are the topography, climate change, and settlement and agricultural expansion. The main underlying drivers are

rapid population growth, poverty, market and institutional failures, and the absence of land-use planning [16].

The project focused on four villages within the district: ***Malindi, Sunga, Tema,*** *and* ***Mwangoi.***

Land management: context and stakeholder perceptions of problems

This section presents the key findings derived from semi-structured interviews with a variety of stakeholders in Lushoto District. After the project initiation, our first aim was to get a thorough understanding of the complex social, economic, and political context of land management at the sites. We carried out semi-structured interviews with land management stakeholders other than farmers. They complement research methods carried out with farmers such as focus group discussions and transect walks. The interviews served to i) map the relevant stakeholders, explore ii) the work of their respective organization/institution as well as their modes of planning and operation, and iii) their relation to other stakeholders, and iv) their perception of natural resource management and land degradation in the area. Using an interview guideline, we carried out 32 interviews in September 2014 with government and civil society stakeholders in Lushoto District. The interviewees included persons from various district departments, governmental research institutions, village chairmen and village executive officers, agricultural extension officers, as well as (I)NGO staff. The qualitative content analysis of the interviews yielded general insights into the historical and contemporary context of land management in the district. Another set of interviews was carried out in July 2015 with seven relevant district officials in charge of SLM-related departments and authorities. They served to find out more about local development planning procedures and the significance of SLM to the different district departments. The interviewees noted the changed livelihoods in the region, referred to major development projects for soil erosion control, and shared a similar problem perception. These are described in more detail below.

Impact of development projects

Two longstanding development projects on land conservation and irrigation in the district were a common point of reference: the Soil Erosion Control and Agroforestry Project (SECAP), carried out by the German Development Agency GTZ (since 2011 replaced by GIZ) in Lushoto District from 1981 to 2000, and the complementary Traditional Irrigation Programme (TIP), carried out from 1988 by the Netherlands Development Organisation (SNV). Both projects have changed the landscape significantly and enhanced erosion control, farm productivity, and livelihoods. All interviewees acknowledged the achievements and spoke of the period as a better era. After the projects phased out, they were handed over to the district for continuation, but their achievements are now fading at many sites.

Changed livelihoods

Many interviewees also described the changed livelihoods. In pre-colonial times, farmers grew food crops for subsistence, whereas nowadays they produce vegetables as cash crops on plots on the valley floor. This subsistence agriculture is reported to have been losing complexity even before the arrival of the colonizers, and after the German colonizers established large estates since 1885, farmers began to increasingly rely on cash crops [11]. However, this shift from subsistence farming to a market economy has not improved food security. Fruit trees were promoted by SECAP, but fruit production has decreased since its conclusion due to the felling of fruit trees and lower yields. Government officials attributed this to poor management of the fruit trees, whereas farmers linked the diminished yields to climate change. Most interviewees deemed the often steep hillside plots actually unsuitable for agriculture, and many argued for forestry or agro-forestry to be practised in these areas.

Perception of challenges

Problem perceptions were largely shared by the different interviewees and cut across affiliations to certain groups of stakeholders. The most prominently mentioned problems relating to land management were increasing water scarcity, market-related issues, land degradation (declining soil fertility and erosion), lack of finances to invest in land management (in terms of government budgets as well as farmers' budgets), population pressure, climate change, and deforestation. Other problems mentioned less frequently were land shortage, lack of law enforcement, lack of knowledge and awareness of SLM, and a lack of land-use planning. Population growth and environmental change are perceived to be key drivers of land degradation in the region. Most interviewees argued that population growth results in the continuous fragmentation of plots through inheritance and in an increasing pressure on all natural resources. Many felt that population growth was "eating up" the achievements of SECAP and TIP. Some interviewees mentioned the Muslim practice of polygamy as particularly driving population growth, but this could not be verified within the frame of the research. The observed changes to the environment, including climate change, are perceived as being caused directly in part

by local human practices and partially by non-local drivers. Relevant aspects of environmental change are first and foremost water scarcity, which has become a serious problem in many villages and is seen by many as an increasing source of conflict. Climate change is also identified as a cause; seasons and rainfalls patterns are reported to have become erratic and temperatures to have changed, which altogether leads to declining yields and the need for adapted crop varieties. On the other hand, human activities such as deforestation, cultivation around water sources, increased demand for water – mostly for irrigation – and the planting of non-indigenous tree species that are heavy water feeders (e.g. pine and eucalyptus) are also mentioned as contributing to the environmental change in general and water scarcity in particular. Interviewees at village level in particular viewed pine plantations as drivers of water scarcity and sought to address this concern through complaints to the district government. Deforestation is reported to be driven by the government's establishment of several forest reserves without providing local communities with alternative access to forest and forest products.

Effects of population growth and environmental change

Interviewees gave a similar picture of the effects of population growth and environmental change (including land degradation) and responses to these phenomena. The increased pressure leads to depletion of natural resources and their decline in quantity and quality and an increased number of conflicts, especially around water. Interviewees also noted the predominantly male out-migration, as men left the region in search of work and farmland for rent in other parts of the country, and its implications for the remaining population in terms of social structure, financial capacity, and the availability of labour to farm the land.

Constraints to SLM adoption

Interviewees held a range of views on the role of knowledge and awareness for more sustainable land management – often simultaneously. Some interviewees stressed that, primarily as a result of SECAP and TIP, farmers are sufficiently aware of the importance of sustainable land management and possess the necessary knowledge. Others were of the opinion that farmers would need more knowledge, training, and awareness on these matters. Often, interviewees combined these two views by stating that farmers are aware of the importance of SLM, but need more support in any form – knowledge, financial, and material – to overcome the broad range of constraints they are facing. Most interviewees acknowledged the manifold constraints to the adoption of SLM practices with which farmers must grapple. They were said to find themselves in a situation of declining yields and incomes as a result of decreasing soil fertility, erratic weather patterns, and the sale of agricultural inputs which were, on occasion, fake and therefore futile. They furthermore operate in adverse market environments characterised by a lack of access to information on prices, farming practices and agricultural inputs, and a high dependency on middle men, which forces them to sell at low prices. These circumstances severely restrict their ability to invest money and labour in sustainable land management.

This lack of financial resources also affects the district government and was raised by all of the officials interviewed. They all reported a lack of operational funds necessary for vehicles and/or fuel to go into the field, to hire staff or to carry out even basic duties and activities. However, this information should be weighed against reports from other interviewees registering concern at the high level of corruption in district government.

In order to better understand the district's budget allocation and spending on SLM, we conducted another set of interviews with district officials on the topic of local development planning. The following section presents the context and findings.

In 1998, Tanzania's Local Government Reform Programme introduced bottom-up planning processes. A methodology for the elaboration of local development plans was strongly favoured by donors and instituted in 2001 under the title "Opportunity and Obstacles to Development" (O&OD). It aimed at creating a sense of ownership of development plans and was expected to foster local involvement in decisions. The methodology foresees a three-tier approach: at community level, wishes and preferences are formulated, which are then translated into village development plans that form the input for the ward development plan. Eventually, the district council decides upon projects and, on the basis of sectoral plans by the different district departments, elaborates a council plan. The council plan then forms the basis for the delivery of funding by central government. However, studies show that community participation actually remains low, local people are not aware of local development plans, and district governments do not use local plans for their decisions [17]. This state of affairs is ascribed to the national government's resistance to devolve power to the local level. In spite of an official shift to bottom-up planning processes, the central government still largely controls Local Government Authorities (LGAs) through their budgets, and LGAs have very limited room to manoeuvre and respond to local priorities. Just 10 to 20 per cent of an LGA's budget is raised locally. Allocations from the national government

account for 80 to 90 per cent of the budgets of LGAs operating at the district/municipality/city level and are generally earmarked for specific purposes.

The interviews revealed that local planning procedures are not carried out in Lushoto as foreseen and that these processes are unknown to the communities. Many villages in the district lack both land-use plans and village development plans. Instead, community needs, development priorities, and development plans are often identified at the ward or district level without necessarily consulting villages. This situation is facilitated in particular through the existence of central government bodies and officials at the district and ward level. These bodies represent a parallel structure to local government bodies and conduct their planning activities largely without community involvement. This situation also reflects the chronic and severe lack of funding provided to LGAs, which restricts the implementation of planning procedures and the implementation of development projects as such. District staff indicated that the central government has not only cut funding for planning, but has transferred just 33–50 per cent (differing statements) of the promised amount for the financial year 2014/15. On top of this, interviewees stated that funding reached the district much too late. The Community Development Officer, for example, indicated that the annual budget for her department amounted to 17.6 Mio. TZS (approximately USD 8,000). In addition to those structural issues, agriculture and sustainable land management usually do not feature among the development priorities identified at any level. Development plans usually rank 'tangible' development projects such as education, roads, and health as priorities, while agriculture is said to be seen as something which everybody can do and which does not deserve particular attention in development plans.

Identification and categorisation of land management stakeholders

Key stakeholders were identified through a combination of approaches including literature research, indication by researchers familiar with the setting, and indication by other stakeholders in interviews and meetings. The following lists (page 6) detail the current primary and secondary key stakeholders of SLM in Lushoto District. Primary stakeholders are defined as those directly affected by, or who can directly affect land management, i.e. primarily land users and those directly influencing them. Secondary stakeholders are defined as those indirectly affected by, or who can indirectly affect land management. Stakeholders who affected land use in the past and whose impact has been preserved (if only partially) in the form of physical or organisational structures or residual knowledge are not considered here. The rich insights gained through the interviews into the stakeholders' work and modes of planning and operation are not covered in this paper.


Photo: Georgina Smith/CIAT

Networks, relations, and influence of land management stakeholders

After having identified key stakeholders and having gathered their perceptions of the land management situation in Lushoto District, we sought to get an in-depth understanding of stakeholders' relations, their networks and differing influences on land management. We used and adapted NetMap to generate social network maps and analysed them. Before presenting the key findings of the analysis, the following section describes the method.

NetMap is a participatory research tool created by Eva Schiffer, then a researcher with the International Food Policy Research Institute (IFPRI), and first used in 2007 [18]. NetMap merges features of Social Network Analysis and the Power Mapping Tool. It was conceived to better understand multi-stakeholder governance by gathering in-depth information about networks, goals of actors, and their power and influence. The method is built on the assumption that informal relations between individuals or organisations and the perceived power of the involved actors strongly influence decision-making and collaboration processes. Network maps are created in a participatory approach in which stakeholders or groups of stakeholders draw a network map of the actors involved in a particular governance realm and characterise the different links between them. In the next step, the participants add

PRIMARY LAND MANAGEMENT STAKEHOLDERS IN LUSHOTO DISTRICT

Land users

Farmers; tree nursery groups; Umba River Users Group

Government bodies and position holders

National level	Shume Forest Reserve; Magamba Forest Reserve; Pangani Water Basin Authority
District level	District Department of Livestock and Fisheries; District Department of Agriculture, Irrigation and Cooperatives; District Department of Natural, District Department of Community Development, Gender and Children; District Department of Planning, Statistics and Control; District Department for Land; District Department for Environment; District Executive Director (DED); District Council; Agricultural Extension Officers
Division level	Division Office
Ward level	Ward Executive Officer (WEO)
Village level	Village chairmen; Village Executive Officers (VEO); village committees
Others	Schools

International organisations, development funds, (I)NGOs, faith-based organisations and projects

International Organisations	Japan International Cooperation Agency (JICA); USAID
(I)NGOs	Women's groups (Ubiri women's group, Diana women's group, Nuru women's group); Oxfam; Heifer International; Rural Resource Centre (RRC); Equality for Growth; Faida Mali; Polish Aid; Soroptimist International; Chamavita; Youth Global
Faith-based organisations	Dioceses; Mlalo mission; Rangwi convent; Montessori; Rosmini Fathers; Irente Farm; Gare Mission; Pentecostal Church; Sakarani Fathers
Other projects	Asareka project; CCAFS; N2Africa

Tourism organisations

Tanga Youth Development Association (Tayodea); Friends of Usambara; Mambo Viewpoint Lodge

SECONDARY STAKEHOLDERS

Donors and development funds, international organisations, (I)NGOs, faith-based organisations and projects

Donors; United Nations Development Programme (UNDP); International Fund for Agricultural Development (IFAD); Global Environment Facility (GEF); Eastern Arc Mountains Conservation Endowment Fund (EAMCEF)

Government bodies and position holders

National level	Tanzania Tree Seed Agency (TTSA); Tanzania National Parks Authority (TANAPA); Tanzania Meteorological Agency (TMA); Mabughai Folk Development Colleges; Prime Minister's Office (PMO); Ministry of Agriculture, Food Security and Cooperatives; Ministry of Natural Resources and Tourism; Ministry of Livestock and Fisheries Development; Ministry of Water and Irrigation; National Forest Authority
Regional level	Regional Commissioner
District level	District Commissioner

Business

Tanga Dairy Cooperative Union (TDCU); Lushoto and Korogwe Vegetable Growers (LUKOVEG); Village Community Bank (VICOBA); Usambara Liche Trust (ULT); Agro-dealers

Research institutions and projects

Tanzania Forest Research Institute (TAFORI); Selian Agricultural Research Institute (SARI); AGORA; Plantwise project; Sokoine University; Sebastian Kolowa Memorial University (SEKOMU); Mlingano Agricultural Research Institute

so-called “Influence Towers” to the map to indicate the stakeholders' power and influence. Finally, participants assess the goal orientation of the different actors and enter into a qualitative discussion on the governance situation. The sources and effects of influence as well as the stakeholders’ relations to each other and desirable changes can be discussed using guiding questions.

In the case of the AGORA project, NetMap enabled researchers to better understand the stakeholder relations and consider how functional, relevant, and influential existing structures and actors are with a view to sustainable land management, and to grasp the structure of stakeholder networks. Literature suggests that social capital and networks foster the adoption of sustainable intensification practices in eastern and southern Africa and that policy makers should therefore strengthen collective institutions and other organizations such as service providers [19]. A small research team developed network maps of stakeholders in Lushoto in November 2015 together with small groups of participants (approximately six persons per group) in each of the four study villages and with stakeholders at the district level. We looked at three specific relations and flows: i) information and knowledge, ii) material and/or financial support, and iii) orders. For land users, information and knowledge are essential to be able to implement SLM techniques, while for government actors and NGOs/projects, disseminating information and knowledge to land users is a requirement, as well as receiving up-to-date SLM knowledge as well as information from land users. In a setting with lack of finances, the provision and reception of material and financial support for SLM are obviously of crucial importance. Lastly, orders play a role because land users are often given orders by the government to carry out certain SLM measures (e.g. planting trees) or to refrain from certain actions (e.g. in the form of laws and by-laws such as no cultivation around water sources). The meetings were held in Kiswahili. The participants at village level included the Village Chairman, the Village Executive Officer (VEO), a member of a relevant village governance committee, as well as a male and a female farmer. Due to the large number of persons involved, the participants at district level were split into two groups (various civil society stakeholders and government officials). Statements made during the development of the network maps and the subsequent discussions were included in the analysis. In addition to the six NetMaps created on paper, the team took notes and photos and made audio recordings of the sessions. The network data was then entered into *NodeXL*, a network analysis and visualisation software that works with *Microsoft Excel* [20]. Among other things, this software allows users to calculate different network metrics and produce different visualisations of data in the form of network graphs. The data was analysed together with the field notes and visualizations were produced for i) the information network, ii) the support network, and iii) the command network, and iv) the overall network (see Figure 2).

The synthesis analysis yielded the following key findings:

✓ NGOs/development projects most influential actors – role of business actors negligible

Looking at the three most influential land management actors in all participant groups, NGOs and projects were clearly perceived as the most influential actors, while business actors do not play a significant role. Looking at the three most influential actors in all participant groups, NGOs/development projects are most often among the three most influential actors, followed by government actors such as the district council and the village government. With one exception, farmers were always ranked among the three most influential actors. Only a small number of business actors influence SLM and their influence is comparatively low.

✓ Knowledge, awareness, and orders are largely ineffective without sufficient support

Orders and substantial levels of knowledge and awareness cannot foster SLM in the absence of sufficient support for land users. In the case of all six stakeholder networks analysed here, information flows between actors dominate the picture. With the exception of government actors, none of the participants at the meetings suggested that there was a need for more knowledge. Rather, participants argued that farmers, as the primary implementers of land management, are aware of many SLM issues but need more material and financial support to implement SLM on a broader basis. Participants at all of the meetings agreed that previous development projects in the area (SECAP and TIP) had achieved a lot in this respect and did not only bring material support, but managed to share knowledge and create awareness of the importance of SLM. According to participants, the projects had changed attitudes and made local populations eager to engage in conservation, but their room for manoeuvre was now very constrained.

The network map produced by the group of government officials at district level shows that the district council receives information and support from a large number of actors. They identified the district council as the primary addressee of information and support. However, the district uses its funding primarily for administration and information services, so that ultimately little material or financial support reaches farmers in at least three of the four villages. Directives issued by district authorities, including a directive requiring villages to plant trees,

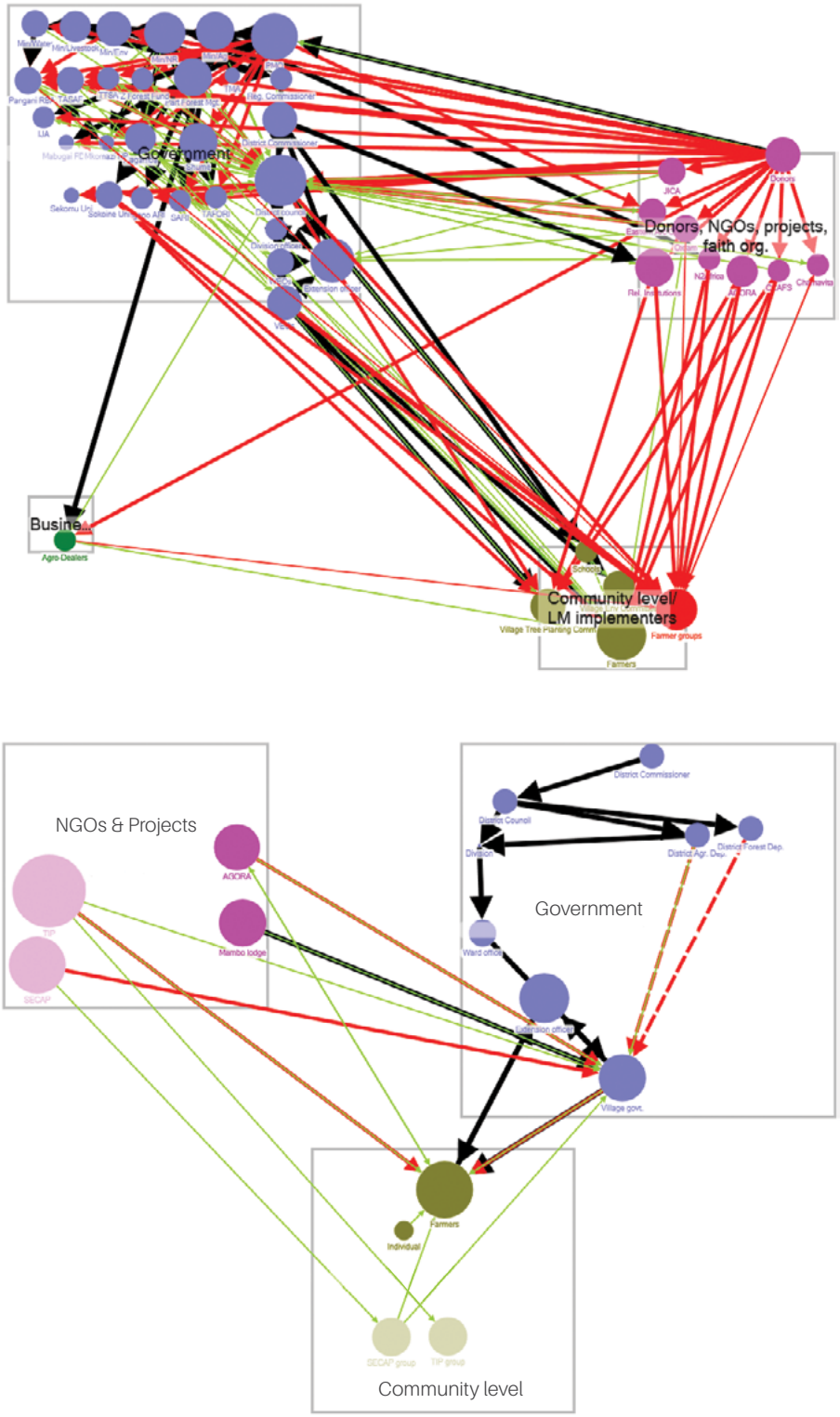


Figure 2 Two examples of a network graph from Lushoto at district level (top) and village level (Tema village; bottom). Green arrows depict information flows; red arrows depict flows of material or financial support, and black arrows represent command flows. The size of the individual discs in the network reflects the power/influence of the actors as perceived by participants and expressed in the height of the influence Towers during the meetings.
Source: J. Rosendahl (IASS), created with NodeXL Pro [20].

have little effect unless they are accompanied by material support such as access to seedlings.

✓ Network extent and density and levels of support vary: Mwangoi village vs. Malindi, Sunga, and Tema village

The extent and density of the six networks, as well as the level of support, vary. Mwangoi's network is much larger and denser and registers much more support compared to the other three villages. The majority of actors identified in all of the villages and by district officials were government actors. The majority of district-level actors identified by the group of non-governmental actors at district level were donors/NGOs/projects/faith-based organizations. The village-level networks in Malindi, Tema, and Sunga are relatively sparse and limited in scope, while the network in Mwangoi is extensive and dense, with more than twice as many links. At the district level, non-governmental participants indicated a high number of information and support links (289, orders were not considered in this meeting due to time constraints), while government participants indicated significantly fewer (183).

A comparison of the supply of support to the four villages reveals that Malindi, Tema, and Sunga receive support from a small number of actors. Not counting AGORA, each of the villages receives support from a single non-governmental source and from one or two government actors. These absolute figures compare highly unfavourably to Mwangoi, which according to participant indications is engaged in eight times as many NGOs/projects and five times as many support flows. This represents a highly unequal distribution of support, particularly with respect to support drawn from NGOs and development projects. Participants of Mwangoi ascribe the breadth and density of their network and the resulting support flows to their reputation and track record in establishing effective community structures when projects come in. Some participants indicated that the district directs projects and governmental support to Mwangoi while neglecting other villages.

✓ Lack of stakeholder coordination at district level

District-level stakeholders agreed that a lack of stakeholder coordination impedes a more sustainable land management in the district. On almost all of the network maps, there is no interaction between the different NGOs, projects, and faith-based organizations (only some non-governmental stakeholders at district level appeared to interact) and some participants also perceived a lack of interaction between NGOs/projects and the government. At the village level, there is little interaction between the few projects, but this was not perceived to be problematic. However, at the

Photo: Georgina Smith/CIAT

district level, both participant groups referred to a "stakeholder chaos" and bemoaned the negative effects of a lack of stakeholder coordination. These effects are a duplication of project activities in time and space, and an unequal coverage of villages by projects, with remote areas receiving no coverage. Government actors stated that NGOs and projects failed to communicate with the district before launching projects and often during their implementation. As a result, district authorities remained partly unaware of planned and ongoing activities and were deprived of the possibility to supervise and direct projects. This is underlined by the fact that government actors mentioned just nine donors/NGOs/projects/faith-based organizations out of the at least 26 identified as actors by non-governmental stakeholders. Both participant groups at the district level agreed that it was the responsibility of district authorities to establish an effective coordination and follow-up on NGOs and projects. In the past, there had been attempts by the district management team to formulate a district strategy for sustainable land management. SLM stakeholders from the district government and civil society were supposed to meet under the supervision of the district commissioner to develop this strategy. However, the lack of resources necessary to carry out preliminary studies for the strategy development process and host meetings has stalled efforts.

Photo: Georgina Smith/CIAT

Land management stakeholders in Ntcheu District and at the national level in Malawi

Study site Malawi: Ntcheu District

This section provides a brief account of the biophysical and social conditions in the study site in Malawi. Ntcheu District covers an area of approximately 3,500 km² and is located in Malawi's Central Region, bordering with Mozambique to the west. It lies west of the Great Rift Valley on high plateaus, generally between 900 and 1,200 metres above sea level. The district has two distinct terrain patterns: the rocky upland area in the west and the valley with alluvial soils to the east with land suitable for cultivation. The climate is humid subtropical with three seasons: a cool dry season, a hot dry season, and a rainy season. Temperatures are warm and temperate with mean annual temperatures of 15 to 20 degrees Celsius and mean annual rainfall ranging from 600 mm to 1,200 mm, concentrated in the rainy season. The district's natural vegetation consists largely of woodland savannah. In 2010, the majority of the land (63.8 per cent) was under cultivation with rainfed herbaceous crops. 18.6 per cent of the land was covered with open woodland and 8.4 per cent with trees and shrub savannah [21].

Ntcheu District had a population of 474,464 according to a 2008 census and thus a high population density of approximately 139 people/km² and a high growth rate of 2.5 per cent. The main economic activity in the district is subsistence farming on small plots, with maize as the primary food crop, complemented by finger millet, pulses, groundnuts, potatoes, and vegetables [22]. Other livelihood activities include charcoal making and casual labour ("ganyu"). Rapid population growth has also subjected the land to intense pressure, causing a decrease in land holding sizes (0.8 ha per household), the abandonment of a fallow system, and decreases in soil fertility [23]. Furthermore, the increased cultivation of marginal lands has contributed to already high soil erosion rates [24]. Erosion is a national concern first and foremost as it negatively affects the output of hydropower plants downstream in the Shire Basin.

With its vulnerability due to a combination of limited land productivity and high population density, Ntcheu has been affected by acute food insecurity in past [25] and recent years. Like other regions in Malawi, Ntcheu has been affected by erratic weather and hit by natural disasters in recent years, including flooding in 2015 and drought conditions caused by El Niño in 2016.

Land management challenges include land and forest degradation, increasing land scarcity, fragmentation of lands into small uneconomical plots, widespread cultivation of marginal lands and encroachment into forest lands, poor access to information and markets, workforce out-migration and limited government services. Most of the biophysical and social characteristics noted here relate to land degradation, either as proximate drivers – i.e. biophysical conditions – or underlying drivers. The main proximate drivers are

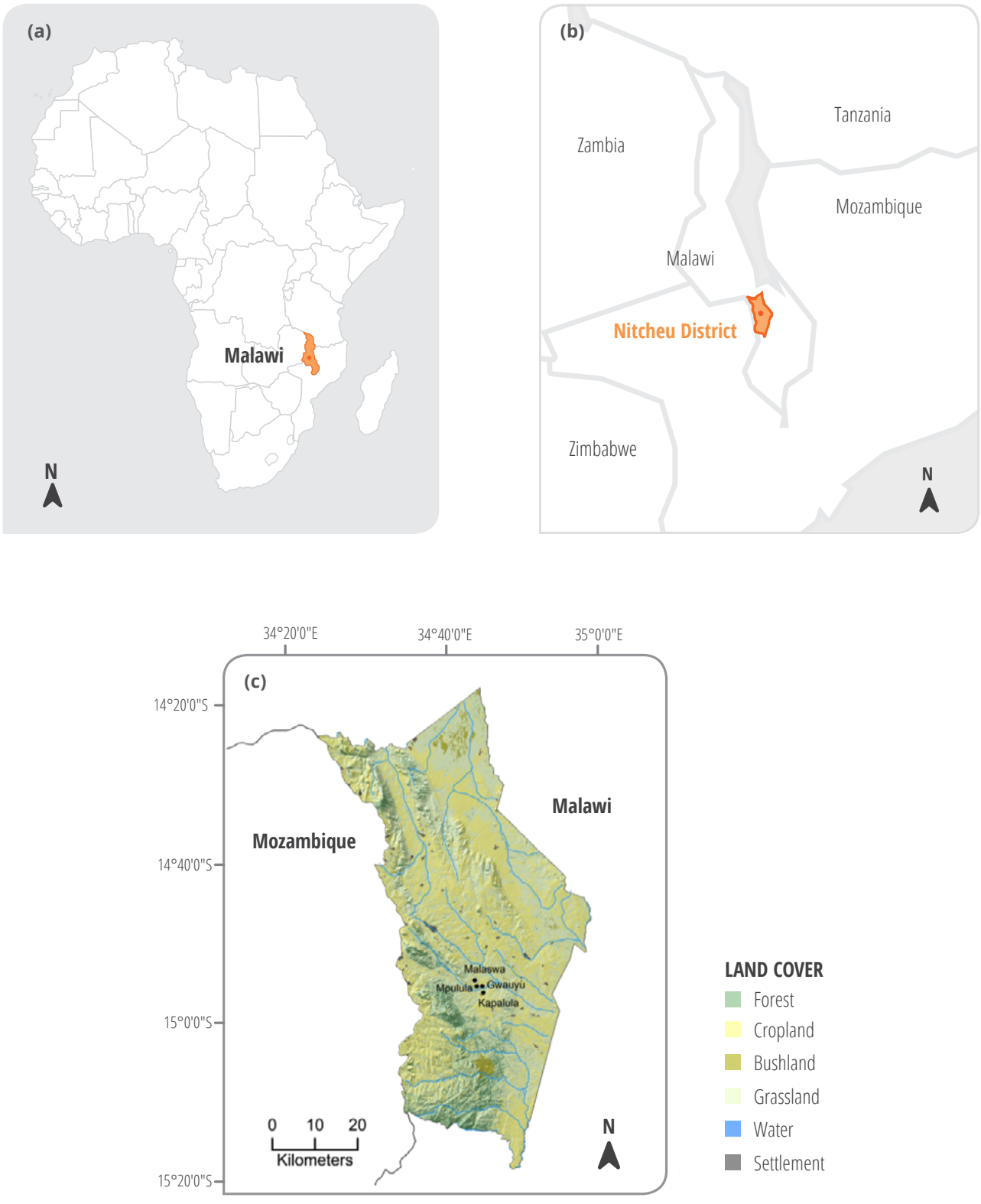


Figure 3 Location of the study in Africa (a) and in Malawi (b), with Ntcheu District shaded in orange and the site within Ntcheu District marked with an orange dot. The four focus villages are shown within Ntcheu District (c).
Source: J. Cordingley (CIAT), based on land cover data for 2010 obtained from GLC30.

charcoal and fuel wood harvesting and unsustainable agricultural methods. The major underlying drivers are population growth, poverty, and the lack of alternative energy sources [16]. Within the district, the project focuses on the catchment of the Rivirivi River, which included four focus villages in the traditional authorities of Phambala, Champiti and Kwataine, namely Malaswa, Mpulula, Gwauyu, and Kapalula.

Land management: context and stakeholder perceptions of problems

The stakeholder analysis began with a presentation of findings gathered from interviews and a stakeholder workshop. Stakeholders were then identified and categorised, and lastly, the stakeholder networks were examined. As in Tanzania, semi-structured interviews were carried out with land management stakeholders other than farmers to complement research methods carried out with land users. Unlike in Tanzania, the interviews were not confined to the district level, but also included national stakeholders as the project targeted both levels from its outset. I carried out 19 interviews in October 2014 and June 2015 with government and civil society stakeholders in Ntcheu District and in the capital, Lilongwe. The interviewees included persons from ministries, research organisations, district government, extension services, business including consultancies, (I)NGOs, and international organisations. In summary, the analysis of the interviews identified the following issues as perceived key problems of sustainable land management in Ntcheu and Malawi.

Lack of coordination and consistent policies

Many interviewees criticised a perceived lack of coordination between government structures and the existence of inconsistent policies in the area of land management. Several coordination bodies exist on the national and, less so, on the district level, but they are perceived as not being sufficiently effective. Moreover, interviewees identified a lack of connection between the national and local levels. A national government actor noted that he was not aware about issues and activities at the district level, while several district government actors bemoaned a lack of legal regulations and transmission on the side of the national government. Furthermore, the new reporting, and planning and coordination structures created in the context of Malawi's decentralisation process were bemoaned as not being (fully) functional. This is underlined by the observation of some interviewees that community needs are either not voiced or not taken up. As one result of this, the allocation of funds does not match the communities' priorities. A frequently mentioned concern was the lack of policy consistency, manifested for example, in the Farm Input Subsidy Programme (FISP). This large-scale subsidy was introduced in the 2005/2006 cropping season, attracted considerable international interest, and is subject to a broad debate around its costs, benefits, effectiveness, impacts, and alternatives (cf.[26–29]). In the context of SLM, the FISP is widely perceived to be undermining efforts for sustainable land management. Interviewees perceived that farmers do not have sufficient knowledge about fertilisers to understand their reasonable application and interplay with sustainable land management measures and organic fertiliser. As one interviewee from a consultancy put it, "The government is providing an easier, but harmful alternative to sustainable land management. As long as the subsidies are in place, we will not make any progress in SLM because people prefer applying chemical fertilizers to improve yields in the short term over applying longer term SLM measures." One interviewee perceived a lack of coordination among NGOs and suggested that SLM programmes should be better integrated with other programmes, such as disaster preparedness, to make them sustainable.

Photo: Neil Palmer/CIAT

Extension services lack quantity, quality, and resources

The weak supply of governmental extension services to land users was another frequently mentioned and uncontested issue perceived as a hindrance to the broader adoption of sustainable land management. Existing extension services are lacking in terms of their quantity (insufficient coverage of land users with extension agents; current extension worker- farmer ratios range from the recommended 1:1,500 up to 1:3,900 [30]), quality (extension agents lack knowledge), and the resources (fuel, etc.) necessary to carry out their work.

Bush fires undermine SLM attempts

Bush fires set by land users were often mentioned as undermining SLM efforts. Interviewees identified a variety of reasons for these fires: hunting, clearing fields, entertainment, envy driven by inequality, and accidental fires. The fires burn seedlings and leave the soil bare, leading to higher erosion and water run-off and undermining afforestation efforts.

Controversial approaches of SLM programmes

Interviewees described numerous approaches to supporting land users adopting SLM and implementing SLM programmes/projects. Many felt that the sheer variety of approaches was problematic, or identified specific approaches for criticism. There was extensive agreement that the SLM techniques promoted were inconsistent and interviewees saw the harmonization as the responsibility of the national government. It was felt that variations in the interpretation and execution of techniques, often in the same geographical area, "confused farmers" about how to carry out the respective technique. Controversy centred on a number of approaches – most prominently, the provision of incentives and free handouts, and the top-down implementation of certain techniques regardless of specific contexts, e.g. the promotion of conservation agriculture regardless of the suitability of the soil. Other factors also noted as hindrances to the adoption of SLM were general constraints faced by land users such as the lack of available labour, knowledge and plots of sufficient size, and the need for a quick return on the application of any technique. Several interviewees stated to fail to understand what hinders farmers from adopting SLM and, more general, to understand farmers' decisions around land use.

A workshop held with land management stakeholders from government, (I)NGOs, research and consultancies in January 2015 in Lilongwe confirmed the importance of these issues. The workshop brought together 18 stakeholders involved in SLM design and implementation across Malawi with the main aim of discussing the drivers of low adoption of SLM and the challenges these present for scaling out SLM and the development of strategies to overcome these drivers to enhance adoption. The key hindrances discussed were i) a lack of understanding of the contexts and needs of farmers, ii) economic constraints impacting on farming (i.e. crop pricing and other framing conditions), iii) the kinds and impacts of incentives provided to farmers by organisations, and iv) donor-driven approaches and a lack of coordination.

Identification and categorisation of land management stakeholders

Key stakeholders were identified through a combination of approaches including literature research, indication by researchers familiar with the setting, and indication by other stakeholders in interviews and meetings. The following lists contain current primary and secondary key stakeholders of sustainable land management in Ntcheu District and beyond. Stakeholders who affected land use in the past and whose impact has been preserved (if only partially) in the form of physical or organisational structures or residual knowledge are not considered here.

Photo: Neil Palmer/CIAT

PRIMARY STAKEHOLDERS IN NTCHEU AND AT THE NATIONAL LEVEL[1]

Land users

Farmers (partly organised in different groups and clubs)*

Government bodies and position holders

National level	Ministry of Agriculture, Irrigation and Water Development*; Ministry of Natural Resources and Environmental Affairs*; Department of Land Resources and Soil Conservation*; Department of Forestry*; Department of Irrigation*; Department of Agricultural Extension Services*; Shire River Basin Management Project*; Support for Nutritional Improvement Component programme (SNIC)*; Green Belt Initiative (GBI)*
District level	District Assembly*; District Agriculture Development Office*; District Executive Committee*; District Forest Office*; District Stakeholder Panel (DSP)*; Councillors*, District council*
Sub-district level	Area Development Committee*; Agriculture Extension Development Coordinator (AEDC)*; Agriculture Extension Development Officer (AEDO)*; Area Natural Resource Management Committee (ANRMC)*; Area Stakeholder Panel (ASP)*; Group Agricultural Committee (GAC)*; Group Village Development Committee (GVDC)*; Group Village Head(man) (GVH)*; Traditional Authority (TA)*; Village Agricultural Committee (VAC)*; Village Development Committee (VDC)*; Village Head(man) (VH)*; Village Natural Resources Management Committee (VNRMC)*; Forest Block Committee*
Other	Extension Planning Area (EPA)*

International organisations, development funds, (I)NGOs, faith-based organisations and projects

International organisations	Total Land Care (TLC)*; Lipangwe Organic Manure Demonstration Farm (LOMADEF)*; Training Support Partners (TSP); World Vision*; CARE Malawi**, Concern Universal*; Christian Aid**; Heifer International**; Catholic Relief Services (CRS)*; Land Resources Centre**; Emmanuel International**; Catholic Development Commission of Malawi (CADECOM)*; Sustainable Intensification of Maize and Legume Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA) Program*; Land Mining Recovery*; MEET Zambezi mission*; Africa Rising*; Agricultural Research and Extension Trust (ARET)*

Business (including consultancies)

National Smallholder Farmers Association of Malawi (NASFAM)* MottMcDonald*; Land o'Lakes**; Bio Energy Resources Ltd**; LTS consultants**, SMEC consultants*; Tobacco auction floors**; Limbe Leaf Tobacco Company*; Alliance One*;

SECONDARY STAKEHOLDERS

Donors

USAID; EU; JICA; World Bank; Development Fund of Norway; Norwegian Ministry of Foreign Affairs; UNDP; MCA; Irish Aid; DFID; and others

Business (including consultancies)

Radio; newspapers

Research institutions (including consultancies) and projects

International Institute for Tropical Agriculture (IITA)*; World Agroforestry Centre (ICRAF)**; International Center for Tropical Agriculture (CIAT)*; World Fish**, Lilongwe University of Agriculture and Natural Resources (LUANAR)*; Soil Health Consortium of Malawi (SoHCoM)**

International organisations, development funds, (I)NGOs, faith-based organisations and projects

Centre for Environmental Policy and Advocacy (CEPA)**; Civil Society Agriculture Network (CISANET)*; Civil Society Network on Climate Change (CISONECC)*; Landnet Malawi**

1 *Indicates that the stakeholder is active in Ntcheu and other parts of the country and is of importance at the national level. The district-level stakeholders in Ntcheu District may also operate structures in other districts.

** indicates that the stakeholder is active at the national level, but not in Ntcheu District.

Networks, relations, and influence of land management stakeholders

Before analysing the stakeholder networks in detail, this section provides an overview of the political context and recent changes in the institutional landscape of agriculture. Generally, the relations between SLM stakeholders in rural Malawi must be understood in the context of an ongoing decentralisation process that is facing numerous structural, political, operational, capacity-related and budgetary challenges and constraints (cf. [31], [32], [33], [34], [35]). Within the agricultural sector, the coordinating role of the Ministry of Agriculture, Irrigation and Water Development (MAIWD) has been strengthened. Below the level of Malawi's eight Agricultural Development Divisions (ADD), District Agricultural Development Offices (DADO) have been created to strengthen the role of the districts in planning and service delivery. Beneath the DADO, Extension Planning Areas (EPA) and sections form the lower levels of the ministry's structure and are supposed to be the main service providers to farmers.

In line with the decentralisation policy, the government adopted a new agricultural extension policy in the early 2000s. While Malawi's agricultural sector enjoyed adequate financing in the 1970s and 1980s, the following years have been characterised by dwindling resources and extension staff-to-farmer ratios [30]. While the target for effective extension services is set at 1:750 [36], the current ratios are as low as 1:1,500 to 1:3,900 [30]. With extension workers unable to effectively assist farmers under these circumstances, the government has promoted pluralistic and demand-driven agricultural extension services involving NGOs and the private sector [37]. Implementing this policy has proved difficult, and the state of agricultural extension has been described as one of crisis [30].

Newly created stakeholder fora at different levels (district, area, village) have been tasked with coordinating planning and service provision [38]. However, the coordination of stakeholders is often described as insufficient or failing, mostly due to a lack of funding and the reluctance of NGOs to seriously participate. Recentralisation tendencies at the national level have also stalled coordination efforts (cf. [38]). Within the decentralisation process, the role of Traditional Authorities (TAs) was to have been diminished in favour of elected officials. However, some reports find that, as governmental agricultural policy falls short of delivering nationwide quality extension, the role of TAs as alternative actors for the promotion of agricultural development has been strengthened in some districts (cf. [38], [39]).

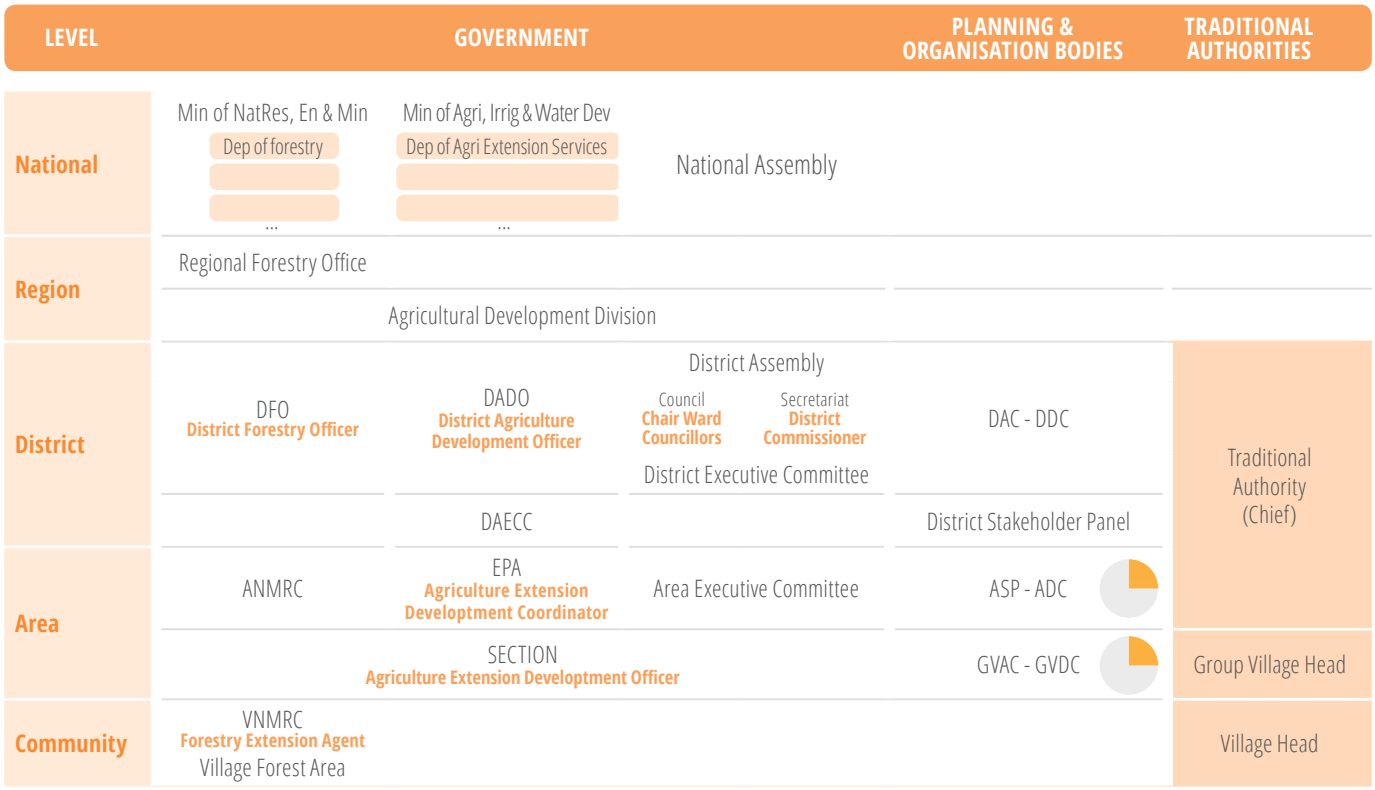


Figure 4 Overview of official governance structures for land management in Malawi.
Source: J. Rosendahl and E. Rohde (IASS).

We elaborated network maps in Ntcheu District in October 2015 with small groups of participants (approximately six persons) at the sub-district level in the research area. Eight NetMaps were elaborated: two at Traditional Authority (TA) level and six at Group Village Headman (GVH) level. As was the case in Lushoto, Tanzania, we looked at three specific relations and flows: i) information and knowledge, ii) material and/or financial support, and iii) orders. At the TA level, the participants included the TA, Councillor, Agricultural Extension Development Coordinator (AEDC), the chairperson of the Area Development Committee (ADC), the chairperson of the Area Stakeholder Panel (ASP), and one representative from an NGO active in the respective area. At GVH level, the participants were the GVH, the chair of the Group Agricultural Committee (GAC), one lead farmer, one female farmer and one male farmer. The data collection and analysis process was as described above.

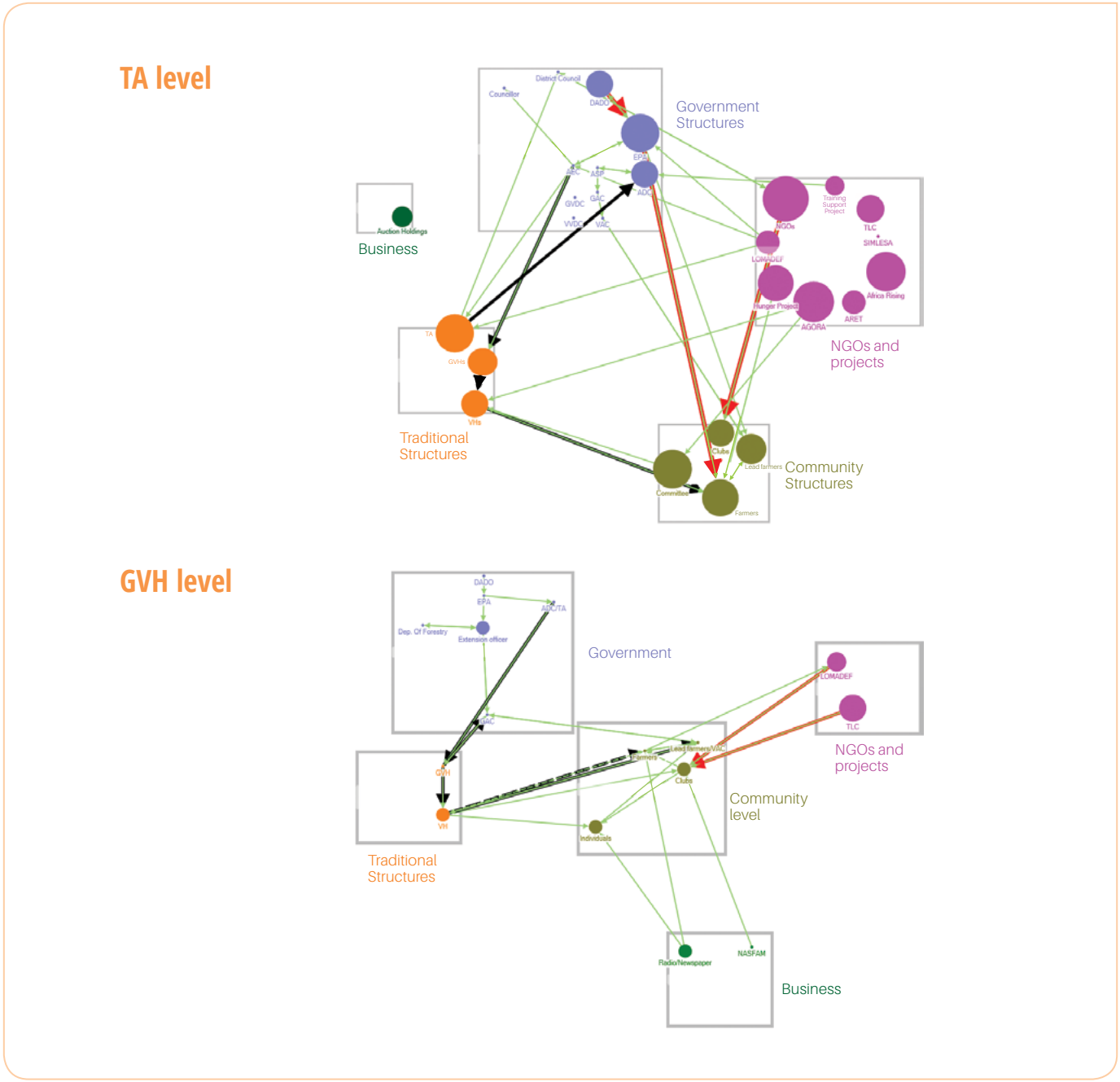


Figure 5 Two examples of a network graph from Ntcheu District at TA level (TA Champiti; top) and GVH level (GVH James; bottom). Green arrows depict information flows; red arrows depict flows of material or financial support, and black arrows represent command flows.
Source: J. Rosendahl (IASS), created with NodeXL Pro [20].

At TA level, participants identified around 30 SLM stakeholders, while participants at the GVH level identified 15–22 stakeholders. The majority of these are government actors (including planning bodies created by the government). Two to five NGOs are working in the different GVHs. The members of the community organise themselves in four to seven groups of actors that take different roles as facilitators and implementers.

The synthesis analysis of the eight NetMaps yielded the following key findings:

✓ Differing network density and information as the predominant type of links

The network density varies substantially both at TA and GVH level, but in all networks, information linkages are by far predominant compared to support and order relations. The number of orders and support relations in the networks varies substantially with 1 to 22 command links and 1 to 9 support links. This shows that SLM networks in some TAs/GVHs are well established while they are sparse in others. Orders and support are thus unequally distributed across the TAs and GVHs.

✓ Disparities in support provision by NGOs

Comparing the GVHs in terms of support, GVH James (in TA Phambala) seems to receive the least support, with two NGOs providing support to one actor (group) each, while GVH Pheza (in TA Champiti) and GVH Kasale (in TA Kwataine) seem to be comparatively well endowed with four to five NGOs and nine support links.

✓ Branched and disconnected networks oriented towards the community level

The grouping of the relevant actors was conducted to reflect common formal characteristics (organisational form, mandate, etc.), characteristic patterns of interaction with specific actors, and the predominant type of linkages within networks. The groups are i) government actors, ii) traditional authorities/structures, iii) NGOs, projects and faith-based organisations, iv) business actors, and v) SLM implementers at the community level. Four different actor groups, namely the government actors, traditional leaders, NGOs/projects and business actors, have in common that their networks are mainly oriented towards the community level, i.e. primarily consist of links of provision to the community level. These attempts to influence land management are mostly realised through the provision of information and support and – in the case of government actors and traditional authorities – by giving orders. The interaction pattern of those four actor groups is characterised by a predominance of primarily one-way links towards certain community-level actors; this is reflected in the participants' perception of these networks as top-down structures.

The government is the primary source of information to community-level actors, but there are no substantial options for communities to give feedback or raise issues of concern. The feedback loops, which were to have been implemented within formal structures (including various planning and coordination bodies), do not exist in practice or are not used because the information chains are so long that they would be ineffective. In some instances, information is diffused by intermediary actors (especially at VAC) or is not relayed with its original weight.

In the case of support, the largest share of support is directed by NGOs to clubs at community level. Although participants appreciated this support and described it as vital, they were unhappy with the top-down approach. Some participants were critical of NGOs for failing to inquire about farmers' needs before or during projects. Instead, the participants claimed, they brought untested technologies to communities, and only at certain times of the year, and failed to provide adequate information or follow-up after delivering materials.

Orders mainly stem from traditional leaders and are oriented towards the community level. However, the decline in the authority of traditional leaders is often coupled with a lack of interest in and action on SLM issues among traditional leaders. As a result, orders dissipate before reaching the community level and/or are disregarded by community members.

✓ As the primary source of material support, NGOs are the most influential actors

NGOs are clearly seen as the most influential actors (specific NGOs mentioned or as a general actor group). As the recipients of information and support from NGOs, clubs, and actors of the government's support and extension system (DADO, EPA, AEDO) were also mentioned (less often) among the three most influential actors.

A comparison of information, support, and command as a source of influence on (S)LM shows that support has the highest impact. This is not surprising, given the resource constraints with which land users must grapple. Participants often stated that land users are primarily in need of financial and material support that is accompanied by advice. NGOs are the most important sources of support, followed by the government. Although some criticised their mode of operation, most participants emphasised their appreciation that NGOs do not work through government or traditional

structures. Participants assume that if this were the case, the largest share of support would get "lost" in the network and not reach them. Specific examples show that small local NGOs can also play an important role and are sometimes perceived as being more influential than larger-scale NGOs/projects, such as the Shire Basin River Management Project. The data gives rise to the assumption that this influence is grounded in the longstanding supply of support by these actors, their local roots, and strong connections within communities rather than the volume of operations. Overall, however, participants assessed the LM network as unsustainable due to its reliance on erratic support flows from external NGOs.

✓ Negligible influence of business actors

Business actors play a rather negligible role in sustainable land management in Ntcheu. The number of business actors in most locations is limited to one or two – mainly NASFAM and tobacco companies – and these are consistently perceived as having no or little influence. Interestingly, the media (radio and newspaper) were mentioned several times as having some influence, especially on individual land users using them as a source of knowledge and inspiration for land management techniques.

✓ Traditional leaders occupy a central position in (and largely restricted to) the command network, but are poorly connected and have little influence

Traditional leaders are overall poorly connected across the networks. Even in the few cases where traditional leaders have better connections, they have little influence on land management issues. This reflects the decline in their authority and a lack of interest in SLM issues on the part of some leaders. However, traditional leaders often occupy a central position within the network, i.e. they are generally the actor group with the most links to other actor groups and are, therefore, well placed to bridge communication gaps and play a greater role in SLM implementation. In some cases, their inactivity seems to stem from a lack of capacity.

✓ Government valued for permanence of services (as opposed to NGOs)

Within the government, subordinated structures of both the Department of Forestry and the Department for Agricultural Extension exert influence on land management. The extent to which they de facto coordinate LM activities is unclear. Generally, participants appreciated government actors for the support that they provide. While these support flows may be less than those provided by NGOs in absolute terms, they are appreciated for their continuity. Unlike those of NGOs, government services are at least generally permanently available for the communities, explicitly justifying the influence ascribed to government actors.

✓ Coordination of NGOs with government as stipulated by extension policy largely not put into practice

Government actors, traditional leaders, and community level actors all tend to interact largely with other actors from within their group. Government actors mostly interact among themselves and to a lesser degree with traditional leaders integrated in the lower governance structures and community-level actors. Business and NGO/project actors are in turn characterised by almost solely interacting directly with selected persons or groups at the community level and have no or very few linkages to other actors. This lack of links is especially relevant in the case of the relation of NGOs and the government actors as the two main service providers for the same communities. The extension policy states that NGOs should inform the government and get consent before starting operations in order to coordinate the activities of different NGOs across the district and to allow for their even spatial distribution and avoid duplications.

Photo: Georgina Smith/CIAT

In Ntcheu, collaboration with the governmental extension service seems to be rather poor at present. This is obvious given the lack of interaction of NGOs with the government actors, including the AEDO, and the uneven coverage of NGO's services in the area. Above that, NGOs also largely do not integrate traditional leaders in their operations. Participants in some cases described the relationship between the government extension service and the NGOs as being characterised by competition rather than collaboration. This might have positive effects on AEDO's performance in the communities, but is not in line with the intended effects. Many participants also commented that, if the adoption of SLM was to be improved, the different actors would need to collaborate better and work hand in hand. The conventional mode of operation of NGOs, with their inherent pressure to deliver outputs in the short term, certainly contributes to this situation. However, it needs to be taken into account that this is the situation as perceived at the TA and GVH level. The extent and effectiveness of the work of the NGO network at district level and the DADO as well as their perceptions were not covered in this research and could be the subject of complementary investigation.

✓ **Complexity of the formal government network and lower structures not equipped to perform**

A comparison of the formal network structure of the government and its performance suggests that the sheer number of actors involved and its complexity tend to undermine the formal system's responsiveness and effectiveness. It is particularly questionable whether the recently established coordination and planning system at the lower governance levels is viable and fit for purpose (committees and stakeholder panels at area, group village, and village level). These bodies are poorly connected, and if they are involved at all, then primarily to information networks (they are largely absent from the support and command network). The information chains linking higher government to communities within these networks appear to be too long and they are underutilised as a result. When they are used, information tends to get "lost" in the chain. These chains are even less suited to the purpose of enabling community-level actors to provide bottom-up feedback. These structures are frequently circumvented, and their low influence and lack of impact on SLM are strikingly evident. This is due not only to their recent establishment, but also to an absence of training opportunities for members and a severe lack of funds. It is an open question whether strengthening these structures would provide a meaningful and feasible entry point for the improved implementation of SLM. This must be considered within the broader political context and power constellations that question the genuine intention to empower and meaningfully involve the lower levels to date.

Photo: Georgina Smith/CIAT

Summary and use of the research findings

The *AGORA* project explores the contexts and conditions hindering or fostering land users' adoption of SLM techniques in those two sites.

In rural Tanzania, SLM stakeholders act, among others, in the context of decentralization policies and the resulting development planning procedures and budget structures for Local Government Authorities (LGAs). In spite of official commitments to devolve power to LGAs and to bottom-up planning processes for development plans, the central government still largely controls LGAs through budgets, and LGAs have limited room for manoeuvre to respond to local priorities. Support for sustainable land management predominantly stems from non-governmental stakeholders and is not coordinated at the district level.

In Lushoto, interviewees saw farmers in a situation of increased pressure on land, with a degrading resource base, resource constraints, and adverse market environments. On top of this, the district government also faces a severe lack of funds and does not carry out development plans as foreseen. The analysis of six social network maps on the district and village level revealed the following key network characteristics and relations of different stakeholders and their influence on land management: the extent and density of the networks and the levels of support vary substantially among the four examined villages. The networks in Malindi, Tema, and Sunga are limited and not dense while the network in Mwangoi is large and dense with far more support relations and NGOs/projects present. Generally, NGOs/projects are perceived to be the most influential actors, while the influence of business actors is considered negligible. Despite government directives and a strong knowledge base/awareness of SLM, change is unlikely to be effected unless sufficient support is provided to land users. Governmental and non-governmental stakeholders agreed that there is a lack of stakeholder coordination at the district level. In conjunction with the absence of an institutional memory due to a lack of project documentation and governmental follow-up at the level of the district government, this results in a duplication of project activities in time and space and an unequal coverage of villages by projects. Furthermore, coordination could also allow taking into consideration the differing and interdependent resource use patterns and their effects within the landscape, e.g. the consumption of water by plantation of fast-growing trees and its effect on other parts of the landscape, to plan for a more sustainable land management at this broader landscape level.

In rural Malawi, the relations between SLM stakeholders must generally be understood in the context of an incomplete and contested decentralisation process and the current agricultural extension policy, with its focus on demand orientation and pluralistic service provision. These two policies were developed in parallel and have altered both farmers' access to extension services and the institutional landscape for land management stakeholders. This new institutional context requires cooperation between multiple extension service

providers and features a set of newly created stakeholder fora at different levels for the coordination of planning and service provision. The implementation of both policies has been characterised as insufficient or failing, and the findings of the present stakeholder analysis substantiate this in several ways.

In Ntcheu, interviews and a stakeholder workshop revealed the following key problems for SLM as perceived by stakeholders other than farmers: i) a lack of coordination of stakeholders and government levels and a lack of consistent policies such as the fertilizer subsidies (FISP) being perceived to undermine attempts for SLM; ii) deficits in the supply of extension services in terms of their quantity, quality, and resources; iii) inconsistency in the promotion of SLM techniques by programmes that lead to uncertainties of farmers on how to carry out SLM techniques, together with the use of incentives as well as donor-driven and top-down approaches to the implementation of SLM projects and programmes; iv) a lack of understanding on the part of service providers of the contexts and needs of farmers, v) economic constraints that impact on farming (i.e. crop pricing and other framing conditions); and vi) bush fires set by farmers undermining SLM attempts by leaving the soil prone to erosion and burning saplings.

The analysis of eight social network maps with the NetMap method elaborated on the sub-district level revealed that participants perceived all of the networks as being branched, disconnected, and oriented towards the community level. The networks of government actors, traditional authorities, NGOs/projects, and business actors primarily consist of links of provision to the community level, and their interaction pattern is characterised by a predominance of primarily one-way links towards certain community-level actors. This is reflected in the participants' perception of these networks as top-down structures. NGOs are perceived as the most influential actors due to their position as the primary source of material support, while business actors are of negligible influence. Government actors, on the other hand, are perceived to be less influential than NGOs, but are valued for the continuity of their services (as opposed to NGOs). Overall, traditional leaders were poorly connected in the networks. This relates to the decline in their authority and a lack of interest in SLM issues on the part of some leaders. However, traditional leaders often occupy a central position in the network, i.e. generally are the actor group with most links to other actor groups and are therefore well placed to bridge communication gaps and play a greater role in SLM implementation. Taken together, these findings show that the coordination of NGOs and government bodies stipulated in extension policy is generally not sufficiently put into practice and that as a result farmers are unable to communicate their demands effectively. Also, the complex (and formally decentralised) structures for coordination and planning in Ntcheu are neither fulfilling their purpose nor are they equipped to perform. Participants assessed the networks as unsustainable due to their reliance on erratic support flows from external NGOs.

Apart from their significance for understanding the stakeholder networks for land management in Lushoto and Ntcheu, many of these findings have broader relevance for the study of local governance, decentralisation and agricultural policies in Tanzania, Malawi, and beyond. With a view to the land management contexts in both sites, the analysis sheds light on the particular challenges and shortcomings of support necessary for successful sustainable land management by smallholders. Rauch [40] acknowledges that the lack of access to the services necessary for successful adoption (advice, financing, inputs, outlet markets) represents a major obstacle to the dissemination and sustained application of SLM techniques, particularly for resource-poor rural smallholder farmers. He argues for a service systems perspective that looks at access to the different agricultural services. The stakeholder analysis supports this perspective and shows that, and how most of these challenges and weaknesses hinder sustainable land management in Lushoto and Ntcheu, for example, the limited capacity of service providers; the resource constraints, risks and delayed benefits associated with SLM by land users; or the unadapted forms of service provision such as a top-down approach, lack of coordination and inappropriate incentives.

Potentials and entry points for improvements in both Lushoto and Ntcheu are rooted in an existing knowledge base relating to SLM and are conceivable even in the difficult and constrained contexts. Some of the findings triggered and guided further research in the project, such as the further investigation of the local development planning process and budget allocation in Tanzania. Above that, the findings were presented to stakeholders and used to initiate a deeper stakeholder engagement process that aims to enhance sustainable land management in the two regions. In Tanzania, the *AGORA* project on the basis of this analysis has been initiating a dialogue process with local decision-makers and stakeholders to discuss the lack of coordination identified by them and to promote the elaboration of a coordination strategy.

In September 2016, the process led to the foundation of a forum for the coordination of stakeholders by the name of "Forum for Land Management and Environmental

Conservation in Lushoto District". Approximately 50 stakeholders from government, NGOs and business not only jointly founded the forum, but also elected a management committee and established a plan of activities. The forum is also financially supported by Lushoto District Council and activities are ongoing at the time of writing.

In Malawi, the project partner Total Land Care (TLC) is set to adopt the *AGORA's* collaborative approach to developing more context-specific analyses and solutions for their SLM projects. For example, field work showed that participatory resource mapping yields a better picture of how communities access natural resources in their vicinities. A training programme for TLC staff should enable the organisation to design activities that are better suited to the contexts of specific communities and landscapes. This approach is expected to spread to other organisations.

Photo: S. Kilungu/CCAFS

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