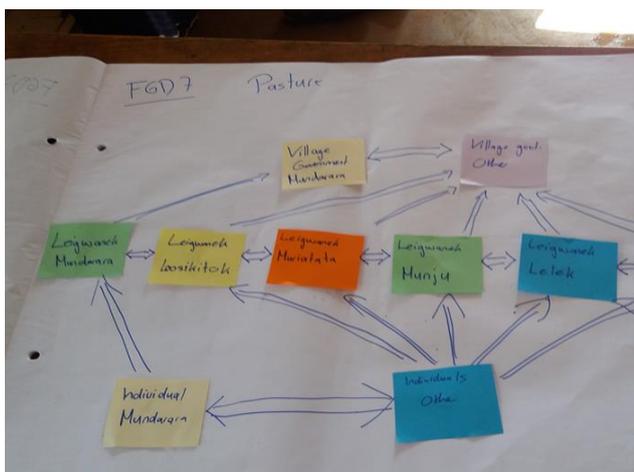


Gender, Land and Mining in Pastoralist Tanzania

WOLTS Research Report No.2
June 2018

Daley, E., Lanz, K., Mhinda, A., Driscoll, Z., Ndakaru, J.,
Grabham, J., Kereri, E. and Mbise, E.



Citation: E. Daley, K. Lanz, A. Mhinda, Z. Driscoll, J. Ndakaru, J. Grabham, E. Kereri & E. Mbise, 2018,
Gender, Land and Mining in Pastoralist Tanzania, UK: Mokoro Ltd & HakiMadini

Text © WOLTS Team. All photo credits © WOLTS Team.

Acknowledgements

This report is the result of the combined efforts of the WOLTS Tanzania Team. As well as the report authors, the team has variously included: Moges Asefaha, R., Ntiruka, D., Kessy, S., Eliphasy, B., Kivugo, F., Melzer, C., Fabian, F. and Somi, E. We have also benefited from comments and editorial support from: Lister, P., Turner, S. and Tanner, C. We thank them all for their contributions to our research.

We acknowledge and thank all those whom we interviewed and shared discussions with during our research in Tanzania between February 2016 and November 2017 – from the Government of Tanzania, civil society and international organisations, the private sector, and all the communities we visited. We deeply appreciate their support for our work, their willingness to participate and their invaluable contributions to helping us learn about gender, land, pastoralism and mining in Tanzania today.

We are especially grateful for the engagement and hospitality of the people of Mundarara and Naisinyai, our two study communities that feature in this report.

Asante sana!

Contents

Acknowledgements.....	iii
List of Abbreviations and Acronyms.....	ix
Glossary of Kiswahili and Kimaasai Terms.....	xi
Introduction	1
National Context.....	2
Historical context.....	3
Political and economic context	5
The legal framework around land	8
Gender equality and vulnerable groups	11
Policy and legal framework.....	11
Gender equality indicators and divisions of labour	13
Governance framework of the mining sector	15
Artisanal and small-scale mining.....	18
Impacts of large- and small-scale mining.....	19
Changing tenure and management of pastureland	20
Community Case Studies	23
Methodology	25
Mundarara Village	26
Location and population.....	26
Mundarara’s five vitongoji	28
Recent history of economic and population change	29
Livelihoods and gender relations	30
Marriage and family situation.....	30
Education	31
Relative wealth and poverty	32
Housing	32
Possessions	33
Electricity, water and sanitation	34
Transportation	34
Main livelihoods.....	35
Herding	37
Crop farming.....	40
Livelihood changes	41
Gender relations	42
Mining in Mundarara.....	45
Mining companies.....	46
Mundarara Ruby Mining Company.....	46
Paradiso Minerals	48
Mundarara Village Ruby Mine	49
Contributions of mining to local livelihoods	49
Jobs	50
Rubble sorting and mineral trading.....	50
Effects of mining	52

Land allocation processes.....	53
Wildlife and the Village Land Use Plan	53
Land governance and perceptions about the law.....	54
Access to land for settlements and farms.....	56
Land disputes	60
Women’s access to land through statutory processes	61
Pastureland management	63
Access to grazing areas and changing movement patterns.....	64
Conclusions from Mundarara	68
Naisinyai Village.....	70
Location and population.....	70
Naisinyai’s three vitongoji.....	72
Recent history of economic and population change	72
Livelihoods and gender relations	74
Marriage and family situation	74
Education	76
Relative wealth and poverty	77
Housing	77
Possessions	78
Electricity, water and sanitation	78
Transportation	79
Main livelihoods.....	80
Herding	83
Crop farming.....	85
Gender relations	88
Mining in Naisinyai	90
Tanzanite One and Tanzanite Africa	91
Small-scale miners	93
Contributions of mining to local livelihoods	94
Jobs	94
Rubble sorting and mineral trading.....	95
Effects of mining	96
Environmental degradation	97
Land allocation processes.....	99
Land governance and perceptions about the law.....	99
Access to land for settlements and farms.....	100
Land disputes	103
Women’s access to land through statutory processes	105
Pastureland management	105
Access to grazing areas and changing movement patterns.....	106
Conclusions from Naisinyai	110
Overall Conclusions.....	112
Annex 1. The WOLTS Project in Tanzania	114
Annex 2. Baseline Methodology	115
Annex 3. Participatory Fieldwork Methodology	119

Annex 4. Key Stakeholder Interviews.....	122
Annex 5. Bibliography of References and Sources	126

Tables

Table 1. Key characteristics of the study communities	24
Table 2. Number of households in each kitongoji, Mundarara.....	27
Table 3. Age distribution of people living in 57 randomly sampled Mundarara households	27
Table 4. Number of wives in polygamous marriages, Mundarara	31
Table 5. Number of sources of cash income among all surveyed households, Mundarara.....	35
Table 6. Top source of cash income for all surveyed households, Mundarara	36
Table 7. Cash income from herding among randomly sampled households, Mundarara	38
Table 8. Number and percentage of randomly sampled households keeping animals, Mundarara	39
Table 9. Types and numbers of mining licences, Longido district.....	45
Table 10. Details of mining licences in Mundarara	46
Table 11. Perceptions about the local environment by gender of respondent, Mundarara	54
Table 12. Perceptions about Tanzanian land laws by gender of respondent, Mundarara	55
Table 13. House-plot ownership among randomly sampled households, Mundarara	57
Table 14. Ownership status of main house-plots occupied by all surveyed households, Mundarara	58
Table 15. Average amount of non-residential land (ha) held by randomly sampled households, Mundarara	58
Table 16. Perceptions about local natural resource disputes by gender of respondent, Mundarara	60
Table 17. Perceptions about pastoralism and access to resources by gender of respondent, Mundarara.....	63
Table 18. Number of households in each kitongoji, Naisinyai	71
Table 19. Age distribution of people living in 103 randomly sampled Naisinyai households	71
Table 20. Number of wives in polygamous marriages, Naisinyai	75
Table 21. Number and percentage of randomly sampled households using wells, Naisinyai	79
Table 22. Number of sources of cash income among all surveyed households, Naisinyai	80
Table 23. Top source of cash income for all surveyed households, Naisinyai.....	81
Table 24. Cash income from herding among randomly sampled households, Naisinyai.....	83
Table 25. Number and percentage of randomly sampled households keeping animals, Naisinyai.....	84
Table 26. Average area under cultivation (ha) by randomly sampled crop farming households, Naisinyai	86
Table 27. Gender divisions in agricultural tasks among randomly sampled households, Naisinyai	87
Table 28. Perceptions about the local environment by gender of respondent, Naisinyai.....	98
Table 29. Perceptions about Tanzanian land laws by gender of respondent, Naisinyai	100
Table 30. House-plot ownership among randomly sampled households, Naisinyai.....	101
Table 31. Ownership status of main house-plots occupied by all surveyed households, Naisinyai.....	102
Table 32. Land and property disputes between August 2015 and August 2016, Naisinyai	104
Table 33. Perceptions about local natural resource disputes by gender of respondent, Naisinyai.....	104
Table 34. Perceptions about pastoralism and access to resources by gender of respondent, Naisinyai.....	106

Figures

Figure 1. Age of household head when they moved to Mundarara.....	29
Figure 2. Marriage status of female- (left) and male- (right) headed households, Mundarara	30
Figure 3. Highest education level of adult females (left) and adult males (right) in Mundarara households	32

Figure 4. Percentage of female- and male-headed households with different wall materials, Mundarara	33
Figure 5. Percentage of female- and male-headed households with different roof materials, Mundarara	33
Figure 6. Percentage of female- and male-headed households with different possessions, Mundarara	33
Figure 7. Percentage of female- and male-headed households with different modes of transport, Mundarara	35
Figure 8. Use of livestock and other animals by all surveyed households, Mundarara	38
Figure 9. Reported effects of mining on randomly sampled households, Mundarara.....	53
Figure 10. Reported effects of protected wildlife areas on randomly sampled households, Mundarara	54
Figure 11. Means of acquisition of non-residential land by randomly sampled households, Mundarara	59
Figure 12. Grazing patterns in female- (left) and male- (right) headed households, Mundarara	65
Figure 13. Main means of access to grazing land by all surveyed household, Mundarara	66
Figure 14. Age of household head when they moved to Naisinyai	74
Figure 15. Marriage status of female- (left) and male- (right) headed households, Naisinyai.....	74
Figure 16. Highest education level of adult females (left) and adult males (right) in Naisinyai households	76
Figure 17. Percentage of female- and male-headed households with different wall materials, Naisinyai	77
Figure 18. Percentage of female- and male-headed households with different roof materials, Naisinyai.....	77
Figure 19. Percentage of female- and male-headed households with different possessions, Naisinyai	78
Figure 20. Percentage of female- and male-headed households with different modes of transport, Naisinyai	79
Figure 21. Use of livestock and other animals by all surveyed households, Naisinyai	84
Figure 22. Number of households growing different crops in each kitongoji in Naisinyai.....	86
Figure 23. Use of agricultural crops by all surveyed households, Naisinyai	87
Figure 24. Reported effects of mining on randomly sampled households, Naisinyai	97
Figure 25. Means of acquisition of non-residential land by randomly sampled households, Naisinyai	103
Figure 26. Grazing patterns in female- (left) and male- (right) headed households, Naisinyai.....	107
Figure 27. Main means of access to grazing land by all surveyed households, Naisinyai	108

Maps

Map 1. Physical and topographical map of Tanzania	2
Map 2. Tanzania administrative map showing locations of Longido and Simanjiro districts	23
Map 3. Location of Mundarara within Longido	26
Map 4. Location of Naisinyai within Simanjiro	70

List of Abbreviations and Acronyms

Acronym	Definition
ACDO	Assistant Community Development Officer
AfDB	African Development Bank
ASM	Artisanal and small-scale mining
AU	African Union
BEST	Business Environment Strengthening Programme
BI	Biographic interview
CCM	Chama Cha Mapinduzi (Party of the Revolution)
CCRO	Certificate of Customary Rights of Occupancy
CIA	Central Intelligence Agency of the United States of America
CORDS	Community Research and Development Services
CSO	Civil society organisation
CSR	Corporate social responsibility
CVL	Certificate of Village Land
Danida	Danish Agency for International Development
DAS	District Administrative Secretary
DC	District Commissioner
DCDO	District Community Development Officer
DED	District Executive Director
DFID	UK Department for International Development
DLDO	District Land Development Officer
EARC	East Africa Royal Commission
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign direct investment
FGC	Female genital cutting
FGD	Focus group discussion
FHH	Female-headed households
GDP	Gross domestic product
HRW	Human Rights Watch
IFAD	International Fund for Agricultural Development
ILC	International Land Coalition
LARRRI	Land Rights Research and Resources Institute (HakiArdhi)
LEAT	Lawyers' Environmental Action Team
LSLAs	Large-scale land acquisitions
LTSP	Land Tenure Support Programme
MAST	Mobile Application to Secure Tenure
MCA	Mirerani Controlled Area
MDA	Mining Development Agreement
MDG	Millennium Development Goal
MEM	Ministry of Energy and Minerals
MHH	Male-headed households
ML	Mining Licence
MLHSD	Ministry of Lands, Housing and Human Settlements Development
MP	Member of Parliament
MPMC	Mundarara Ruby Mining Company

NAFCO	National Food Corporation
NARCO	National Ranching Company
NDC	National Development Corporation
NGO	Non-governmental organisation
NLUPC	National Land Use Planning Commission
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
PAICODEO	Parakuiyo Pastoralists Indigenous Community Development Organisation
PCC	People Centered Conservation
PINGO's Forum	Pastoralists Indigenous Non Governmental Organization's Forum
PL	Prospecting Licence
PML	Primary Mining Licence
PWC	Pastoral Women's Council
RMO	Residential Mining Officer
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SDGs	Sustainable Development Goals, or Global Goals
SID	Society for International Development
Sida	Swedish Agency for International Development
SML	Special Mining Licence
SRMP	Sustainable Rangelands Management Programme
STAMICO	State Mining Corporation
TANU	Tanganyika African National Union
TAWLA	Tanzania Women Lawyers Association
TGI	Tanzania Gemstone Industries
TIC	Tanzania Investment Centre
TNBS	Tanzania National Bureau of Statistics
TNRF	Tanzania Natural Resource Forum
TSh	Tanzanian Shilling
UCRT	Ujamaa Community Resource Team
UK	United Kingdom of Great Britain and Northern Ireland
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Programme
UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
UPE	Universal primary education
URT	United Republic of Tanzania
USA	United States of America
USAID	United States Agency for International Development
USD	United States Dollar
USDS	United States Department of State
VEO	Village Executive Officer
VGGTs	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security
VLUP	Village Land Use Plan
WEF	World Economic Forum
WFT	Women Fund Tanzania
WLAC	Women's Legal Aid Centre
WMA	Wildlife Management Area
WOLTS	Women's Land Tenure Security Project

Glossary of Kiswahili and Kimaasai Terms

Kiswahili term	Definition
Balozi wa Nyumba Kumi	'ten cell leader', a leader of ten houses containing members of the CCM party
Baraza la Ardhi	Village Land Council
kata	ward, an administrative sub-division of a division (tarafa)
kijiji (pl. vijiji)	village, an administrative sub-division of a rural ward (kata)
kitongoji (pl. vitongoji)	administrative sub-division of a village (kijiji), usually described as a hamlet in English
mkoa (pl. mikoa)	region
mtaa (pl. mitaa)	street, an administrative sub-division of an urban ward (kata)
tarafa	division, an administrative sub-division of a district (wilaya)
ujamaa	'familyhood', the concept behind Tanzanian socialism under the late President Nyerere
wilaya	district, an administrative sub-division of a region (mkoa)
Kimaasai term	Definition
boma	large compound containing multiple households and livestock grazing areas, all enclosed by a fence of thick and thorny bushes
Ilaigwanak	traditional Maasai Council
Legwanak	Maasai Council members
Moran	older boys and young unmarried men, an age-set of warriors

Introduction

Mokoro's practical and action-oriented long-term strategic research project, the Women's Land Tenure Security Project (WOLTS), is piloting its methodology through a 'Study on the threats to women's land tenure security in Mongolia and Tanzania'. Working with our NGO/CSO partners – HakiMadini in Tanzania and People Centered Conservation (PCC) in Mongolia – we have been investigating the state of women's land tenure security in pastoral areas affected by mining investments, through both participatory qualitative and quantitative research, to identify the main threats to the land rights of women and vulnerable groups. The WOLTS project's aim is to assess possible means to improve gender equity in land tenure governance and secure the land rights of vulnerable people within communities, as well as to support communities to withstand threats to their land and natural resources.

To date there have been limited studies combining analysis of gender, land, pastoralism and mining – whether globally or specific to either Tanzania or Mongolia. At the same time, the topic of land tenure security is now higher up the international development policy agenda than it has ever been. Widespread attention focuses on threats to community land rights and the livelihoods and food security of rural people worldwide, with specific concerns arising over both internal and external threats to people's land tenure security that are linked to poor land governance, unclear rights and large-scale land acquisitions (LSLAs).

Research and literature on land tenure security and LSLAs has tended to be biased towards African countries, agricultural investments and impacts on small-scale farming – even though land tenure security is equally affected in other regions and livelihood systems, such as pastoral, forest- or fisheries-based systems, and by non-agricultural investments, such as those in mining/extractives, forestry/timber and tourism. Likewise, even though gender issues are now less peripheral in the research and literature on LSLAs than they have been, the internal socio-political, class and gendered dynamics of land tenure security within communities, and the gender and social equity impacts of externally-driven LSLAs, are still not fully understood. This is particularly the case for pastoralist communities in mineral-rich areas. Furthermore, a core tension remains within debates on community land rights and land tenure security over the subject of women's rights. This tension arises most profoundly on the question of how best to protect vulnerable people's land rights within communities from both internal and external threats – including the internal gender-based inequalities and discrimination that are everywhere rooted in social and cultural norms.

By focusing on the intersection of gender and land relations in different pastoralist and mining contexts, WOLTS aims to contribute to these knowledge gaps in a practical and action-oriented way. The present report shares our findings from Tanzania – a country with a long history of both nomadic herding and mineral exploitation. The report sets out the findings of our research in Tanzania during the first two years of the WOLTS pilot study. It begins by setting out the national context, based on information gathered during interviews with key stakeholders in Tanzania and during background research and literature review. (See Annex 4 for details of interviews conducted and Annex 5 for secondary sources consulted.) This is followed by a brief introduction to the two community studies that make up the core of the report. The findings analysed in the community studies derive from our fieldwork between June 2016 and February 2017, including initial field visits, a baseline survey and a participatory fieldwork phase, and they were validated during follow-up visits to both communities between June and August 2017 and a multi-stakeholder workshop in November 2017. (See Annex 1, Annex 2 and Annex 3 for details of the study methodology.) The report concludes with some comparative conclusions from our two study villages that shed light on the intersection of gender, land, pastoralism and mining in Tanzania today.

National Context

Tanzania is the largest country in the Great Lakes region and the largest of the six member states of the East African Community. It lies just south of the Equator, with a total area of 947,300 km² and 4,159 km of borders with its neighbours: Kenya and Uganda to the north, Rwanda, Burundi and the Democratic Republic of the Congo to the west, and Zambia, Malawi and Mozambique to the south; the Indian Ocean lies to the east. The country includes the islands of Zanzibar, Pemba and Mafia, as well as its vast mainland. Tanzania's land area covers 885,800 km² and 61,500 km² of its total area comprises water, including parts of lakes Victoria, Tanganyika and Nyasa along its borders (CIA 2018). Apart from its islands and the relatively narrow coastal strip, most of Tanzania lies on a plateau ranging from 900 to 1,800 metres in altitude. Approximately 80% of the country is semi-arid, with few permanent rivers, and it also contains Africa's highest mountain, the snow-capped Kilimanjaro, as well as several smaller mountain ranges (CIA 2018; Shem 2010). The climate is mainly tropical or temperate. Around 43.7% of the land area was under agricultural land uses in 2011, including 27.1% permanent pasture, 14.3% arable farmland, and 2.3% permanent crops; a further 37.3% was forest (CIA 2018). Tanzania is also rich in mineral resources and offshore natural gas; it was the fourth largest gold exporter in sub-Saharan Africa in 2015 and the 32nd largest diamond exporter in the world in 2011 (EITI 2017a; Magai & Márquez-Velázquez 2011; UNEP 2012). Mining takes place at numerous locations, with gold mining accounting for over 90% of total production and other key minerals including a wide range of precious and base metals and precious and semi-precious stones; coloured gemstones are mined extensively in Tanzania and significant uranium and coal deposits have also been discovered (EITI 2015; Magai & Márquez-Velázquez 2011; URT 2015).

Map 1. Physical and topographical map of Tanzania



Source: www.ezilon.com/maps/africa/tanzania-physical-maps.html

Tanzania had an estimated population of 55.5 million people in 2017, with approximately 33% of them living in urban areas, including in the largest city, Dar es Salaam; the annual population growth rate was estimated at 3.09% in 2017, with total population likely to reach 82.9 million by 2030 and Tanzania predicted to be one of the 10 most populous countries in the world by 2100 (Anyimadu 2016; CIA 2018; Economist 2015; UNDP 2016; WEF 2017). In 2015 average life expectancy stood at 66.82 years for women and 63.08 years for men (Country Economy 2018). The population is relatively young, with 50.1% of the total aged 17 and under at the time of the 2012 Census and a median age of 17.3 in 2015; the country also contains over 120 different ethnic groups (PAICODEO 2013; TNBS

2013; TNRF 2014a; UNDP 2016). Twenty-five per cent of all households were female-headed in 2011/12, up from 18% in 1991/92 (TNBS 2017). Administratively, Tanzania is organised into 31 regions (mikoja) that between them contain 169 districts (wilaya). Districts are divided into divisions (tarafa), each of which has its own Member of Parliament (MP). Divisions split into rural wards (kata) and villages (vijiji) and urban streets (mitaa); there are over 12,000 villages countrywide, each with further sub-divisions, called vitongoji, that are usually described as ‘hamlets’ in English.

Tanzania is generally viewed as having huge development potential, given its stable and relatively peaceful political environment, its abundance of natural resources and its well established and lucrative tourism sector. However, Tanzanians also face extreme poverty, high unemployment and food shortages, and there are persistent failures in public services (Anyimadu 2016; Flowers & Shuma 2016). Other challenges include a range of infrastructural constraints, rapid urbanisation, entrenched corruption, and the overall effects of increasing climate variability, including more frequent droughts and unreliable rainfall in recent years. The agricultural sector, which contributes 20-25% of gross domestic product (GDP) and which 75-80% of the country’s working age population depends on for their livelihoods, is very vulnerable to climate-related shocks due to factors such as poor quality inputs, low levels of mechanisation and investment in food insecure areas, and lack of social safety nets (URT 2013a; URT 2014a). Pastoralist lifestyles and livestock production are particularly fragile. Pastoralists made up around 10% of Tanzania’s total population in 2002 and mostly practice mixed agro-pastoral livelihoods; they are thus affected by general agricultural sector issues as well as by the specific uncertainties caused by climate variability on the overall health of the rangelands. There are currently around 50 million ha of rangelands in Tanzania, but only 26 million ha are suitable for livestock; the rest are infested with tsetse (OECD 2013; Shem 2010; Shigela 2016). Surveys carried out in 2010 suggested that livestock numbers already surpassed normal carrying capacity in most areas, with the country having an estimated 20 million cattle, 14 million goats and 4 million sheep (OECD 2013; Shem 2010). Yet in 2005 Tanzanian pastoralists were said to have managed some 61 million ha of rangelands with 16.7 million cattle, 12.5 million goats and 3.4 million sheep (Looloitai et al 2008). Climate change is expected to further shrink grazing areas and increase pressure on pastoralist lifestyles in coming years (Shem 2010).

Historical context

Prior to the start of its colonial period, mainland Tanzania had been occupied for hundreds of years by a diverse range of independently-governed ethnic groups, including numerous and widespread settled farming societies, whose land tenure arrangements were organised around the principle of ‘first right’, and nomadic pastoralists and hunter-gatherers in the arid and semi-arid parts of northern and central Tanzania (Daley 2004; Iliffe 1979; Kjekhus 1996). The fundamental characteristics of pastoral livelihoods – the need for mobile and flexible grazing strategies to cope with the harsh environments and variable vegetation, soil quality, water availability and climatic conditions of the rangelands – led pastoral communities to organise their territory and migratory patterns around permanent water sources that could sustain them year-round. In northern Tanzania, where our two case study villages lie, Maasai pastoralists combined access to well-defined grazing resources through regular movement with their animals during wet and dry seasons with more opportunistic movement through neighbours’ territories during drought years (SRMP 2013).

By the mid-nineteenth century, trade networks were well developed in Tanzania, linking livestock and slaves from the peoples of the interior with the Arab-dominated markets and ports on the Swahili coast (Iliffe 1979; Kjekhus 1996). During the imperial ‘scramble for Africa’ at the end of the nineteenth century, the Germans took control of much of the mainland (Tanganyika) and the British of (the Sultanate of) Zanzibar, but after the First World War the British began to administer the whole area that is now Tanzania under a League of Nations Mandate. British colonial rule continued until well after the Second World War, utilising a system of indirect rule through the local chiefs of the different ethnic groups. In 1954 Julius K. Nyerere founded the Tanganyika African National Union

(TANU), beginning the struggle for Independence; he became Prime Minister of Tanganyika with the end of British rule in 1961, President in 1962, and President of the United Republic of Tanzania (URT) in 1964, following union with the by then separately independent Zanzibar.

Policies during the colonial period encouraged the development of cash crops for export and discouraged nomadic pastoralism, which the British, failing to grasp its complexities, viewed as an unproductive way of life (Kirimi & Njeru 2016). Major drought during the 1930s and 1940s fuelled antipathy to pastoralists, who were seen as guilty of the sort of over-grazing that would lead to a 'tragedy of the commons'. As a result, pastoralists across East Africa were urged into settlement schemes to practice sedentary agriculture, as individual (male) rights to arable land and urban plots through land registration and titling were privileged over collective and customarily managed land rights in rangelands (Anderson 1984; Daley 2004; EARC 1955; Hardin 1968; Hogg 1987; Swynnerton 1954). After Independence, the 1967 Arusha Declaration triggered a decade of socialist transformation, including the designation of all land as public land and policies to promote nationalisation and co-operative production in industry and agriculture, including through collective village farms and large-scale state farms and ranches under the National Food Corporation (NAFCO) and the National Ranching Company (NARCO) (Daley 2004; LARRRI 2009; Nyerere 1968; USAID no date; Stakeholder Interviews February 2016). Post-Arusha policy was based on Nyerere's concept of 'ujamaa' (roughly translated as familyhood) (Nyerere 1966). Villagisation was made compulsory in 1973 and by 1975 almost all Tanzanians were living in villages (Coulson 1982).

Since colonial times, land in Tanzania has been governed under two separate types of tenure arrangement – a formal legal system that was developed to deal with land held initially by non-African settlers, grounded in the 1923 Land Ordinance, and 'customary law' to deal with land held by Africans and administered through local chiefs, encapsulated in the 1963 Customary Law (Declaration) Order. This meant that different pieces of land were (and still are) subject to different and sometimes multiple sets of rules and overlapping claims, a situation that was exacerbated by Villagisation and had led by the 1990s to general confusion about land rights and widespread rural discontent (Daley 2004). During the 1980s, neo-liberal economic policies had begun to be adopted in response to the economic crises facing Tanzania at that point, including a New Agricultural Policy in 1982 and a National Investment (Promotion and Protection) Act in 1990 (Sundet 1997). With Nyerere's resignation, as President in 1985 and Chair of the ruling party in 1987, this marked a turning point in domestic politics and the end of the ujamaa period, and it paved the way for major land tenure reforms to take place (Daley 2004; Sundet 1997). In 1991 a Presidential Commission of Enquiry into Land Matters (the Shivji Commission) embarked on nationwide consultations, sparking a debate that contained within it a new strand of thinking on the possibility for land rights to be registered not just to individuals but also to groups (Alden Wily 2006; Englert & Daley 2008; URT 1994). A National Land Policy was adopted in 1995 and new legislation in 1999 – the Land Act and the Village Land Act – which turned limited prior efforts at village titling into explicit provisions for community ownership and control of village lands (Sundet 1997; URT 1995; URT 1999a; URT 1999b).

Both Villagisation and the transition to neo-liberal economics – including a growing trend towards LSLAs, especially for commercial farming, wildlife tourism and mining – have contributed to a reduction in pastoralists' freedom of movement and an increase in conflicts over pasture, with land-based conflicts around tourism and conservation widespread in northern Tanzania and farmer-pastoralist conflicts escalating countrywide in recent years, in part due also to internal and cross-border migration in response to climate change and human population growth (Askew et al 2013; BBC News 2017; Lyimo 2013; Makoye 2016d; Makoye 2016e; Matandiko 2016; McVeigh 2017; Shem 2010; Sikar 1996; Sulle 2016b; Stakeholder Interviews February to October 2016). On the other hand, a mining boom from the 1990s and generally improved economic prospects through the 2000s created new opportunities for pastoralist livelihoods to diversify. Nonetheless, by 2015, when our research began, pastoralism was a challenging way of life and pastoralists were considered to be one of the most vulnerable groups in Tanzania in terms of their land tenure security (SRMP 2013). At the

same time, the new economic context – particularly around agriculture and mineral resource development – had added to pressures for a review of the National Land Policy that was expected to make it easier for investors to acquire land and was not yet concluded at the time of publishing our present report (Daems 2016; URT 2016b; Stakeholder Interviews February 2016 to February 2017).

Political and economic context

Tanzania is governed as a democracy under its 1977 Constitution, with national and local elections held at regular five-year intervals for institutions such as village and district councils, as well as the national Parliament and Presidency. Parliament has been based in the official capital city, Dodoma, in the centre of the country, since 1996; the majority of ministries have moved there but much of the day-to-day business of government is still carried out in Dar es Salaam. In 2012, a Constitutional Review Commission was established to draft a new constitution, completed in 2014 and intended to be put to a referendum in 2015; the draft broadly supported government economic and investment policies but also contained positive language on gender equality and land rights (Mama Ardhi no date; URT 2014b; Stakeholder Interviews February to June 2016). However, the process stalled after elections in 2015 and the 1977 Constitution remained in place at the time of publishing this report.

Tanzania has long had a relatively free press, a vibrant and vocal civil society, and active opposition parties and politicians. Yet despite the introduction of multi-party elections in 1995, the country has been run by the same party since Independence – first TANU and then its successor, Chama Cha Mapinduzi (CCM), from 1977. Since Nyerere's resignation, the position of the Presidency has been held for the constitutional maximum of two five-year terms by presidents Ali Hassan Mwinyi, Benjamin Mkapa and Jakaya Kikwete; in November 2015 John Pombe Magufuli was elected as Tanzania's fifth President on a platform of strong commitment to stamping out corruption and improving governmental efficiency. Magufuli is popular with ordinary Tanzanians and has impressed Tanzania's development partners with the tough stance he has since taken on these issues; for example, he placed most former government policies under review and cut the Cabinet in size by 11 through the mergers of some ministries (Anyimadu 2016; Stakeholder Interviews February 2016). However, Magufuli's style was increasingly subject to criticism as our fieldwork got under way. By late 2016 and through 2017, opposition rallies were banned and politicians, journalists and activists were being arrested on corruption charges or for espionage or stoking criticism of the government on social media, amid growing concerns about the reduced operating space for civil society; 2017 and early 2018 also saw alleged politically motivated shootings and killings of opposition politicians (Economist 2017b; Tanzanian CSOs 2018; Taylor 2016; Stakeholder Interviews August 2016 to February 2017). Freedom House considers Tanzania a 'Partly Free' country, ranking 4 out of 7 for both civil liberties and political rights (where 1 is best), but this marks a decline since Magufuli's election (Freedom House 2018). Likewise, the United States Department of State (USDS) considers the most widespread human rights violations in Tanzania to be the excessive use of force by security services resulting in death and injury, restrictions on assembly and political expression, and gender-based violence including rape, domestic violence and female genital cutting (FGC) (USDS 2016). The deteriorating political situation matters because Tanzania's many CSOs, including various faith-based organisations, have long played a vital role across the country in the provision of basic services that government has been unable to deliver (Tanzanian CSOs 2018).

In parallel to its political context, Tanzania's national economic situation is not without problems. Despite steadily rising economic growth since 1997, an average annual growth rate of 6-7% since 2002, and one of the strongest growth rates of any non-oil producing sub-Saharan African country between 2000 and 2008, Tanzania remains one of the 25 poorest countries in the world, with poverty levels consistently below the sub-Saharan African average since 2000 (Anyimadu 2016; Daley & Scott 2011; OECD 2013; World Bank 2016b). In 2010, 28.2% of the total population lived below the national poverty line of TSh 1,300 per day and 46.6% below the international poverty line of USD 1.90 per day (UNDP 2016; World Bank 2016b). Further, much of Tanzania's economic growth

has been confined to mining and telecommunications, resulting in rising income inequalities (Flowers & Shuma 2016). Tanzania scored 0.531 (with 1 being highest) in the United Nations Development Programme (UNDP) Human Development Index (HDI) in 2015; this is an improvement since its score of 0.370 in 1990, yet Tanzania ranked only 151 out of 188 countries in 2015 and, when adjusted for inequality, the 2015 score was just 0.396 (UNDP 2016). Some 16.8 million Tanzanians were estimated to be chronically under-nourished in 2016, while 90% of poor Tanzanians lived in rural areas and depended on agriculture to survive (Flowers & Shuma 2016; Brüntrup et al 2016). The agricultural sector itself depends heavily on (mainly women) small-scale farmers, cultivating between 0.9 ha and 3 ha on average; some 98% of all economically active rural women engaged in farming in 2014 (URT 2014a).

Tanzania's overarching development policy is the Development Vision 2025 (URT no date). This aims to achieve a strong, competitive and diversified economy and high quality livelihood for all Tanzanians by 2025, including food security and gender equality, and with a sustained growth rate of at least 8% per annum while reversing environmental degradation. Infrastructure development is a key area of focus, including energy, water, telecommunications and road-building (URT no date). Policies to support the achievement of Vision 2025 have included the National Strategy for Growth and Poverty Reduction (Mkukuta I and II) that ran from 2005 to 2015, and the Big Results Now initiative, launched in 2013 (Anyimadu 2016). Under the former President Kikwete, government policy focused heavily on transforming the agricultural sector from subsistence to modern commercial farming as the key to economic growth; the 2013 National Agriculture Policy confirmed the country's commitment to this, with the private sector's role paramount (URT 2013a; World Bank 2016b). The 2006 Agricultural Sector Development Programme and the 2009 Kilimo Kwanza (Agriculture First) initiative aimed to transform small- and large-scale farming through technological change, public-private partnerships, value chain approaches and foreign investment (Daley & Scott 2011; Flowers & Shuma 2016; URT 2014a). In 2010, the ambitious Southern Agricultural Growth Corridor of Tanzania (SAGCOT) was established, covering roughly a third of the mainland. However, SAGCOT has been much criticised, including over claims about lack of consultation with, and mass evictions of, pastoralists to make way for large-scale commercial farms; the World Bank has been specifically criticised for waiving its Indigenous Peoples Policy in respect of a related USD 70 million loan (Chavkin & Ullman 2016; Daems 2016; East African Business Week 2015; Tugendhat 2016; World Bank 2016a). Tanzania's Comprehensive Africa Agriculture Development Programme Compact was signed in 2010, with supporting 10-year Tanzania Agriculture and Food Security Investment Plan (URT 2014a). The country joined the G8 New Alliance for Food Security and Nutrition in 2012 and has the largest Feed The Future programme in the world (Dancer 2014; Flowers & Shuma 2016). Tanzania also has an Agriculture Climate Resilience Plan to implement its 2012 National Climate Change Strategy, which mandates improved land management, among others (URT 2014a).

The upshot is thus an overall economic context that has remained heavily agriculture-dominated since the colonial period, where policies towards pastoralists and livestock production favour pastoralist involvement in crop farming (agro-pastoralism) alongside reduced herd sizes and intensive farming of higher-quality, healthier and higher-yield breeds, utilising carefully planned and allocated grazing lands. Mkukuta I was hailed for recognising pastoralism as a sustainable livelihood system, but the emphasis in the overall policy environment has been on phasing out mobile pastoralism rather than supporting it (IFAD 2012; Stakeholder Interviews February 2016). On election in 2005, Kikwete openly stated that Tanzania's nomadic pastoralists must become settled modern livestock keepers, and the 2006 National Livestock Policy set out a vision of a modern, commercially-oriented livestock sector that uses fewer highly productive livestock to support food security while conserving the environment (Chavkin & Ullman 2016; URT 2006; Stakeholder Interviews February 2016). NARCO has thus encouraged pastoralists to come together to practice rotational grazing in heavily subsidised group ranches, with infrastructure such as water systems, shelters and barns, and district livestock officers teach pastoralists to minimise livestock numbers and increase their productivity, while the government has been criticised for not increasing budgets

for livestock development or to ensure sufficient and sustainable grazing areas (PAICODEO 2013; Stakeholder Interviews February 2016). However, Tanzania has also signed up to the 2010 African Union (AU) Policy Framework for Pastoralism in Africa, which describes pastoralism as part of Africa's cultural heritage; the livestock sector contributes some 30% of agricultural GDP, and pastoralist land uses add an estimated USD 83.5 million per year to the wildlife-based tourism industry in northern Tanzania (TNR 2014b).

Also defining its political and economic context is Tanzania's position as one of the largest recipients of international aid in sub-Saharan Africa, with around 20% of total government spending financed by official development assistance (ODA) between 2012 and 2014 (Anyimadu 2016). In 2013, the country received almost USD 3.5 billion in ODA from its development partners, including the USA, UK, China, the Scandinavian countries, the European Union and the World Bank (Anyimadu 2016; Flowers & Shuma 2016). The Chinese are major players in infrastructure development, the UK and Scandinavians in land and forestry, and the USA in agriculture (USDS 2018). Top countries investing in Tanzania between 1999 and 2011 were the UK, India, Kenya and China (OECD 2013). Total foreign investment in Tanzania grew from 0.1% of GDP in 1990 to 32.9% in 2005, and foreign direct investment (FDI) inflows grew from USD 331 million to USD 744 million between 2004 and 2008 alone (Daley & Scott 2011). Of 5,637 projects registered between 1996 and 2009 with the Tanzania Investment Centre (TIC) – the one-stop shop for foreign investors set up under the 1997 Investment Act – only 91 were in 'Petrol & Mining', compared to 306 in 'Agriculture', 1,402 in 'Tourism' and 1,828 in 'Manufacturing'; 80 of the 91 mining projects were registered between 1996 and 2003, when mining first boomed (Daley & Scott 2011). Although fewer in number, investments in mining make up a significant share of total FDI, accounting for 60% of all FDI inflows between 1990 and 2007 and attracting average FDI inflows of USD 460.86 million per year between 1998 and 2011. International mining companies have invested over USD 2 billion in Tanzania since the late 1990s, making it the second largest non-oil recipient of FDI in Africa, and mineral exports are the leading foreign exchange earner in the country, accounting, for example, for 33.6% of total forex earnings in the financial quarter ending December 2013 (Nayopa 2015; Poncian & George 2015). Development of Tanzania's offshore natural gas fields is expected to bring new investments of up to USD 15 billion over the next 15 years and to yield USD 15 to USD 75 per capita in government revenue each year (Anyimadu 2016; Sandefur et al 2015). Commentators warn that this could lead to the sort of resource curse that plagues other low income countries – and to more unrest like that which broke out in southern Tanzania in 2012/13 – unless ordinary people are given a say in how to manage this new-found wealth (Sandefur et al 2015; Must 2018).

Tanzania ranks only 137 out of 190 countries in the World Bank's 2018 Doing Business Index, as a result of capacity constraints, corruption and inconsistent policy implementation, particularly over access to land (Anyimadu 2016; Brüntrup et al 2016; World Bank 2018). In the 2013 Global Competitiveness Report of the World Economic Forum (WEF), 24.2% of respondents cited access to finance as the most problematic factor for doing business in Tanzania, followed by 16.9% citing corruption, 11.5% inadequate infrastructure, and 10.2% inefficient bureaucracy (OECD 2013). Global Integrity gave Tanzania an overall score of 59 (very weak – on a scale of 1 to 100 with 100 being top), a legal framework score of 75 (moderate) and actual implementation score of 42 (very weak); corruption-related issues included poor access to government information and conflicts of interest between different branches of government (Global Integrity 2010). Since 1995, eight different ministers of energy and minerals have been sacked or resigned over corruption scandals, and there have been several public disputes between Magufuli's government and large-scale foreign investors, including over tax revenues with the gold-mining firm Acacia Mining plc, the closure of Petra Diamonds' Tanzanian mine, and difficulties for Tanzanite One next to one of our case study villages (Anyimadu 2016; Citizen 2017a; Citizen 2017b; Economist 2017a; Economist 2017b; see below).

A further challenge for Tanzania's government lies with the issue of 'land grabs'. As the economy opened up to foreign investment from the late 1980s, much of the land on which the formerly state-

run NAFCO farms and NARCO ranches operated was sold to private investors (LARRRI 2009). NARCO, for example, had 600,000 ha of state-run ranches, ranging in size from 1,000 ha to 3,000 ha, and has sub-leased around 360,000 ha to private farmers and pastoralists (Stakeholder Interviews February 2016). Data from 2002 suggested that 1 million ha of land in Tanzania were then occupied by large-scale farms, only one-third of which were state-run; more recent estimates give a figure of 1 million ha leased exclusively to foreign companies, but there remain difficulties in assessing the exact extent of foreign land acquisition in Tanzania (Daley & Scott 2011; Greco 2015). At the same time, middle-aged, middle-class city-dwellers are thought to own 33% of all farmland in Tanzania, for medium-scale farming and livestock production, up from 12% a decade ago (Economist 2016b). In this broad context, continuous price rises of staple food crops through the 2000s led to food shortages that sparked vigorous debate about land grabs, although the interest in LSLAs for biofuels that surged from 2005 to 2008 has mostly since collapsed (ActionAid 2009; Nelson et al 2012).

The majority of literature on LSLAs in Tanzania finds that the negative impacts vastly outweigh the perceived benefits. LSLAs have resulted in forced evictions, lack of consultation and compensation, reduced food security and access to natural resources, increased social isolation from blocked routes to markets, and limited local jobs, particularly where state farms were privatised and local labourers no longer employed (Bergius 2015; Chachage 2010; Chachage no date; Daley & Scott 2011; Daley & Park 2012; LARRRI 2010; Mahonge 2012; Sulle & Nelson 2009). Corruption and lack of regulatory capacity also pose problems, and uncertainties over start dates for new investments affect people's land use decisions (Brüntrup et al 2016; Chung 2017). Where statutory village-based consultation procedures have been followed, people have still lost land when customary arrangements over shared grazing areas cross village boundaries (Locher 2016). Conversely, the Village Land Act contains some protections (see below), the bureaucracy around land applications deters some investors, and Tanzania's media and CSOs have kept pressure on the government to tackle land grabs, leading to some high profile LSLAs being stopped in recent years (ActionAid 2015; Citizen 2016; Makoye 2016b; Nelson et al 2012). In 2016 the government's Land Tenure Support Programme (LTSP) began reviewing land titles for 549,000 ha of land and auditing the use of all holdings over 50 acres, enabling further revocation and redistribution of land that had not been developed within three years of title issuance from both foreign and Tanzanian investors, in order to curb land speculation and reduce farmer-pastoralist conflicts (Domasa 2016; Felister 2016; Guardian 2016; Lamtey 2016; Makoye 2016a; Sulle 2016b; Stakeholder Interviews February 2016 to February 2017).

The legal framework around land

Tanzania is a signatory to the AU's Framework and Guidelines on Land Policy in Africa, the Nairobi Action Plan, the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (the VGGTs), and a G8 Land Transparency Partnership, and it has been widely praised for introducing some of the most progressive laws on land in Africa over the past two decades (AU 2011; AU/AfDB/UNECA 2010; Dancer 2014; FAO 2012; Grabe 2015; Nelson et al 2012; Sulle 2016b). The 1977 Constitution provides every Tanzanian citizen with the fundamental right to own property (USAID no date). The 1999 land legislation vests radical title to all land in the President, as trustee on behalf of all citizens, and provides the overall framework for the administration of land rights on the mainland within three basic categories of land: 'General', 'Reserved', and 'Village' land (URT 1999a; URT 1999b). Village land is defined as land lying within the demarcated or agreed boundaries of any village registered according to the 1982 Local Government Act; it also includes any land that villagers had been using for at least 12 years before the Village Land Act came into operation (on 1 May 2001), including land used under customary arrangements for grazing cattle or passing between grazing and water sources (Knight 2010; URT 1999b). However, the 2007 Land Use Planning Act subsequently required the definition of village land boundaries to be done by means of a formal survey (Alden Wily 2011). The Land Act

governs general land and reserved land; reserved land is set aside by sectoral legislation, such as for national parks, while the remainder of Tanzania's land is general land (Knight 2010; URT 1999a).

Every Tanzanian has the same rights to acquire, hold, use and deal with general and reserved land under the Land Act, with the Ministry of Lands, Housing and Human Settlements Development (MLHSD) responsible for its implementation and the Commissioner for Lands the only authority that can issue formal Granted Rights of Occupancy, for up to 99 years and able to be leased out by their owners (Sulle 2016a; Sundet 2005; USAID no date). Institutionally, however, the Prime Minister's Office for Regional Administration and Local Government also has a significant role, as local government authorities are vested with responsibility for land administration and management in their areas (Locke et al 2013). Under the Village Land Act, village land, which comprises about 70% of Tanzania's land, falls under the jurisdiction of the Village Council (each village's executive body), which is answerable to the Village Assembly (the adult population of the village) (Sundet 2005; TAWLA & LEAT 2015). Villages can register their land through issuance of a Certificate of Village Land (CVL) by the Commissioner for Lands, which then confers full authority upon them (Locke et al 2013; Sundet 2005; USAID no date). Customary Rights of Occupancy are held automatically as Deemed Rights by villagers on all village land that they have rights to under customary law or have received as an allocation from the Village Council, and these can be registered on a Certificate of Customary Rights of Occupancy (CCRO) by both villagers and (Tanzanian) non-villagers through the Village Council if it holds its CVL (Sundet 2005; Pedersen 2010; USAID no date).

Other institutions with a role in land administration and management include the National Land Use Planning Commission (NLUPC), established in 1984, the TIC, which is formally mandated to identify and provide land to investors, and the President of Tanzania, who is granted sole authority to reclassify village land as general land in the public interest (Daley & Scott 2011; Locke et al 2013; Stakeholder Interviews June 2016). This last issue is one of two much criticised loopholes in the 1999 legislation (Knight 2010). The public interest is defined to include land needed for investments, as only land classified as general land can be granted to foreign investors. However, once land is reclassified in this way it no longer falls within the administrative jurisdiction of the Village Council and instead comes under the provisions of the Land Act. Village assemblies have the statutory power to approve or reject such reclassification for areas less than 250 ha, but there is no clear mechanism stipulated for this and neither is there any such check allowed for areas over 250 ha, only a requirement that villages be given notice of the reclassification taking place (Knight 2010). However, in all cases of land transfer for investment, compensation must be paid to affected communities to reflect the market value of the land, a disturbance allowance, and any loss of profits from the previous use of the land (TNR 2014a). A second – and related – loophole in the 1999 legislation, which presents specific issues for pastoralists in respect of seasonal grazing areas, arises from the inconsistent definition of general land; this is defined as "all public land which is not reserved land or village land" in the Village Land Act, but "all public [l]and which is not reserved land or village land and includes unoccupied or unused village land" in the Land Act (Knight 2010).

A distinct positive aspect of the 1999 legislation is that, because so many land administration functions have been decentralised to the village level, negotiations on community land issues can take place locally (Sundet 2005). However, a major weakness is that multiple layers of regulation have made the Village Land Act very complex to implement, particularly in rural areas with limited resources and low education levels – for example, village land managers must keep track of some 50 different forms (Sulle 2016b; Sundet 2005; TNR 2014a). Another weakness is the large capacity gap over land use monitoring, including poor coordination and overlapping roles of different institutions. Both these weaknesses favour wealthier, better-informed and well-connected villagers (and outsiders) while marginalising vulnerable groups, and thus tensions remain between the potential for democratic local governance of the vast majority of Tanzania's land and a politics of access to land that is heavily enmeshed with class and gender differentiation (Greco 2016; Sundet 2005).

Village land councils and ward tribunals were established under the 2002 Courts (Land Disputes Settlements) Act; the MLHSD also established district land and housing tribunals and there is recourse to the High Court Land Division and the Tanzanian Court of Appeal (Pedersen 2010; TNRF 2014a). However, there has been little enthusiasm to utilise the formal court system in land cases, due to its high costs and fears that outsiders will not be able to find a just solution acceptable to all local parties (Askew et al 2013). Some promising initiatives to support land dispute resolution instead come from civil society, such as paralegal programmes and Land Rights Monitors (Massay 2016; Stakeholder Interviews June 2016). Implementation of the 1999 legislation has also taken time to get properly under way (Kirimi & Njeru 2016). The Business Environment Strengthening for Tanzania (BEST) programme, funded by the World Bank, Netherlands Development Cooperation, DFID, Sida and Danida, began a small number of land registration pilots in 2006 (Pedersen 2010). Also in 2006 the government issued its Strategic Plan for the Implementation of the Land Laws (SPILL), which was criticised for being too focused on enhancing economic growth and for its negative stance on pastoralism; BEST and SPILL were both also criticised for not prioritising gender equality (Collins & Mitchell 2017; Loolitai et al 2008; USAID no date). Separately, the 2006-08 Property and Business Formalization Programme (MKURABITA) sought to improve access to financial markets through formalising property rights. However, MKURABITA was criticised for rushing its implementation and neglecting local participation, leading to vulnerable families losing their land, and by June 2010, only 110,000 CCROs had been issued under the Village Land Act in total across Tanzania (Pedersen 2010; WLAC 2010).

More recent years have seen efforts to implement the 1999 land laws and meet the government's goal of issuing 2.5 million CCROs by 2020 intensify. The USAID-funded Mobile Application to Secure Tenure (MAST) project piloted crowdsourcing of land rights' documentation using smartphone technology and issued its first 940 CCROs in 2015, before being scaled up into USAID's Land Tenure Assistance Activity in 2016 (Simbaya 2015; USAID 2015; Stakeholder Interviews February 2016 to February 2017). The MLHSD's 3-year USD 15.2 million LTSP, funded by DFID, Sida and Danida, also began work to survey 300,000 plots and systematically issue CCROs in 150 villages in 2016, as well as undertaking policy and institutional development and the audit of LSLAs noted above (Felister 2016; Kazoka 2016; Matandiko 2016; Stakeholder Interviews February 2016 to February 2017). Most land registration efforts have so far focused on urban or SAGCOT areas, but LTSP was also designed to test a variety of low-cost survey methods in order to advise the government on which one to roll out nationwide (Stakeholder Interviews February 2016 to February 2017).

In September 2016 MLHSD ordered both villages and individual villagers to cease selling land directly to investors; instead village councils were told to focus on land use planning and issuing CCROs (Domasa 2016; Robi 2016). District governments were instructed to prioritise funding for every village to have a Village Land Use Plan (VLUP), with estimates of the cost per village varying from TSh 6-8 million up to TSh 32 million (Daily News 2016; Hart et al 2014a; ILC 2014; Loure & Lekaita 2017; SRMP 2013). As noted above, the 2007 Land Use Planning Act provided for the agreement and registration of a CVL as a prerequisite for issuing CCROs (Pedersen 2010; ILC 2014). However, this rests on first establishing a VLUP. A village's Land Adjudication Committee is responsible for developing its VLUP, with technical support from the district Participatory Land Use Management Team; it is supposed to resolve local land disputes, advise on improved land use, and give all villagers a chance to contribute to the VLUP, which must be approved by the Village Assembly before a CVL is issued. However, village land use planning has rarely got beyond its initial stages due to lack of resources, and by 2017 only 1,200 of Tanzanian villages had both VLUPs and CVLs, with many only completed with CSOs' support (Hart et al 2014a; Hart et al 2014b; Kisambu et al 2017; Pedersen 2010; UCRT 2010; Stakeholder Interviews February to June 2016).

Gender equality and vulnerable groups

Policy and legal framework

Gender equality is enshrined in the Tanzanian Constitution, whose Article 9 bans discrimination, and in various international instruments, such as the Convention on the Elimination of Discrimination Against Women and the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa, to which Tanzania has signed up (Sulle 2016b; TAWLA & LEAT 2015; UN Women 2016a). Measures to prohibit discrimination based on sex, gender or marital status and mainstream gender perspectives within policy-making have been included in Development Vision 2025, the National Women and Gender Development Policy and National Strategy for Gender Development of 2000, the 2004 Employment and Labour Relations Act and National Employment Policy of 2008, and the Mkukuta II (Daley & Park 2012; URT 2004). However, while the 2009 Mineral Policy mentions gender as a crosscutting issue and the 2015 National Energy Policy has a specific section on gender mainstreaming, the 2014 Local Content Policy includes few gender considerations and the 2010 Mining Act does not mention gender at all (UN Women 2016b). There is anyway a lack of coordination among sectoral policies and ministries; for example, the 2013 National Agriculture Policy is unclear on how structural issues around gender-equitable land tenure governance will be addressed and leaves gender issues to the Ministry of Health, Community Development, Gender, Elderly and Children with no clarity on other ministries' roles; gender has also often been equated with 'women's issues' and many Tanzanian government policies remain completely gender blind (Acosta et al 2016; Stakeholder Interviews June 2016). On the other hand, the proportion of women in government employment has more than doubled from 9% in 1978 to 21.8% in 2014 (Grabe 2015). Each ministry and local government authority is supposed to have a gender focal person and a gender committee, and there is a Women Development Fund to which all districts are supposed to allocate 5% of their revenues (Stakeholder Interviews February 2017). However, implementation of gender-related policies and programmes is hindered by the difficulty of changing mindsets in a largely patriarchal society, as well as by a lack of capacity, for example in the collection and analysis of gender-disaggregated data, so the government has tended to rely on civil society to tackle gender equality (Acosta et al 2016). On the other hand, many men in Tanzania have grown up in female-headed households and see that women's economic empowerment is in men's interests too (Stakeholder Interviews February 2017).

Various legal provisions in Tanzania mandate specific levels of female representation in elected statutory institutions. Thirty per cent of all seats in Parliament must be held by women, and after the 2015 elections their total representation stood at 36% (Anyimadu 2016; UNDP 2016). The Courts (Land Disputes Settlements) Act stipulates that at least three of the seven members of each Village Land Council shall be women and the Village Land Act specifies that land adjudication committees should include at least four female members out of nine; the Local Government Act has mandated at least 25% female representation on village councils since 1982 (Kisambu et al 2017; Pedersen 2010). In practice, however, numbers of women in these village institutions are often below required levels and women's actual meaningful participation is low; women are also less likely to be leaders of local economic associations, even when they outnumber men as members (Berger 2016; Dancer 2014; Pedersen 2010; Pedersen 2015; Stakeholder Interviews June 2016). Constraints on women's participation that make it hard for them to take up and sustain unpaid leadership positions include the timing of village meetings, women's burden of chores and care responsibilities, limitations on their mobility, and high levels of illiteracy (Kisambu 2016; Salcedo-La Viña & Morarji 2016). Village governance structures therefore tend to be dominated by men, with women members mostly inactive in practice or reluctant to participate – either absent or present but silent (Evans 2015; Salcedo-La Viña & Morarji 2016).

Tanzania's 1999 land legislation is notably progressive in respect to gender and was gender-aware in its design (McAuslan 2010). The Land Act gives spouses legal interests in any household land they might have used even if it is not held in their name, and joint titling is recommended for spouses (and is increasingly common) unless either party specifically objects (Dancer 2014; Pedersen 2015; Stakeholder Interviews June 2016). The MAST project, for example, using Trusted Intermediaries trained in the land laws, many of them young women, delivered roughly 20% of its CCROs in joint names and 30% in the name of women alone, while the LTSP has enhanced women's participation in village land use planning by holding women-only awareness-raising meetings beforehand at kitongoji level (Simbaya 2015; Stakeholder Interviews June 2016 to February 2017).

The Village Land Act broke new ground in rendering invalid any customary laws and practices that discriminate against women, as well as in clearly specifying that women's rights to acquire, hold, use, own and transfer land were exactly the same as men's (Evans 2015; Grabe 2015; Sulle 2016b). After Independence, and particularly during the ujamaa period, the Tanzanian government had attempted to dismantle the customary land tenure arrangements of colonial indirect rule by replacing chiefs with new village-based statutory institutions; these were well entrenched in local land administration by 1999 and were thus retained in the new land legislation (Boone & Nyeme 2015; Knight 2010; McAuslan 2010). However, in many parts of Tanzania, including pastoralist areas such as those featured in our two case studies below, pre-Villagisation customary land tenure practices remain strong. Women living in such areas face challenges to their land rights as the laws are contradictory and open to interpretation. Women's inheritance rights in particular are ambiguous as although the Village Land Act protects women's rights to own property, the 1963 Local Customary Law (Declaration) Order says women cannot inherit if the deceased left behind adult male relatives, because women arriving in Tanzania's mostly patrilineal communities on marriage are generally not regarded as fully part of the community, and the 1977 Constitution defers to customary law on matters of inheritance. Women therefore have no guarantee that their rights will be protected and it is often up to customary leaders – who may well also be elected members of local statutory land institutions – to decide (Collins & Mitchell 2017; Maliasili Initiatives 2012; Mama Ardhi no date; WLAC 2010; Stakeholder Interviews June 2016). In dispute resolution, village land councils and ward land tribunals have both been found to follow discriminatory customs in some places, and where it is taboo for women to sit in court and make judgements on land issues, they may be present to make up statutorily prescribed numbers but will not contribute to deliberations (WLAC 2010; Stakeholder Interviews June 2016). However, CSOs have been working to address these issues, for example through gender sensitisation with traditional leaders as well as by educating women and men about their statutory land rights, providing leadership training for women and organising them through initiatives such as the Women Leadership Forums that have created spaces for Maasai women in northern Tanzania to speak in public, contrary to previous norms (Berger 2016; PWC et al 2014; Sorensen 2013; Stakeholder Interviews February 2016).

Furthermore, as we elaborate in our case studies below, although statutory institutions have improved land access for certain groups of women such as widows and divorced women, and better-off women have also gained from the 1999 legislation, for most women their relationship with male relatives remains a key factor in their access to land; married men in particular act as gate-keepers, as it is often they who decide whether or not to put a wife's name on the title deeds (Daley 2005; Daley et al 2017; Englert & Daley 2008; Pedersen 2015). The situation varies regionally, but on balance women in Tanzania do not have secure or equal land rights with men, and gender bias continues to shape local attitudes about the appropriateness of women's participation in local land governance (Collins & Mitchell 2017; Stakeholder Interviews June 2016). Where CSOs have provided paralegal services to bridge the gap between statutory and customary law, they remain challenged by the difficulties of changing attitudes at the community level – with men in some pastoralist communities reportedly walking out of CSO meetings where women were speaking (Stakeholder Interviews February to June 2016; Behrman et al 2013; Billings et al 2014). Tanzania thus remains a regional leader in gender equality on paper, but implementation of its gender-progressive land laws

and constitutional ban on discrimination lags far behind in practice because deep-rooted customary norms that suppress women's land rights remain strong nationwide (PWC et al 2014; Sulle 2016b).

Gender equality indicators and divisions of labour

Tanzania ranked 68 of 144 countries (with 1 as best) and had an index of 0.700 (with 1 as gender parity) in the WEF's 2017 Global Gender Gap Report; it ranked 44 in the world for gender parity in 'political empowerment', 62 for 'health and survival', 69 for 'economic participation and opportunity', but only 125 for 'educational attainment' (WEF 2017). The country scored 0.937 on UNDP's Gender Development Index (with 1 being highest), but scored 0.544 and ranked 129 out of 188 countries on the Gender Inequality Index (UNDP 2016). A government survey in 2013 found that on average 45% of Tanzanian women aged 15 to 49 had experienced sexual or other physical violence in the home (Haworth 2016). A separate government study found that 27.9% of Tanzanian girls aged 13 to 24 years had reported at least one experience of sexual violence prior to the age of 18 (Revocati 2015). The minimum marriage age in Tanzania is 14 for both women and men, but as many as 20-40% of women nationwide are thought to have married before they were 18, and both early marriage and unequal land ownership have been strongly linked to domestic violence and sexual abuse (Grabe et al 2015; Kamugisha 2015). Tanzania has also been severely affected by HIV/AIDS since the 1980s and stigmatisation of sufferers is heavily gendered due to social norms around sexual morality – to the extent that widows whose husbands have died from AIDS are more likely, compared to other widows, to experience property dispossession linked to the patriarchal customary land tenure and inheritance practices noted above (Evans 2015; Mbilinyi 2015; Peterman 2011). Illiteracy and lack of information (legal illiteracy) also have a big effect on gender equality and women's rights in Tanzania, with women's education levels generally lower than men's and women in pastoralist communities having particularly low levels of education and high rates of illiteracy. Yet even where they are aware of their rights women may lack resources to claim them or decline to do so due to the strength of social norms and associated feelings of shame, as well as lack of support from (sometimes unaware) men (Behrman et al 2013; Billings et al 2014; Kisambu et al 2017; Mueller 2015; Mueller et al 2015).

At the same time, independent women's organisations have been influential in starting to change social norms (Grabe 2015). Many CSOs work directly on gender issues and have supported women to organise collectively at the grassroots, for example during the mass assembly of women at the foot of Mount Kilimanjaro in October 2016, which met to draw attention to women's land rights and create space for women's participation in decision-making about land and natural resources (ILC 2016; Kilimanjaro Initiative 2016a; Kilimanjaro Initiative 2016b; Mbilinyi 2015; Mbilinyi 2016b). Specifically women-focused CSOs work to combat illiteracy, support small businesses with microfinance loans, and foster women's leadership, among others (Goldman & Little 2015; Kisambu 2016; Looloitai et al 2008). However, most of the natural resource-focused CSOs in Tanzania also include some element of gender programming in their work (Stakeholder Interviews February to June 2016). The pastoralist-focused CSOs that mushroomed in the 1990s were initially not very sensitive to inequalities and injustices between men and women, but in some areas pastoralist women have since led their communities in mobilising against threats to their land tenure security, most famously in Loliondo, with the role of the media notably important in cases where the government has intervened in support of women's rights (Mbilinyi & Shechambo 2015; Nelson et al 2012; Ngoitiko 2008; Ngoitiko & Nelson 2013; Smith 2013).

Gender divisions of labour and patterns of household decision-making about livestock, land use, and cash income generation and expenditure all vary widely throughout Tanzania. Polygamy is both legal and common, especially in pastoralist communities. Pastoralist women often have to feed and educate their children with relatively more limited access to resources than men, as livestock and land used for farming generally belong to men and women face difficulties in accessing income from household crop and livestock production, as well as in securing property on divorce or widowhood

(Daley & Park 2012; Daley et al 2017; and see further below). However, pastoralism is not inherently patriarchal and gender divisions of labour like those of today were not present among the Maasai of pre-colonial northern Tanganyika (Hodgson 1999). Instead, gendered power structures imported during the colonial period – which gave men new rights and responsibilities as ‘representatives’ of their communities – combined with the social consequences of the late nineteenth century Rinderpest epidemic and related famines, wars and diseases to create the more rigid concept of male ownership of property that we found in our case studies below (Grabe 2015). The Maasai today are among the most patriarchal societies in East Africa; young girls may be forcibly married and not educated, domestic violence and FGC persist, and Maasai women have been reported to believe that they belong to the men who have paid bridewealth for them. As a result, violence is so prevalent as to be a social norm, and while reduced movement has helped Maasai girls to go to school, threats to livelihoods have hit pastoralist women hard (Goldman & Little 2015; Grabe 2015). On the other hand, there is evidence to suggest that Maasai women with access to land have gained power in their marital relationships and are more likely to become engaged in political decision-making, whilst among the Kurya pastoralists of northern Tanzania the longstanding practice of platonic same-sex marriage has provided an alternative family structure that enables widows to preserve their assets and livelihoods (Grabe 2015; Goldman & Little 2015; Haworth 2016). Across Tanzania, women pastoralists have been less visible in ranch development, with few women having applied to NARCO for ranches, but there is also evidence of village councils in pastoralist areas starting to allocate land to women, whether for individual or group-based farming, or to help secure their community’s land from outsiders (Daley & Park 2012; Daley et al 2017; Makoye 2016c; Stakeholder Interviews February 2016). More generally, neo-liberal economic policies in the 1980s and 1990s saw a scaling back of government health and education services that had a pervasive impact on all women in Tanzania, while in recent years women have been disproportionately more negatively affected than men by LSLAs (Daley 2011; Daley & Pallas 2013; Grabe et al 2015; Tibaijuka 1988). However, certain groups of women in Tanzania, such as widows, unmarried women (without men to support them), and disabled and elderly women, tend to be worse off economically and more vulnerable to extreme poverty than younger and middle-aged married women (Daley 2005).

Gender is not the only marker of vulnerability in Tanzania. The 1977 Constitution does not single out any individual ethnic groups as being more ‘indigenous’ than others, but some ethnic groups do appear to be more vulnerable; for example, there is a long history of land dispossession and socio-economic and cultural marginalisation of Hadzabe and Akie hunter-gatherers, Parakuyo and Maasai semi-nomadic pastoralists, and Barabaig (Datoga) semi-nomadic pastoralists and agro-pastoralists, and Maasai pastoralists have claimed to have been discriminated against in schools, where teaching is only in English and Kiswahili and not Kimaasai (Chavkin & Ullman 2016; IFAD 2012; PAICODEO 2013; Tugendhat 2016; Stakeholder Interviews February 2016). Despite having voted in favour of the United Nations Declaration on the Rights of Indigenous Peoples in 2007, the government has been criticised for failing to legally recognise pastoralists and hunter-gatherers as marginalised or vulnerable groups meriting specific protections for their land (IFAD 2012; PAICODEO 2013; Sulle 2016b). As northern Tanzania has become a hot spot for tourism, evictions of pastoralists from wildlife areas, even in drought periods, has been an ongoing problem, including imprisonment and confiscation of livestock; over 30% of Tanzania’s land is classified as protected and much of it used to be pastoralists’ land, yet reports of Maasai homes being burnt down continued during our fieldwork, with women both bearing the brunt and leading their communities’ resistance as noted above (Askew et al 2013; BBC News 2017; IFAD 2012; McVeigh 2017; PAICODEO 2013; Smith 2015). CSOs have also championed indigenous rights, and in two recent cases where courts supported pastoralist land rights, they had district government support in one case and a VLUP with clearly marked grazing areas in the other (Askew et al 2013; IFAD 2012).

Governance framework of the mining sector

Tanzania's modern-day mining sector began with gold discoveries near Lake Victoria in 1894, diamond mining from 1925 and mining of over 50 different types of coloured gemstones since 1950 – including rubies, sapphires, tanzanites, garnets, tsavorite, tourmaline and emeralds (Dirlam et al 1992; Feneyrol et al 2010; Magai & Márquez-Velázquez 2011; URT 2015). As noted above, the mining sector has dramatically expanded over the past 20 years, since policy reforms opened it up to private investors from 1997; until then most exploration was done by visual prospecting, with major deposits tending to be found, as in our case study villages, by local herders (Dirlam et al 1992; URT 2015). At the time of our fieldwork there were six large-scale gold mines in Tanzania, two large-scale gemstone mines – one diamond and one tanzanite – plus many small- and medium-scale gold and gemstone mines and projects at different stages of development including in nickel, uranium, coal, iron, graphite and natural gas (Magai & Márquez-Velázquez 2011; USAID 2015; Stakeholder Interviews February 2016).

Before Independence mining was private-sector-led but generally smaller in scale. Nationalisation began in 1971 with the establishment of Tanzania Gemstone Industries (TGI) under the National Development Corporation (NDC); the State Mining Corporation (STAMICO) was then created in 1972 as a state-owned mineral monopoly with TGI as one of its subsidiaries (Dirlam et al 1992; STAMICO no date). The first post-Independence mining legislation was the 1979 Mining Act, which limited large-scale mining, prohibited foreign ownership of mining concessions and vested all mineral resources in state hands under STAMICO and the NDC (SID 2009). From the 1980s, the government gradually began to allow private individuals and companies to operate again and buy, cut and export the gemstones being produced by small-scale miners, but full liberalisation awaited increasing awareness of the economic potential of Tanzania's mining sector in the late 1990s (Dirlam et al 1992; Magai & Márquez-Velázquez 2011). STAMICO was earmarked for closure in 1997, but it had provided contract drilling services to the private sector between 1990 and 2010 and the decision to close it was reversed in 2008 (Magai & Márquez-Velázquez 2011; STAMICO no date).

All mining licences are granted by the Ministry of Energy and Minerals (MEM), which has 10 Zonal Offices covering the main mining areas of Tanzania, each with its own Resident Mining Offices in charge of facilitation and monitoring in districts where mining takes place (URT 2015; Stakeholder Interviews February 2016). Primary Mining Licences (PMLs) are granted to small-scale miners by the zonal MEM offices initially for seven years, and zonal offices also issue trading, brokering and dealing licences. Prospecting Licences (PLs) for three years (for mineral exploration), Mining Licences (MLs) for four years (for larger mines with investments of between USD 100,000 and USD 100 million) and Special Mining Licences (SMLs) for up to 25 years (for the largest foreign-run mines with investments of over USD 100 million and accompanied by five-yearly reviewable Mining Development Agreements (MDAs)) are all applied for and issued directly at the Ministry (URT 2015; USAID no date; Stakeholder Interviews June 2016). In 1990 the government granted just 11 mining licences in total, compared to 1,560 granted in 2013 (Nayopa 2015). Data from MEM suggest that, nationwide, in 2015 there were a total of 33,855 active PMLs, 314 active MLs, 14 active SMLs, and 2,652 active PLs (UN Women 2016b). Although the Tanzania Mining Cadastre Portal (URT 2018) provides some information about individual mining licences on a clickable map, including the licensed area, we were unable to obtain any data on the total land area licensed for mining and mineral exploration in Tanzania, nor any gender breakdowns for individual (i.e. non-corporate) licence holders.

As mining has boomed as the second fastest growing sector in Tanzania after tourism, the government has increasingly been criticised for its failure – to stimulate equitable socio-economic growth linked to it (Magai & Márquez-Velázquez 2011; Maganga with Mhinda 2009; SID 2009; Sosy 2013). Critics point to the very favourable terms of trade that have been enjoyed by the large international mining companies operating in Tanzania and the corruption and tax avoidance that are rife in the sector; the government lacks institutional capacity to monitor and regulate mining

companies and this creates a dangerous power gap (Lugoe 2012; Magai & Márquez-Velázquez 2011; Poncian & George 2015). Employment in large-scale mines is negligible and those employed are often not from the local area; data from MEM suggest that only 12,000 people were employed in large-scale mines in Tanzania in 2012, of whom just 10% were women; other sources suggest at least 6% of employees at major mines were expatriates (Nayopa 2015; UN Women 2016b). Royalties on gold exports are low by global standards, and between 1999 and 2005 the government only received 9% of total revenue generated by all mineral sector exports; in 2007 some large international companies agreed both to increase their direct payments and to improve corporate social responsibility (CSR) (Lugoe 2012; Magai & Márquez-Velázquez 2011). Yet despite the massive contribution mining makes to exports and FDI noted above, the sector's share of GDP still only grew from 1.8% in 2001 to 3.5% in 2012 (UN Women 2016a). Moreover, significant questions have arisen around the negotiation of mining contracts; contracts are seen as too long and inflexible, negotiations are not transparent, contracts are not published to resolve issues around perceived corruption, and information about mining is not made readily available to the public, as we found also in our research (Lugoe 2012; Maganga with Mhinda 2009; Stakeholder Interviews February 2016 to February 2017). However, Tanzania joined the Extractive Industries Transparency Initiative (EITI) in February 2009 to improve transparency and governance in the sector and the country has undergone two validation processes and been commended in October 2017 for its progress (EITI 2017a; EITI 2017b). The country has also signed the 1997 SADC Protocol on Mining, committing it to adopt internationally accepted standards (UN Women 2016a).

During the 1990s, a USD 11.7 million, five-year Mineral Sector Development Technical Assistance Project, financed jointly by the World Bank and the Tanzanian government, led to the establishment of the 1997 Mineral Sector Policy, which encouraged private sector mining operations, limited the government's role to regulation, revenue collection, provision of extension services to small-scale miners, and administration and inspection of mining activities, and led to the start of really large-scale mining in Tanzania (SID 2009; UNEP 2012). However, the 1997 Mineral Sector Policy retained state ownership of mineral resources and envisaged small- and large-scale mining developing side by side, with Tanzanian nationals given exclusive rights to key roles in small-scale mining and only large-scale mining opened up to international companies with the needed capital and experience (Lange 2008; Lugoe 2012). The 1998 Mining Act gave legal basis to the policy, seeking to increase human capital development and local benefits from mining through more secure tenure for investors and a smooth progression from prospecting to mining rights through more streamlined licensing procedures; it also gave the Commissioner for Minerals power to decide all mining-related disputes (Lange 2008; Lugoe 2012; Poncian & George 2015).

In 2007 the Presidentially-appointed Bomani Commission looked into accusations of natural resources plunder and gross human rights violations around displacement and compensation related to foreign investments and LSLAs. Following its 2008 report, a new Mineral Policy of 2009 was put in place that continued to promote foreign private sector investment in mineral exploration and production while seeking to redress the low contribution of the mining sector to GDP (OECD 2013; SID 2009; URT 2009). At the same time, the World Bank lent the Tanzanian government USD 50 million for a five-year Sustainable Management of Mineral Resources Project to strengthen its capacity to manage the sector and deal with the socio-economic impacts of both large- and small-scale mining, followed by a further loan of USD 45 million in 2015 to build on that project's success and make further improvements to support small-scale producers (EITI 2015; Jamasmie 2015). The new policy and subsequent 2010 Mining Act allowed STAMICO to actively continue mining and to participate in mining investments on behalf of the state in the form of holding free-carried (i.e. no cost) interests in mining ventures (STAMICO no date). This new act set out the legal framework for mining that was still in place at the time of our research; the Mining (Mineral Rights) Regulations 2010 provide for the manner of acquiring rights and licences for conducting mining activities and the Mining (Mineral Trading) Regulations 2010 provide for the manners in which trading rights for different kinds of minerals can be acquired (Breakthrough Attorneys 2017; URT 2010). Although

international mining companies still get preferential terms to other foreign investors in Tanzania, foreigners may not be issued PMLs, gemstone exploration and mining are reserved for locals or specially authorised joint ventures, and trading, brokering and dealing are also reserved for locals or joint ventures (SID 2009; URT 2015). Other regulations under the 2010 Mining Act include the Mining (Environment Protection for Small-Scale Mining) Regulations 2010 and the Merelani (Controlled Area) Regulations 2002; the latter were in compliance with the Tuscon Tanzanite Protocol signed in 2002 to boost global confidence in tanzanite trading (Breakthrough Attorneys 2017; URT 2015).

None of these various regulations nor the 2004 Employment and Labour Relations Act (or its 2017 Regulations) stipulates that a certain percentage of jobs in large-scale mines must go to local people. Instead, the general policy is to encourage good CSR measures and boost local (i.e. Tanzanian) employment, and there should also be a preference for local procurement (URT 2015). Thus Article 49(2) of the 2010 Mining Act requires ML applicants to submit an employment and training plan for Tanzanians, a succession plan on expatriate employees, and a procurement plan for made-in-Tanzania goods and services; however, problems remain with implementation and large mining companies have been criticised for procuring goods and services from outside the country when these were locally available, with 80% of mining supplies dominated by foreign-based suppliers who have subsidiaries in Tanzania (Nwapi & Andrews 2018; Poncian & George 2015; URT 2010). Furthermore, although some of the large companies have CSR programmes, the majority have not responded to the needs and priorities of surrounding communities, as we also found in our research (Poncian & George 2015; Stakeholder Interviews February 2016). Rural communities get frustrated by the length of time it takes for mining revenues to be channelled back to them and some want direct CSR (Lugoe 2012). Critics also claim that some mining company 'CSR' expenditure on roads and water pipes is really for the benefit of the mines (SID 2009).

International mining companies have begun in recent years to make more effort to demonstrate the benefits they bring to Tanzania (Poncian & George 2015; Stakeholder Interviews February 2017; e.g. Acacia Mining plc 2015). Government policy towards the mining sector continued to evolve throughout the period of our research, as President Magufuli began to take on some of the country's largest foreign investors, as noted above. In August 2016 tanzanite auctions were set up to reduce lost revenues by curbing the smuggling of minerals out of Tanzania; in March 2017 a ban was imposed on the export of gold and copper concentrates to try to stimulate local job creation; and in June 2017 the government announced its intention to ban transportation of minerals directly from mine sites, to enhance control over mineral exportation and revenue collection, as well as to review all MDAs (Breakthrough Attorneys 2017; Citizen 2017a; Economist 2017a). Significant developments have also taken place directly around the tanzanite mines since we carried out the fieldwork on which our present report is based. In September 2017 President Magufuli ordered the Tanzanian military to build a solid concrete wall around the entire 25 km perimeter of the Mirerani Controlled Area; he also asked the Central Bank of Tanzania to buy tanzanite to boost its reserves, following the establishment of a National Gold and Gemstone Reserve under the bank's control (Ng'wanakilala 2017). The wall was built in three and a half months and was completed and inaugurated in April 2018 (Nkwame 2018). There is one central gate, with checkpoints and security cameras around the entire site with the purpose of minimising tanzanite smuggling and tax dodging (Ng'wanakilala 2017). While the wall was being built, the government started issuing identity cards for people who work in the Mirerani mines and mining operators were instructed to provide permanent employment contracts to their workers (Nkwame 2018). These developments have fundamentally changed the situation on the ground in the second of our case study villages discussed below, although it is too early to say how their full implications will unfold.

A further – and related – governance issue for the mining sector in Tanzania is the lack of linkages with other natural resource sectors (Stakeholder Interviews June 2016). There was little coordination between lawmakers when key land and mining laws were being drafted in the late 1990s, leaving

conceptual differences over how land and mining rights are perceived and rights themselves sometimes unclear, particularly at local level (Stakeholder Interviews June 2016). Land rights are only valid for surface land, yet mining licences for sub-surface minerals are often issued in areas where people live and hold customary rights to land. Lawful land occupiers are not allowed to erect buildings or other structures in mining licence areas without consent of the registered holder of the mineral rights, and those same rights-holders are obliged to pay compensation for damage to crops and buildings that were already present on the land under the 1999 Land Act, even though sub-surface rights do not fall under its jurisdiction (Lange 2008; Lugoe 2012). As indicated above, under the 1999 Village Land Act villagers have little power to object to losing land to any size of mining company if the government sees this as being in the national interest and, although they have to be informed about mining rights being issued on their land, the requirement for written consent under Article 95(1) of the 2010 Mining Act can be voided if the MEM Minister thinks that consent is being unreasonably withheld (Lange 2008; URT 2010). The Commissioner of Minerals often has no record of occupancy or other natural resource rights on village land, so conflicts frequently occur, for example if potential investors are given out-of-date maps that do not show schools or health facilities lying within a prospecting area, yet villagers and small-scale miners who disagree with the grant of mining concessions seldom have the resources to contest them or seek compensation (Lange 2008; USAID no date). Furthermore, although general investment policies and laws require all proposed investments to undergo an Environmental Impact Assessment (EIA), this is ambiguous where mineral rights rather than land rights are being acquired (Daley & Scott 2011; Stakeholder Interviews February 2016).

Over the past 20 years there have therefore been frequent conflicts between local people with customary land rights, small-scale miners with claims to mining areas but no official rights, and foreign companies with official mineral rights; conflicts generally centre on relocation and unfair compensation, disputed mineral claims and illegal mining, pastoralists' land rights, and general lack of transparency, and many have turned violent (Lange 2008; Mfugale 2016; York 2016; Stakeholder Interviews February 2016). Conflicts are also common between larger companies and small-scale miners within mining sites and there is a long history of illegal incursions into tunnels and mine shafts; in July 2017 the government ordered the temporary closure of two affected mines in Mirerani following the death of a small-scale miner (Citizen 2017b; Helliesen 2012).

Artisanal and small-scale mining

Small-scale mining is defined in the 1998 and 2010 Mining Acts as “operations characterized by small capital investment, low levels of technological sophistication, and full ownership by Tanzanian citizens” (UNEP 2012). In essence it involves licensed small-scale miners operating in designated small-scale mining areas. Artisanal mining, however, is not clearly defined in the law but broadly takes two forms: where illegal small-scale mining is carried out by miners without licences who either operate in areas held as PLs by larger companies or in areas not yet under licence, to open up new mining sites, or where small-scale miners mine in the tailings (or rubble) of larger company operations (Stakeholder Interviews June 2016). These latter are tolerated to varying degrees by the companies concerned, partly because of the government's encouragement of large-scale mining companies to form partnerships with small-scale miners, but also because these miners are able to operate illegally due to government capacity constraints to police mining sites; nonetheless, as we also found in our case studies, many artisanal miners would prefer to operate legally as licensed small-scale miners within the government's regulatory framework for their own protection (Lugoe 2012; UNEP 2012; UN Women 2016a; USAID no date; Stakeholder Interviews June 2016).

Estimates of the numbers of people engaging in artisanal and small-scale mining (ASM) in Tanzania vary widely. In the mid-1990s the sub-sector was thought to employ between 500,000 and 900,000 people; in 2012 the figure was between 500,000 and 1.5 million people just in ASM gold-mining; another figure gives the number of artisanal and small-scale miners in Tanzania exceeding 1.5 million

in 2005, while data from a government baseline survey claim an increase from 150,000 in 1987 to 550,000 in 1996 and 680,385 in 2011, among whom 27.6% were women (SID 2009; Magai & Márquez-Velázquez 2011; Nayopa 2015; UNEP 2012; UN Women 2016a). Earnings from these miners have tended to circulate locally and generate massive multiplier effects for the local economy, including generating an estimated three jobs for every one individual directly involved in mining, and as a result the government has endorsed the ASM sub-sector for the positive benefits it brings to local livelihoods (SID 2009; UNEP 2012).

The 1979 Mining Act created space for limited legal ASM to begin and was followed after 1980 by the earmarking of designated areas for small-scale mining in and around Lake Victoria and Arusha, and, in 1983, with a Small-Scale Mining Policy Paper that encouraged citizens to supplement their incomes in the difficult economic conditions at that time by participating in mining; the 1997 Mineral Sector Policy and 1998 Mining Act then formally integrated ASM into development strategy and designated further areas in which Tanzanian small-scale miners could operate (Bryceson & Geenen 2016; SID 2009; UNEP 2012). Nevertheless, from the late 1990s up to 2005 so many permits were issued to large and medium-scale companies that artisanal miners were left with very little chance of obtaining formal approval to mine, and thus the 2010 Mining Act emphasised the need to give greater opportunities to Tanzanian citizens to benefit from participation in the mining sector, including through the issuance of PMLs (Bryceson & Geenen 2016; UNEP 2012).

With few exceptions, there is strong gender discrimination in ASM, and formal small-scale mining is male dominated (Bryceson & Geenen 2016; Stakeholder Interviews August 2016). Constraints to the ASM sub-sector's development include lack of access to fair and competitive markets, lack of formal property rights to both mining sites and minerals, and lack of geological knowledge and management skills which hinder the efficiency of small-scale production (Sosy 2013). ASM is built on teamwork and specialised divisions of labour and some Tanzanians have been able to accumulate capital and move up career ladders to brokering and dealing, but the lack of market access makes most small-scale miners vulnerable to exploitation by mining bosses and to price fixing and collusion by brokers, as we also found in our fieldwork (Bryceson & Geenen 2016; SID 2009; Sosy 2013). The ASM sub-sector is also beset by poor working conditions and lack of access to specialised equipment and even to suitable protective clothing (CPAR & U of M Students 2011; EITI 2015; Sosy 2013; UN Women 2016a). Government efforts to support ASM have centred around specific land allocation to small-scale miners to reduce conflicts with larger companies and support their tenure security, as noted above, decentralising some issuing of permits to Zonal Offices, and strengthening outreach capacity to help reduce environmental degradation; PMLS were also designed specifically as a means to formalise ASM and give miners capital against which to obtain a bank loan (UNEP 2012).

Impacts of large- and small-scale mining

Impacts of the mining sector on rural communities across Tanzania have been both positive and negative. The ASM sub-sector in particular has contributed to cash-income generation and rural job creation, as noted above. There is a view that small-scale mining offers a more attractive path out of poverty than either farming or urban migration; small-scale mining has often driven local growth more than the presence of large-scale mines, and ASM has minimised some of the boom-bust impacts of the latter (Bryceson & Geenen 2016; Economist 2016a). In pastoralist areas, livestock keeping and mining are sometimes seen as two very different livelihoods, but there is a lot of overlap and complementarity, and mining thus allows for livelihood diversity for pastoralist people, as we found in our case study villages (Stakeholder Interviews February 2017).

Nevertheless, artisanal miners have faced many challenges in Tanzania including unlawful eviction and abuse of human rights (SID 2009; Stakeholder Interviews February 2016). People are lowered down flimsy mine shafts on ropes and mines have collapsed and killed people (Economist 2016a; UN Women 2016a). In some areas designated for licensed small-scale mining, the plots are so small that miners are forced to make very narrow passages to get deep into the mines and often employ

children to achieve this (Lugoe 2012). During our fieldwork we directly witnessed child labour and mercury exposure at one illegal gold mining site; other researchers have found children as young as eight working in gold mines and note the special risks for girls around sexual harassment and prostitution (CPAR & U of M Students 2011; HRW 2013).

The impacts of mining in Tanzania are heavily gendered in general, affecting women more acutely than men (UN Women 2016a). Challenges and barriers for women include lack of tools, equipment, capacity, and skills, as well as greater vulnerability and exposure to health and safety risks – including diseases from poor housing, sanitation and sewage systems in mining sites – and sexual exploitation (UN Women 2016a; UN Women 2016b). Other gendered impacts include reduced food production to make time for doing jobs around the mines, where employment is less available to women, leaving them to supply services such as cooking, transport, cleaning, running shops and sex work. Women are constrained from entering mining proper through limited access to land and credit and disadvantages in the tendering process, a lack of female role models in the sector (combined with few and weak associations for women miners), socio-cultural norms that prevent women from controlling their own incomes and cultural taboos that make it hard to enter mining sites, such that in at least one case a woman who wanted to mine disguised herself as a man (McDermott 2017; UN Women 2016a; UN Women 2016b). On the other hand, in the oft-mentioned success story of women in Mbarawara, a key to their success was self-organisation: there, a women’s group engaged with the village government and the local mining company (Tancoal) to see how they could benefit economically from the mine, resulting in agreement on them providing catering services to the mine workers and on a horticulture project to help them grow the needed local food; this led on to exposure of the women to other work, with some learning how to use machinery and getting formal jobs at the mine and others developing spin-offs such as using leftover coal dust to make briquettes for cooking (Stakeholder Interviews February 2017).

Environmental impacts are also very visible around large- and small-scale mining sites, including from the use of mercury and cyanide in gold processing (Lugoe 2012; Dirlam et al 1992; UNEP 2012; Stakeholder interviews February 2016). Other environmental issues relate to forest clearance, dust and noise pollution, and mining pits, while in 2009 a major spill of toxic waste from the Mara Mine left two rivers contaminated, with 40 people affected and 1,350 livestock deaths (Lugoe 2012; SID 2009; Stakeholder Interviews June 2016). In a 2001 Position Paper about environmental impacts of, and conflicts around, mining, the government attributed much of this to capacity and resource constraints that make monitoring difficult and result in unfair allocations of land for mining, related poor compensation payments and safety issues in and around mines (Lange 2008; Lugoe 2012). At the same time, artisanal miners often feel forced to break the law so that they can access mining sites and many act recklessly in respect of pollution and environmental damage (Bryceson & Geenen 2016). Landowners are not always involved in, or informed about, the EIAs that mining companies carry out, and there is a perception in Tanzania that mining rights trump all other natural resource rights, such that people who refuse access to someone with a mining licence can be chased off their land and local artisanal miners can be chased out of an area when larger companies request to work there (Stakeholder Interviews February to June 2016). MEM and MLHSD are supposed to work together so that anyone who gets a mining licence can also get a title for the land – to avoid the kind of problems over compensation that have arisen in the past – but coordination between them is still limited (Stakeholder Interviews June 2016). However, while there were no formal CSR programmes in the 1990s and companies just dictated to communities, relocation and investment in mining now tends to take place more interactively and MEM encourages companies to build people new houses rather than just paying compensation (Stakeholder Interviews February 2017).

Changing tenure and management of pastureland

The rapid expansion of the mining sector over the past 20 years has coincided with the gradual implementation of the legislation put in place during the 1990s land tenure reforms; together these

two key processes of change have coincided with climate change, population growth and a general rise in conflicts over land use to affect both pastoralist lifestyles and the tenure and management of pastureland, and to cause pastoralists to struggle with the effects of settlement and encroachment on their grazing areas (Shem 2010). The expansion of mining has raised demands for land and water resources in the traditional pastoralist mineral-rich areas of Tanzania, resulting in environmental damage, landscape scarring and water pollution, as just noted above. Livestock have died from drinking contaminated water or from falling into abandoned mining pits, while fencing has also restricted pastoralists' access to resources such as salt licks and markets; repercussions for trespassing in both mining and wildlife/tourism concessions are severe – fines, custodial sentences and even livestock and people being shot (Sikar 1996)

Village land administration under the 1999 Village Land Act is confined within village boundaries, as noted above, yet pastoralists frequently move across these. In practice, in pastoralist areas statutory village government control is restricted to only certain rural lands such as farms, with large portions – especially of rangelands – remaining subject day-to-day to customary tenure arrangements (SRMP 2013). However, the steady demarcation and acquisition of large areas of rangelands by private investors risks destroying the pastoralists' way of life by denying them access to the large areas of land and water resources on which they depend for their livelihoods. Further, although the Village Land Act recognises communal land, it also states that customarily held pastureland should be administered in accordance with prevailing (and heavily gendered) usufruct rights under customary law (SRMP 2013). Problems in defining pastoral tenure practices mean that common grazing lands then sometimes end up subject to management by village councils, thereby potentially dispossessing pastoralists of their grazing lands and enabling them to be alienated for settlements, farms or LSLAs (Daley et al 2017).

CSOs in Tanzania have endeavoured to address concerns about pastoralists' tenure insecurity through a variety of approaches to land use planning and the pursuit of CCROs (Smith 2015). Specific protection for pastoral grazing land can be provided through implementation of the 2010 Grazing Land and Animal Feed Resources Act (SRMP 2013). There are also the 1997 Forest Policy and the Forest Act 2002 and regulations of 2004, and sectoral regulations e.g. for Wildlife Management Areas (WMAs); these are generally governed by village natural resources committees that work with the Tanzania Forest Service and, by 2011, there were 33 WMAs in Tanzania covering 262 villages (TNR 2014a). Other approaches to supporting pastoralists' land rights have included the blocking of areas of grazing land as a use class in the process of village land use planning and protecting them from alienation through by-laws, or allocating such lands to pastoralist individuals or groups through the issuance of formal customary land titles (CCROs) (Daley et al 2017). A trial of low-cost participatory natural resource mapping by IFAD's Sustainable Rangelands Management Project (SRMP) enabled the connections and interactions over resource use between neighbouring villages which otherwise get left out of village-focused land governance structures to be addressed; the trial also introduced Joint Village Land Use Agreements (Flintan 2012; ILC 2014; Kisambu et al 2017; UCRT 2010). While conventional VLUP preparation in single villages tends to limit mobility of pastoralists, participatory village land use planning provides opportunities to reach agreement on resource sharing between neighbouring villages, although there is a trade-off for pastoralists between securing rights over land and maintaining flexibility and wider rights of natural resource access and use beyond village boundaries. However, without external actors to facilitate and guide the VLUP process, there is a danger that some village members will be able to claim key resources whilst marginalising others; pastoralists' involvement needs to be specifically and dynamically approached, and recognition is also needed that the VLUP process does not build in future planning for population growth and migration (Hart et al 2014a; Hart et al 2014b; ILC 2014; Loure & Lekaita 2017; SRMP 2013). Finally, one CSO – the Ujamaa Community Resource Team (UCRT) – has since 2011 been pioneering an approach to translating what is written in the land laws into practice by getting group CCROs for indigenous communities, including Hadza, Maasai pastoralists, and Akie hunter-gatherers, after first securing them a CVL (IFAD 2012; Loure & Lekaita 2017; Maliasili Initiatives 2012;

Maliasili Initiatives 2014; Marrone 2016; Morlin-Yron 2016; Reuters 2016; Smith 2015; UCRT 2016; UCRT no date; Stakeholder Interviews February 2016).

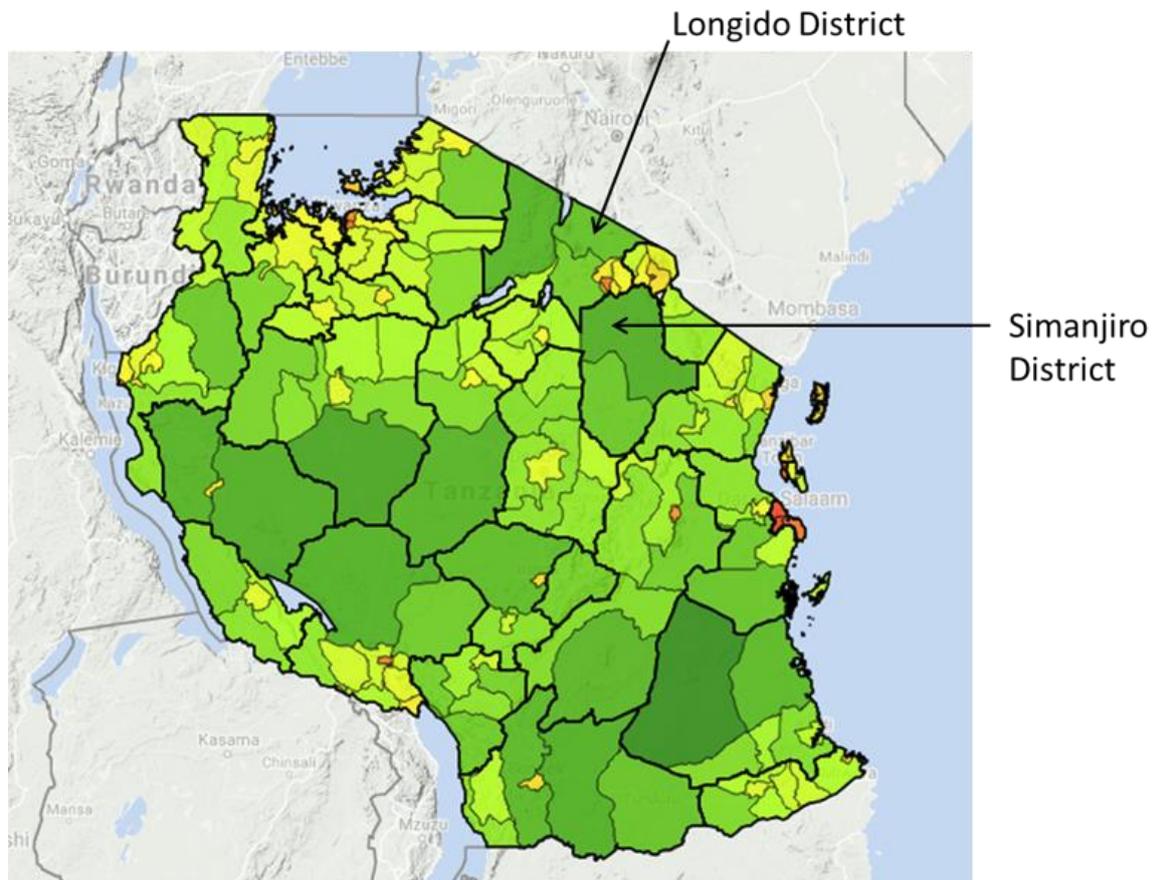
These exciting experiments to support secure tenure and management of Tanzania's rangelands have coincided with the wider review of the 1995 National Land Policy noted above. Once a new land policy is approved, there will have to be legislative and regulatory changes in other sectors to ensure consistency with the new land policy, for example in the Mining Act and Wildlife Act (Stakeholder Interviews February 2017). CSOs involved in consultations with MLHSD about the new policy have been keen to preserve CCROs and bring land rights into the Constitution (CARE et al 2016; Mbilinyi 2016b; Sulle 2016a; Stakeholder Interviews February 2017). However, to date the draft land policy focuses on pastoralists and agricultural land in the context of LSLAs, with little attention to the land needs of the mining sector, and there has again been limited discussion with other natural resource sectors, including water, agriculture, mining and forestry (Stakeholder Interviews June 2016). Critics also warn that women's land rights are not sufficiently defined or protected in the draft land policy, and that any isolation of gender and class or community rights issues will be as detrimental now to women's land rights as it was in the 1990s land reform debates, when Tanzanian CSOs did not all work together well (Manji 1998; Mbilinyi 2016a; Mbilinyi 2016b; Stakeholder Interviews February 2017). It therefore remains to be seen how these policy and legislative review processes will unfold and what they will mean at the intersection of gender, land, pastoralism and mining in Tanzania today.

Community Case Studies

The field research on which this report is based took place in two communities in Tanzania – Mundarara village, Longido district, Arusha region, and Naisinyai village, Simanjiro district, Manyara region. These areas were chosen after multiple field visits between June and October 2016 and careful assessment based on a wide range of considerations including, among others: local geography and environment; main land uses and livelihoods, including the nature and extent of herding; nature, scale and history of mining investments and activities; population size and composition; accessibility from Arusha; presence of other NGOs/CSOs and/or government projects; and support from local governments at district, village and vitongoji level for the WOLTS research.

Both communities lie in the Rift Valley of northern Tanzania and both are affected by mining activities but at different scales, with different numbers of exploration and operational licences. Naisinyai is closer to the major city of Arusha and the international airport at Kilimanjaro, and has seen a longer history of local mining development at the Mirerani site, the only known location of tanzanite gemstones in the world. Mundarara, where ruby gemstones are mined, is further to the north, not far from the Kenyan border crossing at Namanga and next to a large conservation area linking into the main Ngorongoro-Serengeti ecosystem. The main ethnic group in both villages is the Maasai, but Mundarara is more remote than Naisinyai and longstanding cultural norms there appeared to be more deeply entrenched. Map 2 shows the location of the two communities; Table 1 summarises some of their key characteristics.

Map 2. Tanzania administrative map showing locations of Longido and Simanjiro districts



Source: www.citypopulation.de

Table 1. Key characteristics of the study communities

Characteristic	Mundarara	Naisinyai
Local geography and environment	<p>Classic Rift Valley, mix of miombo woodland and savannah</p> <p>Arusha region is 34,516 km², of which Longido district is 7,782 km²; no area data available for Mundarara ward or Mundarara village</p> <p>District includes Mount Longido, Lake Natron, the 1,282 km² Enduimet Wildlife Management Area, established 2003, and a 1500 km² Game Controlled Area, established in 1974</p>	<p>Maasai Steppe, mix of miombo woodland and savannah</p> <p>Manyara region is 47,913 km², of which Simanjiro district is 18,851 km²; no area data available for Naisinyai ward or Naisinyai village</p> <p>District includes a 2,000 km² Game Controlled Area, established in 1974; Mirerani Controlled Mining Area sits largely within Naisinyai village; southern part of village borders Mirerani town</p>
Main land uses, livelihoods and economy	<p>Herding as main livelihood, crop farming and mining-related activities also present</p> <p>Longido district livestock population: 193,866 cattle, 152,493 sheep, 232,293 goats, 1,271 pigs, 20,802 chickens (2007-08)</p>	<p>Herding, crop farming and mining-related activities as main livelihoods</p> <p>Simanjiro district livestock population: 358,968 cattle, 217,926 sheep, 480,831 goats, 4,053 pigs, 112,730 chickens (2007-08); Naisinyai Ward livestock production: 29,915 cattle, 10,367 sheep, 22,292 goats, 1,201 donkeys, 1,814 chickens (2016)</p>
Mining	<p>Medium-scale ruby mining (Mundarara Ruby Mining Company and Paradiso Minerals Limited) plus village mining group (Kijiji Cha Mundarara)</p> <p>8 mining licences in the village (at October 2016) – but only Mundarara Ruby Mining Company operational</p> <p>Gemstones present: corundum (variety ruby)</p>	<p>Large-scale tanzanite mining (Tanzanite One and Tanzanite Africa), medium-scale (Kilimanjaro Mining) plus extensive small-scale mining</p> <p>1,841 mining licences in the district (at June 2016); 732 Primary Mining Licences in the Mirerani Controlled Area, but only 100-200 of these operational</p> <p>Gemstones present: zoisite (variety tanzanite); garnet (varieties grossular and tsavorite); scapolite (tourmaline); axinite-(Mg) (diopside)</p>
Population	<p>Approximately 4,857 people in 701 households in 5 vitongoji in Mundarara village – people live in traditional boma (with up to 20 households)</p> <p>Majority Christian and Maasai ethnic group</p> <p>In Longido district there were 123,153 people in the 2012 census; in Mundarara ward there were 7,301 – 3,711 male and 3,590 female</p>	<p>Approximately 8,770 people in 1,243 households in 3 vitongoji in Naisinyai village – people live on individual plots and not in boma</p> <p>Majority Christian and Maasai ethnic group</p> <p>In Simanjiro district there were 178,693 people in the 2012 census; in Naisinyai ward there were 11,144 people – 5,893 male and 5,251 female</p> <p>Manyara Region average population density 28 people per km² (49 people per km² national average)</p>
Accessibility	<p>District centre (Longido town) approximately 82 km north of Arusha and 28 km south of Namanga/Kenyan border along a tarmac road, village centre approximately 33 km west of district centre along a dirt road.</p>	<p>District centre (Orkesemet) approximately 145 km south-east of Naisinyai along a dirt road, village centre approximately 19 km south of Kilimanjaro International Airport along a new tarmac road, and thence 65 km west to Arusha.</p>
Government and development partner projects	<p>African Wildlife Foundation, TNRF and CORDS land use planning project in Longido district (including Mundarara ward) (CORDS in 2012, African Wildlife Foundation ongoing)</p> <p>Pastoral Women's Council operates in 7 villages of Longido district (not in Mundarara) (ongoing)</p> <p>Project Concern International maps grazing conditions around Longido district (ongoing)</p> <p>Green Miles Safaris (a UAE-backed hunting company) in Longido district (ongoing)</p> <p>TRIAS, HAIFA and WEICOS (local CSOs) work on women's empowerment and pastoralist development in Mundarara Ward (ongoing)</p>	<p>UCRT and CORDS both operating community land management projects in Simanjiro district (not in Naisinyai) (ongoing)</p>

Sources: Gemdat 2017; URT 2013b; URT 2013c; URT 2016a; Stakeholder Interviews February 2016 to February 2017; Official data from Mundarara and Naisinyai village governments, Longido and Simanjiro district governments, and Arusha Zonal Mining Office, 2016.

Methodology

Following selection of our two study communities, a baseline survey was carried out in Naisinyai in August 2016 and in Mundarara in October 2016, and a participatory fieldwork phase was carried out in both villages in February 2017. Following an intensive period of data analysis, our findings were then shared and validated during follow-up field visits to both villages in July and August 2017 and a multi-stakeholder workshop in November 2017.

The baseline survey was conducted with 10% of households in all vitongoji of both villages. In Mundarara, the baseline included 71 households, of whom 57 were randomly sampled and 14 were additional female-headed households. Eighty per cent of the total survey sample in Mundarara was therefore randomly sampled (including 50 male- and seven female-headed households) while 20% comprised deliberately targeted female-headed households. The total number of male-headed households surveyed was 50; the total of female-headed households was 21. Where possible our survey was carried out with the household head and/or their spouse if they had one, otherwise with the most responsible adult present. Among all 71 surveyed households in Mundarara there were 8 male respondents and 63 female respondents.

In Naisinyai, the baseline included 125 households, of whom 103 were randomly sampled and 22 were additional female-headed households. Thus 82% of the total survey sample in Naisinyai was randomly sampled (including 97 male- and six female-headed households) while 18% comprised deliberately targeted female-headed households. The total number of male-headed households surveyed was 97; the total of female-headed households was 28. Among all 125 surveyed households there were 47 male respondents and 78 female respondents.

Our sampling method was designed to boost the total number of female-headed households surveyed so as to help uncover critical gender issues for vulnerable groups. Data from the additional female-headed households have only been included in comparative analysis of male- and female-headed households and male and female respondents, and not in all the general baseline analysis.

Our participatory fieldwork phase included 13 focus group discussions (FGDs) and 12 individual biographic interviews (BIs) in each village, thus a total dataset of 26 FGDs and 24 BIs, involving over 92 people in Mundarara and over 104 people in Naisinyai. Different types of social groups and individuals were specifically sought out for these discussions and interviews so as to reflect different characteristics and issues that we considered worth exploring further after analysing our baseline results (e.g. widows, miners, monogamously/polygamously married men and women, etc.). FGDs were structured around standard participatory exercises, including natural resource and migration mapping, seasonal labour analysis, and stakeholder analysis and institution mapping. BIs followed structured question guides that were tailored to the circumstances of the individual being interviewed in order to help us learn about people's lives and livelihoods and the ways both gender relations and access to different resources have changed since their childhoods. All FGDs and BIs included free-ranging discussions about gender, land, pastoralism and mining too.

Annex 2 provides fuller details about our baseline survey; Annex 3 provides fuller details about our participatory fieldwork methodology. Our research also included interviews with local government officials and representatives of some of the mining companies and organisations working in the two villages; these are listed at Annex 4. The remainder of this report draws extensively on both the quantitative and qualitative results of our research.

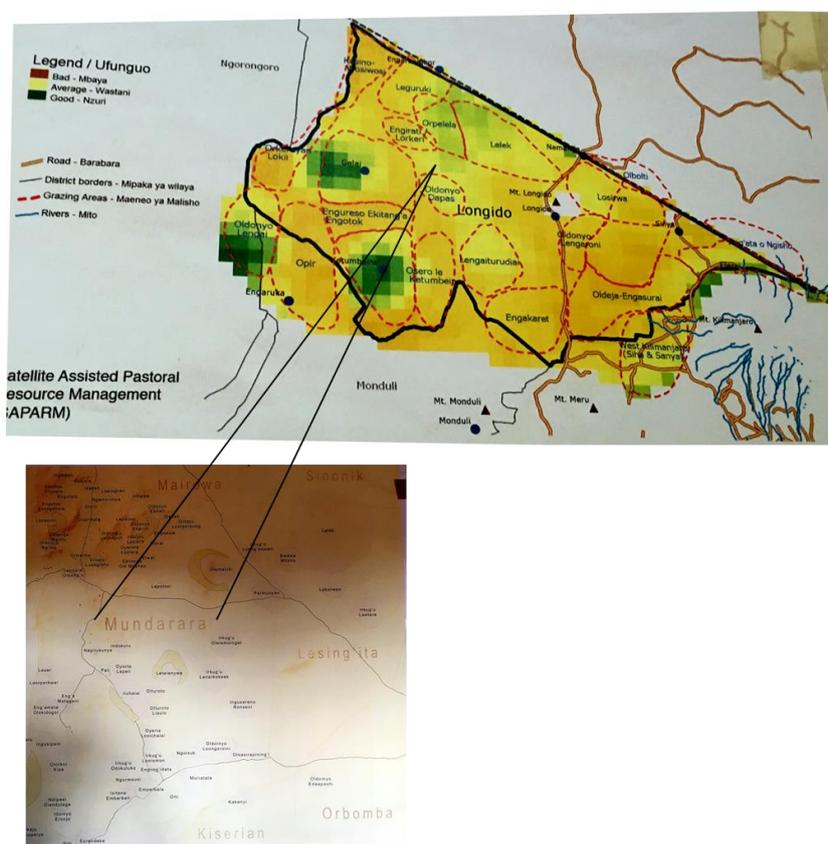
Currency conversions in the text were calculated at the rate of USD 1 = TSh 2,500, which was the average of the exchange rate that prevailed at the time data were collected, thus August and October 2016 for data from the baseline and February 2017 for data from the participatory fieldwork phase.

Mundarara Village

Location and population

Mundarara village lies in Mundarara ward in Longido district, Arusha region, in northern Tanzania. The nearest small town is Longido, which lies about 33 km east along a single-track dirt road. This is where the district headquarters are based, at the foot of Mount Longido, on the main tarmac road between the major town of Arusha (about 82 km further south) and the Namanga border crossing to Kenya (about 28 km north). No data were available on the total land area of Mundarara; however, the village’s two main land uses are pastoralism and, to a much lesser extent, crop farming. Mundarara is only about 100 km from the boundary of the world famous Ngorongoro Crater Conservation Area and there are wild animals visible throughout the village, part of which lies within a WMA; the district also includes the Lake Natron Game Controlled Area. According to the Arusha Zonal Mining Office as at 11 October 2016, eight mining licences had been granted in Mundarara, all for ruby gemstones, but only one was operational during our fieldwork.

Map 3. Location of Mundarara within Longido



Source: Official maps in the Mundarara village office, February 2017.

Mundarara village is made up of five vitongoji – Les Mundarara, Olorien, Olong’elu, Kitarini and Injalai. The village is a fairly typical, sparsely populated Maasai village. People in different areas generally lived together within traditional boma (large compounds containing multiple households and livestock grazing areas, all enclosed by a fence of thick and thorny bushes), which can often contain up to 20 (or more) households. The total population of the village as at 12 October 2016 was 4,857 people, living in 701 households. The distribution of households across Mundarara’s five vitongoji is given in Table 2; it was not possible to calculate population densities due to the lack of data on the village’s area.

Table 2. Number of households in each kitongoji, Mundarara

Kitongoji	Number of households
Olorien	175
Kitarini	105
Les Mundarara	104
Olong'elu	110
Injalai	207
Total in Mundarara	701

Source: Official data from Mundarara Village Government, as at 12 October 2016.

A total of 21 female-headed households were included in our baseline study, of whom seven fell within the 57 randomly sampled households, equivalent to 12% of the random sample. Extrapolating to the village as a whole therefore suggests that at least 84 households in Mundarara were female-headed at the time of our survey. However, this is half the national average rate for female-headed households noted above.

The average size of the randomly sampled households in Mundarara was 5.6 people. The average size of all 21 female-headed households was 5.24; the average size of all 50 male-headed households was 5.62. There were in total 321 people (133 females, 177 males, and 11 whose gender was not given) living in the randomly sampled households, with their age breakdown as summarised in Table 3 below. The 11 people whose gender was not given and 16 people whose age was not given all came from five households where respondents did not want to disclose this information.

Table 3. Age distribution of people living in 57 randomly sampled Mundarara households

Age (in years)	Number of people	Percentage of total people in each age group
5 or under	71	22%
6 to 12	73	23%
13 to 18	29	9%
19-24	26	8%
25-34	37	12%
35-44	27	8%
45-54	20	6%
55-64	9	3%
65-74	5	2%
75 and over	8	2%
Not given	16	5%
Total	321	100%

Source: WOLTS Tanzania baseline survey, 2016. N = 321.

The data in Table 3 suggest by extrapolation that at least 54% of Mundarara's population were children aged 18 or under), at least 4% were elderly (aged 65 or older), and just 37% of the population were working age adults (aged 19 to 64). The youthfulness of Mundarara's population is underscored by the fact that in total at least 74% of the members of our randomly sampled households were under the age of 35, a finding that is in line with the national average noted above.

Our baseline survey was carried out with the most senior adult household member who was available and willing to be interviewed. Twenty-six per cent (15) of the respondents from randomly sampled households were the household heads. More commonly, the spouses (wives) of the (male) household heads were the respondents, with 70% (40) of all respondents being the spouses. In two households the male household head's daughter was the respondent. Eighty-six per cent (49) of all respondents in the random sample were female and just 14% (8) were male; all respondents in the 14 additionally surveyed female-headed households were the female household heads. The limited availability of male respondents was primarily due to the baseline survey being carried out in the dry season when many men were not at home because they had temporarily migrated away to graze livestock; those male household heads who were either at home or with livestock nearby all responded to the survey for their household. Findings from our perceptions questions discussed further below are therefore less robust for male respondents than for female respondents but are

everywhere balanced by findings from our FGDs and BIs in the wet season, where many more men were active participants, for example with some 50 men taking part in our FGDs compared to 30 women.

Mundarara is ethnically very homogeneous, with almost all inhabitants being Maasai – the ethnic group of 100% of the heads of randomly sampled households in our baseline survey. Christianity is the predominant religion – attributed to 91% (52) of the heads of randomly sampled households; 42% of these 52 Christians were reported to be Lutheran, with the remainder Baptist, Catholic, Charismatic Episcopal, Pentecostal and Seventh Day Adventist. Seven per cent (4) of the heads of the randomly sampled households were reported to follow traditional beliefs, and one household did not respond. All the Baptist and Seventh Day Adventist household heads lived in Olong’elu and all the Charismatic Episcopalians lived in Olorien, where there were churches of those denominations.

Mundarara’s five vitongoji

It is an approximately 45 minute drive from the district centre at Longido town to Mundarara village centre. The road into Mundarara divides two of the village’s five vitongoji; Les Mundarara kitongoji is on one side and Kitarini kitongoji is on the other. Les Mundarara contains the original part of the settlement of Mundarara and is the village centre, with more amenities than the other four vitongoji; it is where the village office, school, kindergarten, health centre, market place, and various kiosks are located.

Within Mundarara ward there are two other villages, Orgira and Orpukel, and there is a weekly market on Tuesdays in Les Mundarara which people come to from all three villages in the ward; it serves as a big local centre for buyers and sellers of livestock, as well as a market for food crops. The main well in Mundarara, where people collect water for both human and animal consumption, is also located in the village centre, and the housing in Les Mundarara is more grouped together, not in boma but built up as a village centre, with many more brick buildings visible than in the other four vitongoji, where almost all households live within large boma.

There are currently two main mining areas in Les Mundarara, for the Mundarara Ruby Mining Company (MRMC) and the village mine, and groups from the community can be seen near the road from Longido collecting and sorting rubble from the mining sites to extract ruby for trading themselves. A third mining area, for Paradiso Mining, is located just across the road, technically in Kitarini but very close to the village centre in Les Mundarara, and close to a former second mining site of MRMC.

Olorien and Olong’elu vitongoji also border Les Mundarara, further along the main dirt road from Longido, whereas Injalai is located further south beyond Kitarini and is the biggest kitongoji in terms of both physical size and population. Injalai is also the most remote and spread out of all five of Mundarara’s vitongoji, with its boma much more scattered. Olong’elu is the next most typically pastoralist kitongoji, with scattered boma. As well as the main well in Les Mundarara, there are several seasonal water sources within the individual vitongoji; each kitongoji also has its own farming areas, as well as its own livestock grazing areas.

Communication is poor all over Mundarara, although some parts of the village are served by an Airtel phone mast, but in Injalai there is no signal at all on any phone network. Injalai is also the furthest distance from Longido and there are very few paths, tracks or roads between its boma. The quickest way to reach Injalai from the village centre (over 30 minutes’ drive) is to pass over a river that is dried up throughout the dry season (June – November and February – March). However, during the rainy seasons (December – January and April – May) the river is impassable and local people have to take a much longer route to the village centre. There is no school in Injalai so children have to walk every day to the village centre; during the rains there are a lot of wild animals around, including elephants and lions, and this creates even more difficulties for children getting to school.

Recent history of economic and population change

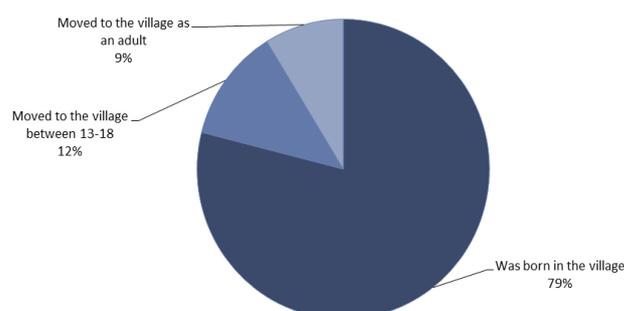
According to participants in our FGDs and BIs, Mundarara village has expanded considerably in the last three to four decades, from its origins as a very low-density pastoralist settlement with only a few boma dotted around the local ruby mining sites in what is now the village centre. Before Villagisation in 1974 there were no village boundaries and just a few scattered settlements in the Mundarara area, and the local Maasai people moved around frequently with their livestock. During Villagisation, village boundaries were identified and permanent movement across village boundaries only became possible with the permission of the village government. As a result, many local Maasai households set up permanent boma in Mundarara and movement for grazing became a more seasonal endeavour; from this time whole families began to stop moving around together and instead men went off to graze livestock in the dry season, while women and children stayed behind year-round in the village. The impetus for women and children to stay in Mundarara year-round was also reinforced with the introduction of universal primary education (UPE), from 1977.

“My family owned cattle, goats and donkeys when I was young. The population was not so high and even the livestock population was low. There was pasture everywhere and herding was very simple. There were only a few boma, few farms and pasture was available throughout the year. The original part of the village was up where the school is, but now there are many boma around. Before, there were only 10 or so boma in the whole village. People lived in the forest but they shifted into the village during Villagisation...In the past, people who owned lots of animals, and the Moran, were the most important in society. These days, religion has diluted all these things. Nowadays, those who get money and manage to transform their lives and build modern houses and buy motorbikes or cars, they are the most important.” (BI5, middle-aged polygamously married man)

The reduced permanent movement of people and livestock then combined with general population growth to lead to an expansion of settlements in the village from the late 1970s. As the Tanzanian economy began opening up more during the late 1980s, mining in the area developed further and some migrant labourers also moved to Mundarara to work for the then sole mining company in the village, the MRMC, discussed further below. Population growth and the growth of local mining and mining-related activities then continued through the 1990s and 2000s, right up to the present day.

As Figure 1 below shows, 79% (45) of all heads of randomly sampled households in our baseline survey were born in Mundarara village, while just 21% (12) had moved to the village from other parts of Tanzania. Only 9% (5) of all heads of randomly sampled households moved to Mundarara as an adult; these were all male-headed households and all moved for marriage. Twelve per cent (7) of all heads of randomly sampled households moved to the village as teenagers, between the ages of 13 and 18; the majority moved for marriage and two in Les Mundarara moved for business. There were also five female-headed households from those additionally surveyed whose heads had moved to the village from elsewhere in Tanzania, three as adults and two as teenagers, and all for marriage.

Figure 1. Age of household head when they moved to Mundarara



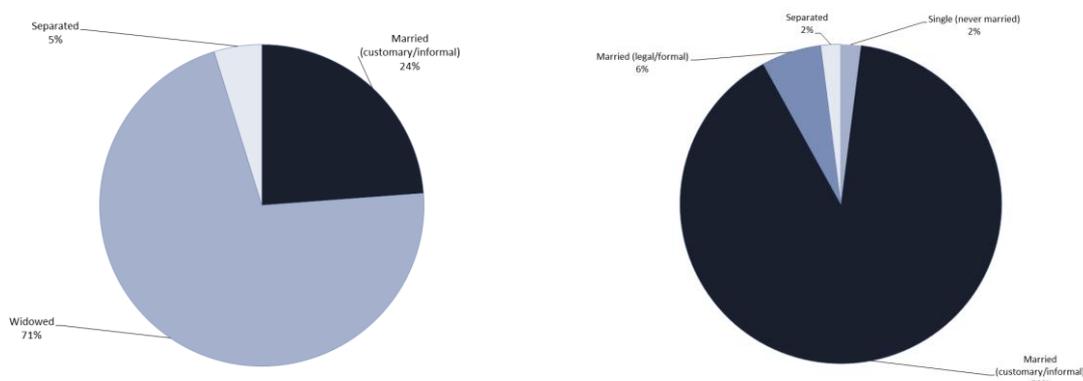
Source: WOLTS Tanzania baseline survey, 2016. N = 57

Livelihoods and gender relations

Marriage and family situation

Eighty-two per cent (47) of all heads of randomly sampled households in our baseline survey were in customary marriages; two of these household heads were women in polygamous marriages, where the husband was alive but was recorded for census purposes as the head of another wife's household, and all the rest were men. Seven per cent (4) of all heads of randomly sampled households were widowed, all women. From the remaining households, three male household heads were formally married, one male household head was single (never married), and two household heads (one male and one female) were reported to be separated. Figure 2 gives the breakdown of marriage status in all surveyed female- and male-headed households.

Figure 2. Marriage status of female- (left) and male- (right) headed households, Mundarara



Source: WOLTS Tanzania baseline survey, 2016. Female chart includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

As Figure 2 shows, 90% (45) of all 50 male-headed households were headed by a man in a customary marriage. In contrast, 71% (15) of the 21 female household heads were widowed, 24% (5) were in customary marriages, of whom four were in polygamous marriages with the husband recorded for census purposes as head of another wife's household and one was in a monogamous marriage but the husband was living elsewhere; the remaining female household head was separated.

Nine of the female household heads in our survey did not consider themselves as household heads; six were widowed, one was separated and two were in customary polygamous marriages with the husband registered as a household head elsewhere. However, two other female household heads in customary polygamous marriages, those in our random sample noted above, did self-identify as household heads. The Tanzanian government requires every household to have a head, but a husband cannot be recorded twice, as head of two households where his wives live separately; where wives share a house (kaya), as sometimes happens, then the husband can be head of a household containing both (or all) of his wives. We felt it was possible, however, that some self-identified female household heads in customary marriages were in practice separated from their husbands, and were thus vulnerable women, but would not record themselves as such due to the stigma around separation and divorce within the local culture. Further, with respect to the widows who did not self-identify as household heads, participants in our FGDs and BIs shared that it was quite typical for a widow's eldest son to be considered as head of the household, rather than the widow herself; we discuss the implications of this for women's access to land below.

Among all 50 randomly sampled households in our baseline survey in Mundarara whose head was married (either formally or customarily), 54% of cases were reported to be polygamous marriages (in 25 male-headed households and two female-headed households) and 46% monogamous marriages (in 23 male-headed households). As Table 4 shows, the average number of wives in polygamous marriages among our randomly sampled households was two and the highest number was six.

Table 4. Number of wives in polygamous marriages, Mundarara

Number of wives	2	3	4	6	No response
Number of households	17	5	1	2	2

Source: WOLTS Tanzania baseline survey, 2016. N = 27.

Among the four widows in the random sample, two had been in polygamous marriages, one in a monogamous marriage and the other did not say. Polygamous marriages appeared to be slightly more common in Kitarini than in other vitongoji, with 78% of all marriages recorded in our baseline survey in Kitarini being polygamous. In Injalai 63% of all marriages were polygamous, as were 60% in Les Mundarara, but In Olong’elu and Olorien, where there were relatively more Christians and more churches, as noted above, only 38% and 33% of marriages were polygamous, respectively.

Participants in our FGDs and BIs revealed that marriage practices have changed over time in Mundarara. The most common form of getting married used to be through ‘booking’, whereby a man requested his future wife by giving her mother (or in some cases an expectant mother, who might give birth to a girl) a copper bracelet. However, ‘booking’ and other types of arranged marriages (i.e. through parents, friends or relatives) were reported to now coexist with increasing numbers of ‘love marriages’, where young men and women decide for themselves whom and when to marry. However, although love marriages appeared more likely to take place in church and to stay monogamous, the traditional practice of paying bridewealth to the woman’s family remained.

“My father did not have many livestock and so he would marry off his daughters for cows. He would sell these cows to pay for alcohol. I got married during Villagisation when I was 15 and had my first period. I gave birth to my first child at 16. I have never loved my husband. He was very old when we got married and had already been married – I am the second of two wives...The process of marriage is different now, my daughter fell in love and chose a man. She came home to say she wanted to get married and so me and my husband asked to meet the man and give our blessing, which we did.” (BI12, middle-aged polygamously married second wife)

“I got married during Villagisation. They just put a ring on my mother and myself, so I would get married. I was very small and the man paid 10 cows for me. I was the third wife and the other two had more rights than me, because I was so small. They have more cows and goats than me. They feel like they own the cows, but they actually belong to their sons since our husband died.” (BI8, elderly widow)

“My husband and I fell in love. We met in church and he wrote me a letter and I replied that I also liked him. I am the only wife and I don’t think that he would want to get another one because we married in church and have a marriage certificate.” (BI10, young monogamously married woman)

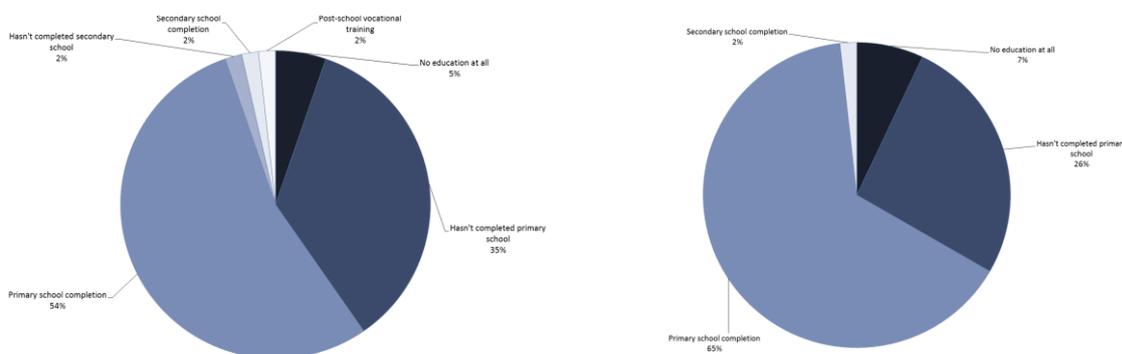
None of the randomly sampled households in our baseline survey reported having any disabled members or any orphans living with them (children who had lost both parents). Further, no households reported having anyone living with them at the time of our survey who was not part of their household and the vast majority of households reported that all members permanently lived at the household’s main residence. There were two households in the random sample (both male-headed) that each had a household member reported to sometimes live elsewhere (temporarily for a season). These two people were both looking after livestock outside the village; one was the household head, the other was a son of the household head. There were also two female-headed households from among those additionally surveyed that reported having household members often living elsewhere (temporarily for the year) for schooling. However, from data gathered elsewhere in our baseline survey it appeared that the majority of households did in fact have members who moved seasonally with livestock, as we discuss further below.

Education

Education levels in Mundarara appeared to be very low. ‘Primary school completion’ was the highest education level attained by adult female members in 54% (31) of the randomly sampled households in our baseline survey and by adult male members in 65% (37), as illustrated in Figure 3 below.

Moreover, the highest education level attained by adult females in 40% (23) of all randomly sampled households, and by adult males in 33% (19 households), was either that they had no education at all or that they had started but not completed primary school; among all 57 randomly sampled households, there were three with adult female members and four with adult male members who had not received any education at all.

Figure 3. Highest education level of adult females (left) and adult males (right) in Mundarara households



Source: WOLTS Tanzania baseline survey, 2016. N=57.

As Figure 3 also shows, the highest education level reached by any adult male in our randomly sampled households was 'secondary school completion', in just one household in Les Mundarara; the highest education level reached by any adult female was 'post-school vocational training' in one household in Olorien, followed by 'secondary school completion' in another in Les Mundarara and one further household where an adult female had started but not completed secondary school in Olorien; one female-headed household in Olorien from those additionally surveyed also contained an adult female who had started but not completed secondary school.

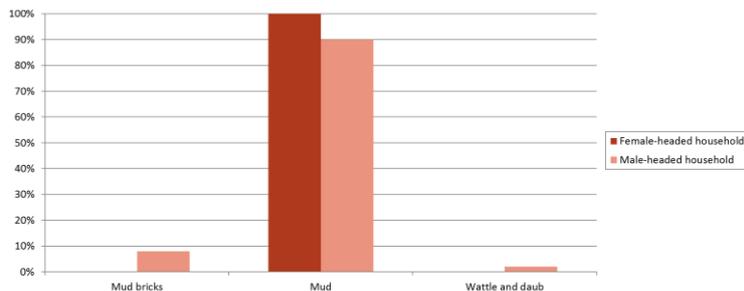
Participants in our FGDs and BIs explained the lower overall rate of primary school completion among adult women than adult men in Mundarara, and the higher primary school drop-out rate among adult women – and girls in general – as a result of the lower value given to girls' education locally, which was also linked to girls often getting married very young, around the age of 13 or 14. We learned that prior to 2000, when the government started pushing hard for primary school enrolment among the Maasai (to meet MDG targets), girls in Mundarara had tended to marry later, around the age of 18 to 21, after several years of traditional initiation, gatherings and dancing, and training in how to be a 'good' wife. With the government push for girls' education in particular, girls began to be married off earlier by their parents so that they would not be free to be enrolled in, or continue with, school; thus early marriage in Mundarara seemed to have become a means to avoid educating women and instead keep them available to help their parents and families. However, the low levels of education among both men and women also appeared to be due to many people in Mundarara historically not attending formal education (or dropping out) because they were moving around with livestock, both before and after Villagisation. Thus there was at least one adult in 100% of our surveyed households from every kitongoji except Olorien who had no education at all.

Relative wealth and poverty

Housing

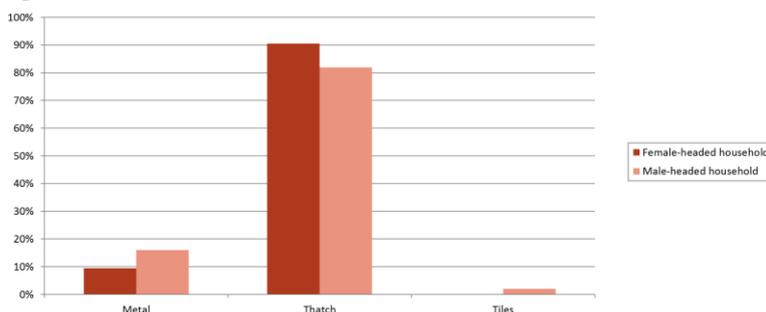
The vast majority of houses in Mundarara at the time of our fieldwork were traditional mud houses with thatched roofs; only a few individuals had built more modern houses with burnt bricks, mainly in the village centre, Les Mundarara, and metal and tile roofs were also rare. In our baseline survey, where we recorded the highest-order (i.e. most expensive) wall and roof materials of each surveyed household's main residence, 91% (52) of the randomly sampled households lived in mud houses and 84% (48) had thatch roofs. Figure 4 and Figure 5 illustrate our data on housing type and materials.

Figure 4. Percentage of female- and male-headed households with different wall materials, Mundarara



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

Figure 5. Percentage of female- and male-headed households with different roof materials, Mundarara



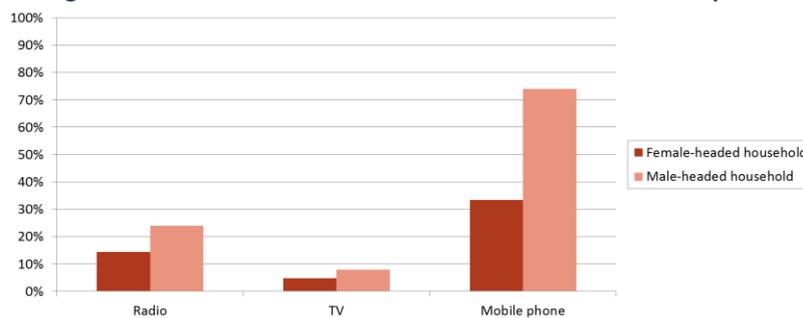
Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

As these two figures show, there were no major differences in housing quality between female- and male-headed households, although the latter were slightly more likely to have the more expensive metal and tiles for roofs and mud bricks for walls. Ninety per cent (19) of all female-headed households had mud and thatch houses and 10% (2) had mud houses with metal roofs. Eight per cent (4) of all male-headed households had houses with mud brick walls, 90% (45) had mud houses and one house was wattle and daub; 16% (8) had metal roofs, 82% (41) thatch, and one had tiles.

Possessions

Our baseline survey found that 67% (38) of all randomly sampled households in Mundarara had mobile phones, 21% (12) had radios and 7% (4) had televisions. There appeared to be quite strong gender differences between the possessions of female- and male-headed households, with female-headed household much less likely to have any of these three possessions than male-headed households, suggesting greater poverty among female-headed households in Mundarara. For example, as Figure 6 below shows, 74% (37) of all male-headed households reported having mobile phones, compared to just 33% (7) of all female-headed households. Likewise, 24% (12) of all male-headed households reported having radios, but only 14% (3) of all female-headed households.

Figure 6. Percentage of female- and male-headed households with different possessions, Mundarara



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

Electricity, water and sanitation

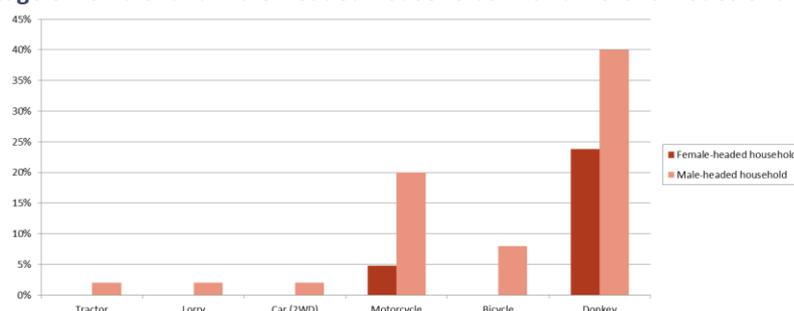
Eighty-nine per cent (51) of the randomly sampled households in our baseline survey in Mundarara did not have mains electricity. Three of the six households that did have mains electricity were in Les Mundarara (or 38% of its randomly sampled households) and three were in Olorien (or 21% of its randomly sampled households); all were male-headed households. Only one (5%) of all 21 female-headed households in our baseline survey had mains electricity, an additionally surveyed household in Olorien, compared to the six (12%) of all 50 male-headed households with mains electricity. No generators were reported, but a larger proportion had solar power instead of mains electricity – 18% (10) of all randomly sampled households, nine male-headed and one female-headed; four of the additionally surveyed female-headed households also had solar power. Female-headed households were therefore more likely overall to have solar power than male-headed households, with 24% of all female-headed households having solar power compared to 18% of all male-headed households. Thus in total, 28% (16) of the randomly sampled households, plus five additionally surveyed female-headed households, had access to some sort of electricity in their houses. The remaining households relied completely on battery-powered torches and/or kerosene lanterns for their lighting.

Access to water did not vary between the wet and dry seasons in Mundarara. Throughout the year, the most common source of water was an open deep well nearby; 77% (44) of the randomly sampled households got water through communal or shared access to these wells and 21% (12) got water by paying to use this type of well. The remaining households across the baseline survey as a whole (including the additionally surveyed female-headed households) obtained water either from shallow wells that they had to pay to use or from boreholes. Seventy-eight per cent of all 50 male-headed households got water from open deep wells nearby through communal or shared access, compared to only 67% of all 21 female-headed households, and there was a slightly higher proportion of female-headed households (24%) compared to male-headed households (20%) who obtained water from open deep wells by paying for it – pointing to possible difficulties in accessing water on the part of poorer female-headed households in Mundarara.

Concerning sanitation, 84% (48) of the randomly sampled households in Mundarara did not have a toilet at all. One household did not respond, one household had an enclosed short-drop exterior toilet (without a flush tank), and the remaining 12% (7) of the randomly sampled households had an enclosed long-drop exterior toilet (without a flush tank). There were few gender differences, with 90% (19) of all female-headed and 84% (42) of all male-headed households not having a toilet at all.

Transportation

Donkeys were the most common form of transport in Mundarara, used by 37% (21) of the randomly sampled households in our baseline survey. The most common mechanised form of transport was a motorcycle, used by 19% (11) of the randomly sampled households. As Figure 7 below shows, there were significant gender disparities in access to all modes of transport in Mundarara. For example, 20% (10) of all male-headed households reported having a motorcycle while only one female-headed household reported having any kind of mechanised vehicle (a motorcycle); no female-headed households reported having a tractor, lorry, car or bicycle at all.

Figure 7. Percentage of female- and male-headed households with different modes of transport, Mundarara

Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

Overall, our WOLTS baseline survey data on housing type and materials, ownership of certain possessions, and access to electricity, water, sanitation and transportation provided some indications of relatively higher poverty rates among female-headed households in Mundarara. This was supported by the findings from our participatory fieldwork phase, which revealed specific areas of difficulty for women, as we discuss further below.

Main livelihoods

Agriculture dominated livelihoods in Mundarara and almost all households appeared to engage in traditional Maasai pastoralism as their main livelihood activity. Although participants in our FGDs and BIs reported that livelihoods were becoming more diverse than they had been 20 years ago, the overall level of diversification still appeared to be quite low. In our baseline survey, 96% (55) of the randomly sampled households mentioned that their household included 'herders herding own livestock'; all 21 female-headed households reported to include 'herders herding own livestock', as did 96% (48) of all 50 male-headed households.

Overall, 54% (31) of the randomly sampled households in our baseline survey had relied on only one source of cash income in the previous 12 months and 46% (26) had relied on just two sources. Even taking into account the additionally surveyed female-headed households, no households reported having relied on more than two sources of cash income in the year prior to our survey. Further, as Table 5 shows, male-headed households were more likely to have had two sources of cash income and female-headed households were more likely to have had just one source of cash income.

Table 5. Number of sources of cash income among all surveyed households, Mundarara

Number of sources of cash income	1	2	Total
Female-headed households	14 (67%)	7 (33%)	21 (100%)
Male-headed households	27 (54%)	23 (46%)	50 (100%)

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

Unsurprisingly, some 79% (45) of the randomly sampled households in our baseline survey reported herding as their top source of cash income in the previous 12 months. Eighty per cent of these households (36 of 45) were born in Mundarara. Ninety-four per cent of all randomly sampled households in Injalai reported herding as their top source of cash income in the previous 12 months, compared to 79% of households in Olorien, 78% in both Kitarini and Olong'elu, and 50% in Les Mundarara. Although our sample was not large enough to draw robust generalisations about each kitongoji, our data nevertheless suggest that the least diversity of livelihoods beyond herding was to be found in Injalai and the greatest in Les Mundarara, the village centre – and this was supported by our observations during our fieldwork.

Just 11% (6) of the randomly sampled households in our baseline survey reported some form of involvement in mining as their top source of cash income in the previous 12 months, all in Kitarini

and Les Mundarara, where the mining areas were located. These included mineral trading (in four male-headed households) and mining itself (in two male-headed households, both of whose head was born in the village). There was also one additionally surveyed female-headed household that reported sieving minerals as the top source of cash income – the rubble sorting that we discuss further below. No household in Mundarara reported crop farming as their top source of cash income in the previous 12 months. However, participants in our FGDs and BIs mentioned the growing importance of farming to local livelihoods in Mundarara, as we also discuss further below.

Table 6 provides the gender breakdown in top source of cash income reported by all our surveyed households across the whole village.

Table 6. Top source of cash income for all surveyed households, Mundarara

Top cash income source	Female-headed households	Male-headed households
Herding	19 (90%)	39 (78%)
Mineral trading	-	4 (8%)
Mining	-	2 (4%)
Sieving minerals	1 (5%)	-
Washing clothes	1 (5%)	-
Motorcycle taxi business	-	1 (2%)
Sales at hotel	-	1 (2%)
Sales of groceries at a kiosk	-	1 (2%)
Working in an office (non-government)	-	1 (2%)
Unknown	-	1 (2%)
Totals	21 (100%)	50 (100%)

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

As Table 6 shows, 90% (19) of all female-headed households reported herding as their top source of cash income in the previous 12 months, with 79% (15) of the household heads born in the village, compared to 78% (39) of all male-headed households, with 77% (30) of their household heads born in the village. Conversely, and as just noted above, 12% (6) of all male-headed households reported mining-related activities as their top sources of cash income in the previous 12 months, compared to only one female-headed household. These data suggest a very real dependence of female-headed households on herding for their livelihoods, making them a potentially very vulnerable group in a rural community where, as we discuss below, women's rights to land and livestock are very different to those of men.

In the case of eight households included in Table 6 above, the respondent either did not know, could not remember, or did not want to tell us the actual amount of cash income received in the 12 months prior to our baseline survey. However, the full range of cash incomes earned by people from across all remaining households was reported as being from just TSh 50,000 (USD 20), in the case of two male-headed households, with one having received the money from herding, the other from mining, right up to a male-headed household in Olorien that reported to have earned TSh 32 million (USD 12,800) in the previous 12 months from the sale of 40 cows. Four of the top five highest cash incomes earned in the 12 months prior to our baseline survey were found in male-headed households, with the household head earning or receiving the money in every case. As well as the overall highest earner from Olorien, a second male household head from Olorien earned TSh 21.4 million (USD 8,560) from herding. Two other male household heads earned their money from a mixture of mineral trading and herding – one from Les Mundarara earned TSh 30.5 million (USD 12,200) while the other from Injalai brought in TSh 11.8 million (USD 4,720) from these two sources of cash income.

The third highest cash income earner in our baseline survey overall was a female household head in Injalai who earned TSh 25 million (USD 10,000) from herding. However, this household was an outlier among female-headed households; the next highest earning female-headed household received TSh 10.5 million (USD 4,200) from washing clothes, followed by a third who received

TSh 2.42 million (USD 968), a fourth who received TSh 2 million (USD 800) and a fifth who received TSh 1.5 million (USD 600), all from herding. This suggests that herding was not a particularly lucrative source of cash income for most female-headed households, indicating further their relative poverty and vulnerability as a group, as we discuss further below. However, our baseline data did not support the conclusion that female-headed households in general were poorer in cash income terms than male-headed households, given the relatively small sample size and that there were some very poor male-headed households within our survey sample, as noted above.

During our fieldwork we observed that a great many households in Mundarara were visibly engaged in mining and it was frequently mentioned as a very important source of cash income by participants in our FGDs and BIs, despite the very low reporting of mining (and related activities) as a top source of cash income in our baseline survey just noted with Table 5 above. Only 4% (2) of all randomly sampled households reported that they included members who were ‘miners in official small-scale mining companies’; both were male-headed households from Olorien. There were also 19% (11) of all randomly sampled households that reported to have been involved in ruby mining in the last two years. These were all male-headed households and came from all five vitongoji, although the largest group (5 households) came from Olorien, and there were two additionally surveyed female-headed households that also reported to have been involved in mining in the last two years. During our FGDs and BIs it became clear that there had been significant initial under-reporting of household involvement in mining. There were a number of possible reasons for this. First, it seemed during our baseline survey that people did not want to give the appearance of being wealthy and thus both cash income earnings in general and numbers of livestock were likely to have been under-reported. Second, trading minerals was not seen as directly working in mining, so those who were trading and brokering often did not say at first when asked that they were involved in mining. Third, and related, at the time of the baseline survey the amount of mining rubble available for sorting was lower than at the time of our FGDs and BIs, as we discuss further below, and thus fewer households were actually engaged in mining at that time.

On the other hand, 83% of all female respondents in our baseline survey (52 of 63) and 50% of all male respondents (4 of 8) said they agreed with the statement that: “The majority of people in this community depend on mining for their survival”. Mining was also the second most important source of cash income among our surveyed households to herding by a long way. Of those households that reported receiving cash income from mining in the past 12 months, six households (all male-headed) received money from trading minerals, and in four of those households it was their top source of cash income. The amounts received ranged from TSh 760,000 (USD 304) to TSh 30 million (USD 12,000); the average amount received was TSh 8,960,000 (USD 3,584). As mentioned above, there were two households who earned money from mining directly, both male-headed and both with it as their top source of cash income; one was one of the two poorest households in our survey, receiving just TSh 50,000 (USD 20) in the previous 12 months; the other, TSh 2.5 million (USD 1,000). There were also three households that reported to include mineral brokers who had not earned any money from this activity in the previous 12 months. The only female-headed household that reported receiving any cash income at all from mining in the 12 months prior to our baseline survey was the one mentioned above that was sieving minerals. Mining was thus undoubtedly contributing to cash incomes in Mundarara, but, as elsewhere in Tanzania, it had nonetheless brought problems with it and appeared to be viewed with some ambivalence by local people, as we elaborate below.

Herding

Table 7 below sets out the different types of cash incomes from herding received by all 54 households within our random sample who reported receiving money from these activities in the 12 months prior to our baseline survey, with some of them reporting more than one specific cash income source. Among this 95% of randomly sampled households who had received some form of cash income from herding in the previous 12 months, at least 33% (18 households) sold goats, 30%

(16) sold cows, and one household sold sheep. Ten households stated that they made money from both cows and goats, and one that they made money from both cows and sheep. This suggests that live animal sales were the most common source of cash income from herding in Mundarara. However, 56% (30 households) did not specify the precise source of cash income from herding, and no household specified that they sold meat, milk, eggs, hides and skins, or wool. We were told that milk was only sold when there was a surplus, and our baseline survey took place in the dry season when milk production tended to be very low, sometimes not even enough for young children let alone enough to sell; we were also told that hides and skins were used for sleeping on and only occasionally sold (for just TSh 500 (US 20 cents) for a goat skin and TSh 200 (US 8 cents) for a sheep skin). Also, since it was the dry season, most animals were away on migration and not in the boma, so milking was not taking place much and was thus probably not at the front of people’s minds when responding to our questions.

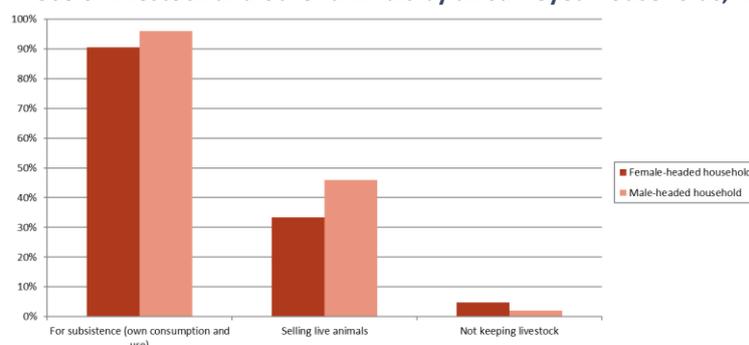
Table 7. Cash income from herding among randomly sampled households, Mundarara

Source of cash income	Number of households	As percentage of households receiving any cash income from keeping animals
Herding – cow trade	16	30%
Herding – goat trade	18	33%
Herding – sheep trade	1	2%
Herding – unspecified	30	56%

Source: WOLTS Tanzania baseline survey, 2016. N = 54.

Across Mundarara, 96% (55) of the randomly sampled households in our survey reported that they were using their livestock and other animals for their own subsistence at the time the survey was carried out, compared to just 42% (24) who reported that they were selling live animals. Just two households were not keeping any livestock at all, one male-headed and one of the additionally surveyed female-headed households, while one male-headed household in Olorien reported to only be selling live animals and not using livestock for subsistence at all. Our data are broken down by gender in Figure 8, where respondents reported all uses of their livestock that applied.

Figure 8. Use of livestock and other animals by all surveyed households, Mundarara



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

As Figure 8 shows, 46% (23) of all male-headed households reported to be keeping livestock for selling live animals, compared to just 33% (7) of all female-headed households. These data might seem to potentially contradict our data on cash incomes received in the previous 12 months, suggesting that many more households were forced to sell livestock in the previous 12 months for cash income than felt that they were keeping livestock mainly for the purpose of selling live animals for cash. However, livestock keeping clearly had huge cultural significance for the Maasai pastoralists of Mundarara, as elsewhere, with livestock used as a traditional store of wealth and status and in traditional practices such as bridewealth payments. For many local people livestock would thus only be sold when needed in times of poverty or drought or hardship, rather than being kept mainly for the purpose of generating cash. Conversely, when cash income could be obtained from other sources, such as mining or crop farming, livestock would not need to be sold.

Most households in Mundarara appeared to be keeping a mixture of cows, goats, sheep and donkeys. The most common type of livestock was cows, which 91% (52) of the randomly sampled households in our baseline survey kept. Goats and sheep were also very common, kept by 89% (51) and 82% (47) of all randomly sampled households, respectively. Two male-headed households in our baseline survey reported having herds of between 751-1,000 cows, but participants in our FGDs and BIs shared that the richest individuals (men) in Mundarara owned up to 3,000 cows. However, the vast majority reported having much smaller herds of no more than 200 animals of any one kind. There was just one male-headed household in our baseline survey, and one additionally surveyed female-headed household that had no livestock at all at the time the survey was carried out.

Patterns of herding also appeared to reflect the characteristics of different parts of the village, as shown in Table 8 below. While cows were kept by a similar proportion of households across all five vitongoji, sheep and goats were less common in Les Mundarara, the village centre and main mining area, and also in Olorien, but they were kept by 100% of randomly sampled households in Kitarini and Olong'elu; donkeys were also least common in the village centre.

Table 8. Number and percentage of randomly sampled households keeping animals, Mundarara

Kitongoji	Chickens		Cattle		Sheep		Goats		Donkeys	
	No. of HHs	As percentage of HHs in kitongoji	No. of HHs	As percentage of HHs in kitongoji	No. of HHs	As percentage of HHs in kitongoji	No. of HHs	As percentage of HHs in kitongoji	No. of HHs	As percentage of HHs in kitongoji
Injalai	-	0%	16	94%	14	82%	16	94%	13	76%
Kitarini	1	11%	8	89%	9	100%	9	100%	6	67%
Les Mundarara	1	13%	7	88%	6	75%	5	63%	3	38%
Olong'elu	-	0%	8	89%	9	100%	9	100%	8	89%
Olorien	-	0%	13	93%	9	64%	12	86%	9	64%

Source: WOLTS Tanzania baseline survey, 2016. N = 17 in Injalai. N = 9 in Kitarini. N = 8 in Les Mundarara. N = 9 in Olong'elu. N = 14 in Olorien.

Our baseline survey produced some specific data on the gendered division of tasks in herding in Mundarara. Although we were told there were no actual taboos on women taking part in any livestock-related activities, we found evidence of very clear and strong gender (and age-related) divisions of labour. For example, as noted earlier, Mundarara village hosts a weekly market for people of the local area where live animals are traded. Yet despite the proximity of the market to all Mundarara people, men were reported to be responsible for livestock sales in 81% (46) of all randomly sampled households in our baseline survey, boys in 21% (12), and there were no households where women or girls were reported to be involved in livestock sales. Our baseline survey also found that it was boys who were largely responsible for herding both large and small animals; they had responsibility in 88% (50) of all randomly sampled households, although we observed that both boys and girls, even young children, were herding small animals, and taking animals on migration was largely done by older boys and young unmarried men (Moran, an age-set of warriors). There was just one (male-headed) household among our random sample where it was reported that women were responsible for herding large animals. On the other hand, women were reported to be in charge of milking in 84% (48) of all randomly sampled households; 16% (9) said that no-one was doing any milking. These findings were supported by the evidence from our FGDs and BIs, where people told us that women were mainly in charge of milking and looking after old and sick animals while men were generally in charge of watering livestock and taking animals on migration. All these divisions were likewise found among our additionally surveyed female-headed households; boys were still largely responsible for herding large and small animals, and in the 12 additionally surveyed female-headed households where live animals were sold, half relied on boys within the household to carry out this task and the other half on male household members or other male relatives. Likewise, animals were slaughtered by men in seven of these households and by boys in the other five; we found no women at all who slaughtered animals.

Participants in our FGDs and BIs told us that traditionally local women had been much less involved in herding than they were now. We learned that by 30 years ago women had started to become more involved, as boys started to be sent to school, but one of the reasons why Maasai men married more than one wife had always been so that the women could help their husbands with the family livestock, at least until their children (sons) had grown up enough to take over. It appeared that local women then became even more involved in herding from around the year 2000, for two main reasons. First was the above-mentioned push for all children to be attending schools, making them unavailable for tending livestock during school term times; women thus had to take up the slack. Second, as livestock numbers have fallen in recent years (through droughts and related pressures) men have been increasingly forced to take up alternative livelihoods (small businesses, mining, etc.) and young men (Moran) in particular have moved away to urban areas to look for work, leaving the remaining family livestock to be looked after by women. On the other hand, while it seemed clear that women were now very much involved in many aspects of livestock keeping in Mundarara, longstanding norms around men's and women's different responsibilities for livestock keeping clearly remained and showed up in both our baseline data and our participatory seasonal labour analysis exercises – with men predominantly in charge (cf. Daley et al 2017; Kisambu et al 2017; Looloitai et al 2008; Shem 2010; Wanzala 2016).

“Previously, mainly men did the herding. Today many women go for herding and many men do not go. Only people who are under somebody go, the men just order those below them to go [*women, youth*] and do not go themselves. This has changed because men now want to do business like livestock selling, mining, and so on, so women stay behind and herd.” (BI15, middle-aged married male miner)

Crop farming

Many participants in our FGDs and BIs reported that increased frequency and severity of droughts over recent years have caused difficulties for pastoralist households in Mundarara. This has led both to increased conflicts over pastureland resources, as we discuss further below, and to increased interest in trying to diversify sources of cash income, through taking up farming, mining-related activities and other small businesses, as just indicated above. Crop farming in particular was mentioned by many participants in our FGDs and BIs as a possible alternative to reliance on herding, but we also learned that very few people had succeeded with growing crops in the village in the three to five years before our fieldwork, because of poor and unpredictable rainfall.

Just one male-headed household in our baseline survey mentioned that they included ‘people farming for other households or enterprises for cash’; none reported renting in land for farming and we came across no large-scale crop farmers in Mundarara (i.e. those who relied on casual labourers for help with farming, paid either in cash or in kind). We also did not see anyone at all farming in Mundarara during any of our fieldwork. Further, none of the randomly sampled households in our baseline survey reported having any agricultural land under cultivation at the time of the survey, nor having had any cash income from crop farming in the previous 12 months, nor to be growing any crops for subsistence or any other use at all – with one small exception of a male-headed household in Kitarini whose second source of cash income was the wife's earnings from selling crops, at TSh 15,000 (USD 6). Given the very small amount of money involved, however, it seemed most likely that the woman in question had just grown a few small crops around her house.

This current situation aside, participants in our FGDs and BIs made clear that crop farming has been increasingly taken up in Mundarara over the last 20 years in response to perceived pressures on grazing areas and the felt need to diversify livelihoods. Thus by the time of our fieldwork crop farming was considered as an important source of household food and a potential contributor to cash needs if produce could be sold, but it was also acknowledged to have become very unreliable with the recent droughts; some people said they had not used their farmland for the last six years.

“When I was a child my family did not engage in farming, but I do now...Farming allows me to plan the future better – I know how much maize to budget and I am not living day to day depending on my livestock.” (BI7, middle-aged wealthy man)

“Farmland is the most important type of land, because when the crops grow, we can sustain the family for a whole year without selling any livestock. We usually plant maize and beans.” (BI14, middle-aged polygamously married wealthy man)

Although no-one was actually farming at the time of our fieldwork, we were informed in our FGDs and BIs that while both men and women would engage in farming, men were more involved in the hard physical tasks of ploughing, planting and weeding, while women had to make sure that no animals entered the farm, and they also cooked for farm labourers. Harvesting was reportedly done together, albeit with women doing the majority of the work, but most women said that after the harvest, all farm produce belonged to men, and women would only be given some maize to mill as food for the children. Further, while men and women could in theory grow the same crops, we were told that many men in Mundarara generally believed that women were physically less able to farm.

“Men only plough and should cultivate but often they will hire someone else to do this...The husband may sell the produce at the market and keep all the money despite the fact it is women who carry out the majority of the farm work...A Maasai man is only a man once he is married – he must demonstrate his control over women.” (FGD16, polygamously married first wives)

Livelihood changes

It seemed clear from our FGDs and BIs that, although livelihoods did appear from our baseline survey to be lacking in diversity, with the majority of households reporting only one or two sources of cash income, the general trend was nevertheless towards greater diversification and away from traditional pastoralist lifestyles over time (cf. Looloitai et al 2008). While we were told that local women had only earned money from selling milk or beaded jewellery before Villagisation, it seemed that everyone now engaged in a much broader range of livelihood activities. Mining had brought new opportunities for both sexes, as we discuss further below, and both women and men ran small businesses. At the same time, however, the extended drought of recent years has demonstrated the fragility of local livelihoods in Mundarara, with people becoming more dependent on earnings from mining-related activities while crop farming remained lapsed and while pastureland quality suffered from both the lack of rainfall and human and livestock population pressures. This sets the context in which to understand the levels of violence and conflict over mining and pastureland in Mundarara that we discuss below.

It also sets the context for understanding the increased workloads that women now face, even as traditional gender divisions of labour may appear to be breaking down and becoming less rigid. Participants in our FGDs and BIs shared that women’s overall workloads have substantially increased with this trend towards livelihood diversification. As women have become more involved in herding, they still remain responsible for housework. Money earned by women also tended to be spent mainly on their families rather than on themselves, especially their children, for whom women generally had to meet the cost of school fees and expenses. In contrast, men have been able to take up new income-earning activities while leaving women to continue with housework and play a bigger role in herding.

“My father kept livestock and sold animals to sustain the family. My mother sold milk and usually spent the money on beads. My life today is different because people can no longer depend solely on herding. Everyone has diversified their livelihoods. Women are earning money to spend on their family rather than on jewellery. Men and women are engaged more in mining and farming now...because pasture has become far more limited and poor quality.” (BI12, middle-aged polygamously married second wife)

“When I was a child, men were herding and had some small farms and women were staying in the boma doing household chores, as well as getting materials for constructing the houses and the gates of the boma [*bushes and trees*]. They also cleaned the cow and goat sheds. Men today still do the same activities, but they also work as labourers on farms or in mining companies. Some also sell stones for construction materials. So livelihoods have become more diverse. In the past people mainly depended on pastoralism, because it was predictable. But nowadays, because of droughts and weather changes, it is not predictable anymore, so people have started diversifying. Women nowadays also engage in businesses, like selling flour and sugar, but they still continue to engage in all their former activities.” (BI5, middle-aged polygamously married man)

“Men in my family used to be involved in herding and provided for the family’s needs. Women were only involved in housework. Some things have changed, because nowadays even women are involved in business and mining...Mining is creating good opportunities...even some women can buy cattle or other valuable things...I came from Longido with nothing and started my life here. Even the livestock I now have are from mining.” (BI14, middle-aged polygamously married wealthy man)

“When I was a child, the men were just herding, because farming did not succeed there. Women did not engage in any livelihood activities apart from making beads. Nowadays things are different. There is no more time to make beads and men and women are just running after money.” (BI8, elderly widow)

Gender relations

As indicated above, there have been quite strict traditional norms around gender divisions of labour within Maasai households, with women considered as being in charge of all domestic activities both inside and outside the boma, e.g. collecting firewood and water, cleaning and cooking, caring for children and the elderly, as well as looking after small and ill animals (cf. Looloitai et al 2008). In our baseline survey, for example, 100% of all 57 randomly sampled households reported that cooking was done by women and 98% (56) reported that women were responsible for collecting firewood and water for household use and for washing clothes; in the remaining household, girls were responsible for these chores. Conversely, in 91% (52) of all randomly sampled households men were reported to be responsible for building houses and in 54% (31) boys also shared this chore.

Participants in our FGDs and BIs pointed out that, although young girls became familiarised with working hard alongside their mothers, carrying out these various ‘female tasks’, the real workload for women began with marriage, from which time they could no longer refuse to do any work and would be beaten by their husbands if they did not perform whatever was expected of them, even when pregnant or unwell. Even though, as just noted above, women appeared to be more involved now in a wider range of (non-traditional) livelihood activities, decision-making within the household, including about the day-to-day division of labour, was still largely the prerogative of men (cf. Goldman & Little 2015; Stakeholder Interviews February 2017). However, some participants in our FGDs and BIs also described how changes were coming with the greater presence and influence of churches in Mundarara; for example, as we saw above, there were now more ‘love marriages’ (although still few) and more monogamous marriages as a result of preaching in the churches about women’s rights. For some of our participants, these changes were also linked to greater mixing of cultures and practices between people of different ethnic groups. We also noticed that women and men who were in monogamous marriages were more likely to mention that the wife was at least consulted in household decision-making. Yet some women in polygamous marriages told us that they felt sorry for those in monogamous marriages, as their workload was greater from having no co-wives to share it with.

“It is the husband who decides what everyone in the family needs to do. If the husband has more than one wife the work will be split between them using weekly rotas. The wives will loan water to each other until the roles swap around. Women have no decision-making power over who does what work. When women are monogamously married they are forced to do all the work.” (FGD16, polygamously married first wives)

“I generally make decisions but I also take advice from my wife and sons. For example, my wife may ask me to buy something specific with the money from selling a cow, so I may decide to sell two cows instead of one.” (BI15, middle-aged married male miner)

As indicated above, the prospect of increased wealth in the form of more livestock also seemed to be one reason for men to choose polygamous marriages in Mundarara, as having more wives not only increased a man’s local standing and prestige but provided him with extra labour resources to build his herds. This could therefore mean that workloads would be shared between more people, easing the burdens on a first wife. However, most women in polygamous marriages told us that the actual sharing of tasks between co-wives was often minimal and that most men had a favourite wife (usually the youngest), who would be spared the heaviest work; this was very clearly a potential (and often actual) source of conflict between women.

“I would like to get one more wife. As I am expanding, my wife already has too much work, so the second one could help. Also if I travel with my wife, I would like to leave one wife at home to look after the boma. I will have to ask my first wife for permission, but she will not say no, because she has a lot of work. Even if she says no, I will bring the second wife anyway. In our tradition, if a man lives well with his first wife, there is no way she would say no to a second wife, because many other men have many wives, so how could she say no?” (BI5, middle-aged polygamously married man)

“Most of the time, the workload between wives in polygamous marriages is unequal. If a husband has four wives, one of them will be special – usually the youngest one. The husband may collect water with his motorcycle for this wife but not for the others. If you are not the special wife you feel like you are a labourer for your husband and your co-wife. You may have to care for your co-wife’s young children, collect firewood and herd livestock so that the youngest wife is protected from hard labour which would age her.” (FGD16, polygamously married first wives)

“Husbands generally decide who does what in the house. He assigns less work to the younger wives, so they do not get too tired or get wrinkles...Sometimes it’s easier for the younger women because they are still beautiful and the husband may share more information with them...Women are doing much more than men. We feel sorry for those women who don’t have co-wives because they have even more work to do...Heavy responsibility starts with marriage. When you are at home you can tell your mother you are tired and she will tell you to go and rest. When you are married all the power is with your husband and you dare not even tell him that you are tired, otherwise you will be beaten...It is very hard to change things because of the culture. Only maybe at family level can women discuss with men about changes. But to announce this publicly would be very difficult.” (FGD13, young polygamously married second wives)

While most participants in our FGDs and BIs mentioned that whatever money was made by a woman could be kept by her, as it would be shameful for a man to question his wife’s money, some made it quite clear that this was the case only when it was just a small amount of money, and that generally women were supposed to spend this only on their household, as noted above (cf. Sorensen 2013). Out of 81 people in the randomly sampled households in our baseline survey who were reported to have received any kind of cash income in the 12 months prior to the survey being carried out, 37% (30) were women, of whom only five were (female) household heads and all the remainder were the wives of male household heads. Among the 14 additionally surveyed female-headed households, in each case the sole cash income earner was also a woman. Although female-headed households are typically seen as very vulnerable to poverty, and indeed appeared to be so in Mundarara, it is also of concern that in 23 households containing a married couple there were no women reported to have earned any cash incomes in the previous 12 months, making those women extremely dependent on their husbands for their livelihoods and to meet their day-to-day cash needs. Thus in 48% of all male-headed households containing a husband and a wife in our baseline survey in Mundarara, the wives could be considered as a potentially very vulnerable group.

“When we get married, even when my wife comes to my house she will walk behind me, so how can she then have powers in my house? Men should always have the power. Once, one of my wives got TSh 200,000 (USD 80) from mining and I took it all, because she does not deserve to have that kind of money.” (BI14, middle-aged polygamously married wealthy man)

“All decisions are made by men and men also keep the money. If you make a mistake and show the man your money, he will take it. When you go mining and come home with no money, the man will ask you: “How come you went to the mining site and did not bring back any money?” But women do not ask men about their money.” (FGD11, male and female members of Village Land Council)

Lack of monetary resources was offered by many participants in our FGDs and BIs as one of the main challenges women in Mundarara faced, as it also prevented them from acquiring assets such as land or livestock. For example, as we discuss further below, the most likely way for women to access their own land in Mundarara seemed to be if they had money to rent in or buy land, which was very rare. Further, while it appeared from our fieldwork that women could ‘own’ some livestock, they did not have any real decision-making power over it and could not sell it (cf. Goldman & Little 2015; Stakeholder Interviews February 2017). Men’s livestock and other assets (including land, houses, possessions, vehicles, etc.) were usually inherited by their sons rather than their widows; if a man did not have a son then his livestock would go to his brothers’ sons. Sons might then decide to give some livestock to their mothers, but there was no obligation to do so. This again seemed to make women in Mundarara very dependent on the goodwill of the men in their family, particularly that of their sons on widowhood (cf. Daley et al 2017; Looloitai et al 2008; Mueller et al 2015). It also made them very vulnerable to poverty, given that, in the absence of monetary resources to buy or rent in land, being able to keep control of some livestock for subsistence use may be as important a form of property right to secure for these women as their access to land, as we elaborate further below.

“I inherited 100 cattle and 30 sheep and goats which were looked after by my uncle until I was old enough to take care of them myself. My younger brothers also inherited livestock but my sisters didn’t inherit any...My two Moran now make decisions on when to sell livestock as they are responsible for herding. When they get married I will give them some of their own livestock, as well as to my other children, but the girls will not be allowed to sell theirs.” (BI7, middle-aged wealthy man)

“There are two people who were very important to me, my brother and my uncle, because they gave me three cows.” (BI8, elderly widow)

Although it appeared from our FGDs and BIs that women’s male relatives, particularly their sons, did very often help and support them throughout their lives, women’s lack of assets and independent tenure security, and their overall economic and financial dependence on men, would make it very difficult for them to leave their husbands and helped to explain the stigma around separation and divorce; it also helped to explain why separated and widowed women in Mundarara seemed to be among the most vulnerable members of society, especially if they were looking after their children with very few resources and limited support from men (cf. Daley et al 2017; Mueller et al 2015).

“Access to any resource for women is a challenge. Nobody listens to us...And we still have to look after our families. Men have all the resources and do not look after their families...I mainly look after our small business, selling crops, and my husband looks after our livestock. He decides about what to use the money for from farming and livestock. I can decide what to use the money for from our small business. He does not question me because it would be a shame for a man to question a woman’s money...The livestock belong to my husband and the chickens belong to me.” (BI10, young monogamously married woman)

While most women we spoke with during our fieldwork complained about their very heavy workloads, the everyday violence they faced and their lack of assets, voice and political participation (which we discuss below), only a few men acknowledged these issues during our FGDs and BIs. Most men either said that women already had equal rights or that they did not see any need for change.

However, there were some few notable exceptions, such as an FGD with young men (Moran), where, after carrying out a seasonal labour analysis exercise, the group agreed that the workload between women and men could be more evenly distributed and said that they would be willing to take on a bigger share; yet they still insisted that there were some tasks, such as collecting firewood, that they could never do, as it would be a disgrace for men to do them.

“Women are not aware of the opportunities to improve their livelihood options. One would be to create more positions for women in politics but more traditional men don’t want this to happen. I would like to see change but it will be difficult – men need educating too. Women should be empowered, they don’t have the rights they should have...My wife and I share decisions over money. I know this is not traditional in a Maasai marriage. We have two plots of land. The customary certificate for our house-plot is in my name because I applied for it before we married. We got the second plot after our marriage and it’s in my wife’s name. I don’t see this as a problem because my property is hers and vice-versa. This is unusual in our culture but I love my wife and I am very happy.” (BI9, young monogamously married man)

“There are no people or organisations who can help women. Women just need to be given a voice to be heard. If they join together, they can succeed, but separation is the problem, and everybody has their own understanding.” (BI8, elderly widow)

“I would like to see more women in leadership positions with real power to make a difference...Now women are just killing themselves! We worry about the consequences of speaking out against men and the village leadership. If three women stand up they will not be heard, more women need to come together.” (BI12, middle-aged polygamously married second wife)

“I would like there to be more women leaders. Women listen to women.” (BI13, separated woman)

Mining in Mundarara

The presence of ruby mining in Mundarara has provided a key opportunity for local people trying to diversify their livelihoods away from traditional pastoralist lifestyles, and, as noted above, it appeared from our fieldwork that almost every household in Mundarara had some kind of involvement in ruby mining. Although Longido district is not a major mining area in Tanzania, local people have been mining gemstones there since at least the German colonial period and ruby mining started in Mundarara in 1939, when the Longido Ruby Mine was established on what is still the main mining site in the village (Stakeholder Interviews February 2017).

According to the Arusha Zonal Mining Office, as at 11 October 2016 a total of 105 mining licences had been issued in Longido district: 10 were PLs, for exploration, 92 were PMLs, for small-scale miners, and three were MLs for gemstones. Table 9 shows the distribution of these three licence types across the different minerals mined in the district.

Table 9. Types and numbers of mining licences, Longido district

	PLs	MLs	PMLs	Total number of licences
Gemstones	-	3	49	52
Limestone	4	-	20	24
Building Materials	-	-	21	21
Manganese	-	-	2	2
Sodium Carbonate	4	-	-	4
Potassium	1	-	-	1
Geothermal	1	-	-	1
Totals	10	3	92	105

Source: Official data from Arusha Zonal Mining Office, as at 11 October 2016.

These mining licences have been issued for sites throughout Longido district, but all the gemstone (ruby) mines are located in Mundarara village and neighbouring Kiseriani ward. As Table 9 shows, gemstone mining is clearly still the most important type of mining in Longido in terms of numbers of licences issued. However, in terms of areas covered, gemstone mining was among the smallest in

scale, with only 511.88 ha held under gemstone mining licences, of which 322.85 ha lie in neighbouring Kiseriani ward and 178.16 ha lie in Mundarara village; 10.85 ha lie in two other locations nearby, Orbomba and Eorendeke Losso. This compares to 42,822 ha held under the four PLs for sodium carbonate, all at Engaruka, 25,656 ha held under the sole geothermal PL at Lake Natron, 6,460 ha held under the sole PL for potassium, at Longido town, and 5,360 ha held under all 24 limestone licences at various locations. Only building materials, with 86.74 ha at various locations, and manganese, with just 17 ha held under licence in Muriatata, cover a smaller land area than ruby. Further, the 671 ha held under all 92 PMLs accounted for only 0.8% of the total area of 80,913 ha held under mining licences in the district, again emphasising the small scale of mining in Mundarara itself.

Only eight mining licences for gemstone mining (ruby) had been granted in Mundarara village at the time of our fieldwork, and of the licence holders only Mundarara Ruby Mining Company (MRMC) was actively mining. The full details of all eight licences are set out in Table 10 below. Paradiso and the village mine were PMLs, the others were MLs and the earliest mining licences granted in Longido district; EURO Exploration Tanzania was completely unknown to everyone we spoke with in the village. Mundarara was the only village in Mundarara ward with any mining; neither Orgira nor Orpukel had any mining, but there were 41 PMLs issued in the neighbouring Kiseriani ward, all for ruby gemstones and all issued between 2013 and 2015. However, village leaders in Mundarara informed us that actual mining was not yet active in Kiseriani, even though they were aware of ruby there.

Table 10. Details of mining licences in Mundarara

Name of owner	Grant date	Expiry date	Area (ha)
Mundarara Ruby Mining Company Ltd	2/20/2002	2/19/2012	100
Mundarara Ruby Mining Company Ltd	2/20/2002	2/19/2012	22
EURO Exploration Tanzania Ltd	8/29/2002	8/28/2012	11
Paradiso Minerals (T) Ltd	8/01/2013	7/31/2020	9.77
Paradiso Minerals (T) Ltd	8/01/2013	7/31/2020	9.63
Paradiso Minerals (T) Ltd	8/01/2013	7/31/2020	8.50
Paradiso Minerals (T) Ltd	8/01/2013	7/31/2020	8.38
Kijiji cha Mundarara (village mine)	6/06/2016	6/05/2023	8.88

Source: Official data from Arusha Zonal Mining Office, as at 11 October 2016.

The type of ruby available in Mundarara is Nzoite, which is obtained from very hard metamorphic rocks in the local Muriatata Hills; the hill in Mundarara where most ruby is found is called Loomunyi. There are three different grades of rock mined in Mundarara: gems, which are very small but high grade and hence very valuable and which fetch a high price; calandam, which are big, low grade blocks of ruby; and caption, which can be either high or low grade. Ruby mining incurs high operational costs as the mines are very deep; for example, the main MRMC site is 500 metres deep. Surveys are therefore done underground and MRMC also uses skip technology in its mines.

Mining companies

Mundarara Ruby Mining Company

As noted above, ruby mining in Mundarara began in 1939, under colonialism, and the main Mundarara Ruby Mine site has remained active since that time; previously there were other sites used along the hill but only the main site remains. According to village leaders, the area where ruby mining started had historically belonged to one family that was moved to make way for the mine, but very few participants in our FGDs and BIs were aware of the history of MRMC or how it got its original land area and mining licence. According to one of our interviewees, the elders at that time just gave away the land for mining in exchange for a few blankets and beads. Since independence the company's ownership has changed various times and most people mentioned that they became aware of its existence and operations by chance rather than being actively informed of the changes;

some people were not even aware that MRMC had a formal licence. Participants in our FGDs and BIs were also unanimous that no consultations or public meetings had ever been held to inform them about the company's operations.

“They started operating a long time ago, so we are not aware whether originally the procedures were followed. We were never informed. We would like to know if they even have permission from the Ministry. After independence the mine was taken over by the government. The employees took over from the foreigner and since then there have been many handovers. We were never informed about them, but just became aware.” (FGD7, members of Ilaigwanak)

While in the 1930s there was still plenty of land left available for villagers' use, MRMC has subsequently expanded its mining operations and many participants in our FGDs and BIs reported that they now felt that areas that they could potentially have used to expand village settlements or grazing areas, as the village's population has grown, were no longer available as the company had taken over larger areas as it expanded. Further, as ruby mining is mostly done underground, it was difficult to estimate the actual area of land affected by it; some people said that the fertility of their farmland had been affected by the mining company's operations but it appeared that no compensation had been paid to anybody in the present day village in respect of this mine.

Village leaders in Mundarara informed us that three different parties now had a stake in MRMC – the Tanzanian government, which was supposed to receive 50% of the proceeds from the operator, of which only 0.03% went directly to the village government, the owner of the MRMC licence area, and the operator. We were told that the operators changed regularly and made contracts with the mine owners to run the mine, and that the share of proceeds between the owners and the operators was subject to the contract between them. The current management team, whom we met with during our fieldwork, had been operating the Mundarara Ruby Mine for the previous five years.

Although the precise dates and sequence of events were not totally clear during our fieldwork, it appeared that a Mr X had been a director of MRMC for several years when the current operators first took over the mine. Many participants in our FGDs and BIs complained about this man, as nobody had been allowed to sort through the left-over rubble from the mine at that time. This led to a big conflict, as villagers claimed the land as theirs and began to invade the mine site to collect rubble. Mr X instructed security guards to shoot anyone trespassing on the company's land, so the next villager to enter the site was shot and killed. The site manager hid as angry villagers protested and burned the managers' house and car, and we were told that at least one member of the company had been burned alive. As a result, the village government began negotiating with MRMC and the collection of rubble was finally allowed. A change in operational management then ensued and Mr X established his own mining company, called Paradiso Minerals, as we discuss next below. However, many of the participants in our FGDs and BIs were unsure of the names of the different mine companies and often confused MRMC with Paradiso, because the same man had been associated with them both.

“Several people were killed by Mundarara Ruby Security. They were shot because of trespassing. It was reported, but no serious action was taken. The killer is known, but no action was taken against him. The village leaders got involved somehow and matters were somehow settled, but I do not know how...In the 1990s, when workers of the company found their own gemstones, they could even be killed by the company. We think that that company was not even registered, as even the district did not benefit from their operations.” (BI5, middle-aged polygamously married man)

“The biggest problem relating to mining is the killing of people and the community's reaction. The mining company shot one community member and the community went to burn the house of the manager and he was burnt to death inside the house. This happened in 2014 or 2015. Different meetings took place as a result. I think it was taken to court but I don't know how far the case went. They told the owner to go and somebody else should take over and this is what happened.” (BI10, young monogamously married woman)

“I am not involved in any mining conflicts. [Mr X] has caused a conflict, when he was the manager of Mundarara Ruby Mine. He did not want people to collect the stones, so he shot someone, and people also reacted, so some people died, one villager and one worker at the mine. The village government solved that conflict.” (BI14, middle-aged polygamously married wealthy man)

According to company representatives, MRMC’s current operators had exercised CSR in various ways, particularly in recent years under its new directors and site manager; they had provided food to the Mundarara Primary School as and when requested and built a new classroom for the school. TSh 1 million (USD 400) had also been provided for a water pump, and the company had agreed to give the community all the left-over rubble from the mine to sort through at no monetary cost. The company argued that this rubble had provided a lot of value to the community as a whole, as we discuss in more detail below.

Paradiso Minerals

As just noted above, Paradiso Minerals was set up by a former director of the current MRMC operators, Mr X, approximately four years before our fieldwork started. He obtained four PMLs for a total of 36 ha in Mundarara, and established his company on a site in Kitarini that was no longer operating during our fieldwork. We learned that there had been a public meeting in which people were informed about Paradiso’s proposed operations, but the majority of participants in our FGDs and BIs reported that they did not consider this as real consultation and that neither did they know the terms of Paradiso’s licence, i.e. length of the lease in years, area of the land involved, etc. Several people also felt that Mr X had taken more land than had been approved by the village government for his mining site. Although the site did not enclose any boma, it appeared that 13 farms belonging to 13 different families had been taken over, as well as communal pastureland. While compensation was paid for the loss of the farmland, participants in our FGDs and BIs felt that those affected had no choice, but were forced to accept the (in their eyes) small compensation or else give up their farmland without any compensation. Further, people reported that their access to pasture had been blocked by the Paradiso mining site, so that herders had to walk further around the site to get to their grazing areas, while the company was said to continue to use the village’s water and firewood resources without giving anything in return.

“Those who lost farmland were compensated, but they were not happy with the amount given to them. They got TSh 500,000 (USD 200) per acre, but the village government took TSh 100,000 (USD 40). Thirteen people’s farmland was taken and they were all forced to accept, whether they agreed or not. Almost all of them disagreed, but they were all taken to the village office individually and told that they could either take this amount of money or get out.” (FGD15, young unmarried men)

“The company owners are also restricting access to pasture by closing off routes close to the mine and firing warning shots in the air to make the herders walk very far around. Men are chased away from areas that aren’t even under the company’s ownership but are close to the mine. The company should contribute money directly to the community. They are saying they will do that, but it goes to the District Commissioner and isn’t sent back to the community. [Mr X] also uses other resources like water and firewood but does not pay anything to the community.” (BI6, middle-aged widow)

As a result, there were again large protests directed at mining in the village and we were told that various villagers had blocked the access road to the Paradiso mine for three days. Some participants in our FGDs and BIs expressed concerns that the village government was not sufficiently protecting the villagers’ interests; however, village leaders informed us that Paradiso had stopped operating because of all the conflicts with the villagers and was now in the process of building teachers’ housing to support the local school, to help it build better relations with the community.

“Mining activity provokes the greatest conflicts in the village. The waste minerals are only offered once a month and there is rarely anything of value in it. Mines have taken land whilst offering no jobs to the village, especially to women. The government is completely silent on mining in the village because of the money involved. They therefore allow intimidation by the mining companies. We regard the village government as largely powerless, we have tried hard to get more benefits out of the mining operations but have had little success. The community tried protesting by blocking the roads to the mines and preventing the companies from accessing firewood and water. The protest lasted three days but the village government intervened and swiftly ended the protest.” (FGD8, monogamously married women)

“There are conflicts over land – people are not happy. [Mr X] was given pastureland to start mining because he came with a licence and authorisation from the Ministry and so people felt helpless in trying to fight it. There was a public meeting only to inform us. I don’t know what we can do to improve mining in the village. The village government...became angry with villagers who were protesting against the mine. Several times people visited the village government which led to a large public meeting to protest, they didn’t listen though – to men or women.” (BI12, middle-aged polygamously married second wife)

“One company – Paradiso – asked for land but they are causing problems because they extended their areas by asking the Ministry. This has caused chaos. Land was taken by the company. The company didn’t meet agreed conditions for their operations – the conflicts were severe. As a result of the conflicts the company stopped operating. The conflict has been resolved for 80% of the villagers. Those with farms that were affected have been compensated. However, boma have been lost. The mining company is in the process of building houses for teachers after being approached by the village leaders. Construction materials have been slow to arrive though.” (FGD1, male village leaders)

Mundarara Village Ruby Mine

The third mining site in Mundarara belonged to the Mundarara Village Ruby Mine (the village mine). This was established by the village government in 2009 and started operating in 2010 in collaboration with an Arab investor (Gilter Gem Ltd), but stopped operating in 2015. During those five years of operations, the current village office building and toilets had been constructed with the proceeds from the mine. The village mine falls under STAMICO. Representatives of MRMC told us that the company had given up part of its licensed area when the village wanted to start its own mine, and thus it appeared that the village mine was on one of the former MRMC mining sites.

We learned that the village mining site was leased out to individual companies, who had to share a percentage of their profits from operating the mine with the village government. According to village leaders, six individuals from Mundarara still held small mining plots within the village mining site at the time of our fieldwork. We were told that the village government made recommendations to the Village Land Committee about who to lease the mine out to, with the final decision made by the Village Assembly. However, the village mine had not operated in the two years prior to our fieldwork because of a lack of investors with sufficient capital.

Contributions of mining to local livelihoods

It was difficult to assess whether mining development would be a threat to people’s land in Mundarara in the future, given the small scale of mining there at the time of our fieldwork. There did not appear to be lots of mining companies and/or new investors interested in coming to Mundarara to develop mining, and it seemed instead that Mundarara people wanted to get more benefits for themselves from the ruby mining that was already there – hence the village government had set up the village mine. The encroachment on farmland and pasture by mining companies, and their perceived lack of CSR, as well as the repeated conflicts and violence around ruby mining in Mundarara, all posed continuing sources of worry for many local people we spoke with. Ruby mining, as already noted, was part of most households’ livelihoods, and its importance was only increasing with the drought-related lack of farming and pressures on keeping livestock. Ensuring it made a positive contribution to local livelihoods was therefore a priority for many people.

Jobs

According to village leaders, MRMC employed 110 workers in October 2016, of whom around half were from Mundarara; however, a company representative informed us there were only around 80 workers at that time, of whom about 90% were local employees and 10% were not from the village. Participants in our FGDs and BIs thought that the law said roles that did not require specific qualifications (i.e. education) should be given to villagers, although this is not strictly the case; it is only that the 2009 Mineral Policy encourages good CSR by companies, including through local employment, as discussed above. Many people we spoke with complained that most employees were in fact outsiders and that it was not easy to get a job at the mining site; that applicants either had to go through the village government to be recommended to the company or try to get a job by bribing the company. However, the company representative said that there were 98 workers with a wage bill of TSh 28 million (USD 11,200) per month; 70 workers lived on a compound at the mining site while 30 went home each night and returned in the morning. The company representative agreed that 50% of its workers were outsiders (with experience in mining), even though many had low education levels like local people. At the same time, the company had taken on 40 illiterate local people and trained them up and claimed that they were now good workers, including 50% of the foremen. On the other hand, MRMC did not employ any women. This was partly because they were considered physically unable to do the work, and partly to prevent rape and violence against women who might otherwise have been given office or other domestic jobs; those workers who lived on the compound were not allowed out and local women were not allowed in.

Participants in our FGDs and BIs, who included among them several people involved directly in mining with MRMC, and at least one of whom told us they were formally employed, complained about low salaries (e.g. TSh 5,000 (USD 2) per day for labourers and drillers) and about delays with payment and difficult working conditions; they generally thought that working conditions needed to be improved and wished for more jobs, including employment in higher management positions.

“We work for 8 hours a day and get TSh 5,000 (USD 2) a day. Some of the challenges are that people get a lot of injuries when they go into the pit and after blasts there is a lot of smoke in the pit, so we all suffer from a lot of headaches. When we report it, the owners just want us to finish our shift. We do not have any protective gear, only helmets, and the owners do not pay for our hospital bills...They have employed around 100 people. We get paid when we reach production, but gemstone production is seasonal. When we are ill, we go and get treatment at our own expense, but they do not consider us to be ill so they do not pay us any sick leave. I feel like I am just a casual worker. I have no contract. So I have decided not to work there anymore. They employ only men.... I have worked for three different companies that succeeded each other. I do not know the names of the companies, but just of the people who worked there. The first owners were from Thailand, the next two Tanzanians...The working conditions were very similar for all, but the current one is the worst. The current company can stay 2-3 months without paying their workers, but pay should be monthly.” (BI5, middle-aged polygamously married man)

“It is very difficult to go directly to the mine owners and try and apply for a job as they don’t know you. They are open to corruption however so people make bribes to try and get jobs. The more conventional route is through the Village Chair who already has a relationship with the company, he can make recommendations on who to employ. However, the majority of drillers are brought in from Arusha and are not Maasai. Labouring jobs pay TSh 5,000 (USD 2) a day, which is not fair. Drillers are paid TSh 5,000 (USD 2) too. Supervisors are paid TSh 10,000 (USD 4).” (FGD12, monogamously married men)

Rubble sorting and mineral trading

As with herding, crop farming and domestic activities, there were clear gender divisions of labour within ruby mining and related activities in Mundarara. It appeared from both our baseline survey and our observations during our fieldwork that not only did no women in Mundarara have jobs at MRMC, none were involved in digging or working underground either; most of those women that were involved in mining were therefore involved in rubble sorting and very few were involved in

mineral trading and brokering. We learned during our fieldwork that the collection of left-over materials from the mining sites was an activity done by many of the most vulnerable people in society, including widows with no support and limited alternative livelihood options. Many women went to the MRMC mining site daily to sort through the rubble left there by the company, right where it dumped its waste materials; they would take away all stones that appeared to have rubies in them and try to sell them to the predominantly male brokers in the village centre. Although many widows mentioned that collection and sorting of left-over rubble for rubies was their most important source of cash income, the money they received from the brokers in the village centre was very irregular and the amounts earned were very low, ranging from TSh 500 to TSh 10,000 (US 20 cents to USD 4) for a day's efforts, depending on the value of rubies found. This money was mainly used to buy food and basic necessities for their children.

“It is mainly women, and actually mainly widows, who do this. It is because as a woman, you have responsibility for the children, and if a child cries because it is hungry, you have to go and get something. Even if you get nothing at least the child feels that you are trying. (FGD9, widows)

During our FGDs and BIs, we learned that fresh rubble was only provided once a month, and many women complained that on those days many fights used to break out. As a result, some individuals had suggested becoming leaders for all those sorting through the rubble in order to make the process better organised, and a new system had started whereby two days were allocated for the leaders, one day for men of Mundarara, one day for women of Mundarara, one day for outsiders (men and women from other villages), and one day for everyone. However, while many participants in our FGDs and BIs mentioned that the organisation had improved, the (mainly male) self-assigned leaders were reported to have started chasing away women whenever new rubble was brought out, with most women in our FGDs reporting that the leaders kept the best stones for themselves and left the rubbish for the others to pick through. It also seemed there were still lots of conflicts and that physical fights remained common. Further, some participants in our FGDs and BIs felt that the company was trying to trick them by bringing out completely useless material with no minerals in it at all, although this was explained by the company's operators as a result of fluctuating production limiting the supply of fresh rubble; women in one of our FGDs even claimed that the mineral waste had once been contaminated with faeces, such that those women and young men sorting through it became very ill with diarrhoea for a week.

“I sell minerals. I just sell the hard rocks and someone else will process them to get the rubies. These stones [shows 7 small stones] will get me about TSh 500 (US 20 cents). With that money I can just buy some sugar. Tomorrow I will go again. We are not happy with mining...They restrict people from getting in. Even just now, they are chasing women out of the area. The men are still there but the women are being chased. Men have power. The leaders are there and tell the women to go away, so they can pick the best stones themselves. The company dumps the waste materials outside and that is where the women go and collect them. I go there five days a week. The leaders are informed by the company when they will throw out the waste. They only inform the leaders when it is good rubble, so when we come they chase us away. There is a metal sheet dividing the good rubble from the bad and the good rubble is only for the leaders, while the bad rubble is for the women. The mining companies have not brought any benefits. Sometimes, when they allow women to use the good rubble, there are so many women and they fight over it.” (BI8, elderly widow)

“Every day I go to the mine with my son. I earn between TSh 5,000 to TSh 10,000 (USD 2 to USD 4) per day, which my son brings home to the family. I think the mining company people are not good people. Every day they put out waste but sometimes it's just soil to trick us. The owners are very bad. The managers beat the women, shout at them. These people were born in Mundarara and are very bad to their fellow villagers. There are leaders at the mine who govern the rubble sorting, self-elected individuals from the village. They decide who gets access and who doesn't on a daily basis. A few are women but they work with the men in a bad way. I try to ignore them because they aren't official...Under [Mr X] things were better. He gave us good rubble that was divided between men and women to make sure men didn't take all the rubies. Now men push pregnant women away to get to the minerals.” (BI12, middle-aged polygamously married second wife)

Many men in Mundarara were buying gemstones from those who had collected them from the rubble; they were then processing the stones in the village centre using basic tools and reselling them to brokers from Arusha and other cities; some would travel directly to those places to sell their rubies themselves. It appeared that this trading in minerals was a very lucrative business and various wealthier men in Mundarara seemed to have done well from this important source of cash income to their livelihoods. However, it also seemed that very few women were engaged in mineral trading, due both to cultural constraints and to lack of education, capital and knowledge; those who were taking up the opportunities in brokering and trading minerals were generally those who had some capital to start with. There was also reported to be an association of Mundarara mineral traders, with 130 members, that had received a formal licence to operate. The brokers in the village centre were thus mainly male, wealthy and well connected and many of them had built modern houses, acquired more wives or bought motorbikes or cars from the proceeds of mining. Moreover, we learned that women in Mundarara who engaged in rubble sorting and collection felt very dependent on the men who acted as brokers and traders and who they felt generally gave them very low prices. Since most women were not aware of the real value of the rubies they found, they were easily cheated, in line with findings from elsewhere in Tanzania noted above.

“There are very few female brokers, the Maasai culture dictates that women don’t engage in this practice which is focused all on money. However, there are Kenyan women and women from Arusha who act as brokers. Women in Mundarara are not aware of the benefits of brokering and so mining is more beneficial to men. Women who pick for rubies are not aware of the value and so undersell their minerals to men. They are not restricted from brokering but lack education to do it.” (BI9, young monogamously married man)

“Men benefit from mining in Mundarara much more than women because they have money and can act as brokers. They sit there all day and make easy money. The price for rubies fluctuates and while women feel they are getting a fair price from the men at first, when they hear how much they are selling the minerals on for they feel it is very unfair.” (BI13, separated woman)

“One cannot avoid conflicts associated with mining, but people benefit much. Even my own family: I paid seven cows for my first wife and six cows for my second wife, so my whole livelihood depends on mining. I think the benefits outweigh the negatives.” (BI14, middle-aged polygamously married wealthy man)

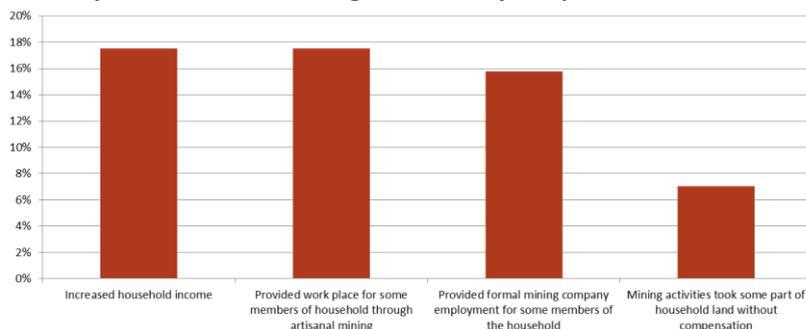
Effects of mining

Overall, we detected a general feeling of ambivalence among Mundarara people about the effects of mining on themselves and their village. While some participants in our FGDs and BIs appreciated the benefits that came from jobs, rubble sorting and mineral trading and brokering, others felt that mining companies were not bringing anything good to the community as mining-related conflicts and land shortages far outweighed the few benefits. The main beneficiaries seemed to be the male brokers and traders, who managed to make a lot of money from the presence of the mines, as noted above. However, some widows also said they were grateful for the small opportunities provided by the mines, as they allowed them to feed their families. As noted above, mining has therefore clearly contributed to opportunities for livelihood diversification in Mundarara, and we noted that mining and related activities seemed to be picking up over the course of our fieldwork. However, most participants in our FGDs and BIs mentioned that they would like to see more interactions between the mining companies and the villagers – in the form of information meetings, better working conditions and concrete CSR projects.

In our baseline survey, 18% (10) of all randomly sampled households said that mining had directly affected their households in the previous two years; four of these households were in Olorien, two each were in Kitarini and Olong’elu and one each in Injalai and Les Mundarara. These same 10 households, all male-headed, also said that large-scale land acquisitions, which they had understood to mean LSLAs involving mining companies, had affected their households; a further two female-headed households from those additionally surveyed also reported having been affected by mining.

As Figure 9 below shows, all those reporting effects from mining said that it had both increased their household income and had provided a work place for some members of the household through artisanal (i.e. small-scale but legal) mining; 16% (9) of the randomly sampled households reported that mining had provided formal mining company employment for some members of the household in small-scale mining companies, while one household obtained cash income from sorting rubble.

Figure 9. Reported effects of mining on randomly sampled households, Mundarara



Source: WOLTS Tanzania baseline survey, 2016. N = 57.

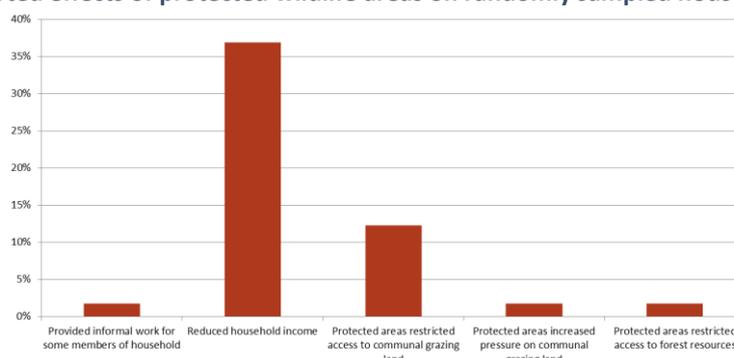
As Figure 9 also shows, 7% (4) of the randomly sampled households reported that mining had taken over some part of the household's land without compensation, but no other effects of mining were specified by respondents; for example, no effects were reported on the local natural resources used by households. Further, and despite all the evidence from our FGDs and BIs, just one male respondent and no female respondents agreed with the statement that: "In your community, companies have been able to come in and take people's land without consulting ordinary people". Twenty of all 71 survey respondents did not know whether this was the case, but the remainder all asserted that the statement was false. Our feeling was that this was mainly due to the scale of mining in Mundarara being too small to have had any big environmental impact to date, and also, correspondingly, due to the issues discussed above around compensation and expansion of mining operations being limited to the two known companies in the village, MRMC and Paradiso Minerals. On the other hand, further mining development clearly remained a threat to Mundarara; we were told by one senior district government figure that a few weeks before we carried out our FGDs and BIs, a group of people had gone to Mundarara with explosives and blasted out and taken away TSh 800 million (USD 320,000) worth of minerals; they had claimed to be doing research/exploration, but the district government did not even know if they had a licence.

Land allocation processes

Wildlife and the Village Land Use Plan

A bigger issue in Mundarara seemed to be that posed by wildlife. As noted above, Mundarara was part of a Wildlife Management Area (WMA) and at least one hunting company, Greenmile, was operating in the local area at the time of our fieldwork; a young child was attacked by wild animals while we were carrying out our baseline survey (and was taken to hospital in our research team's car), and we were told such attacks were not uncommon.

Some 39% (22) of all randomly sampled households in our baseline survey reported that they had been affected by protected wildlife areas in the previous two years. This was reported by 53% (9) of all households in Injalai and by 64% (9) in Olorien, although the responses may have been influenced by an attempt by the government to build an airstrip in Injalai to accommodate hunting tourism shortly before our fieldwork took place. Figure 10 below shows the specific effects of protected wildlife areas that were reported by our survey respondents. The biggest concerns raised were over 'reduced household income', by respondents in 37% (21) of all randomly sampled households, and over 'restricted access to communal grazing land', by 12% (7) of respondents.

Figure 10. Reported effects of protected wildlife areas on randomly sampled households, Mundarara

Source: WOLTS Tanzania baseline survey, 2016. N = 57.

Respondents also expressed concerns about local natural resources within the perceptions questions section of our baseline survey. As Table 11 below shows, 27% of all female respondents and 50% of all male respondents agreed that there were issues around environmental degradation of natural resources in their community, while 41% of all female and 38% of all male respondents agreed that there were issues around water pollution in their community; the majority, however, did not seem to feel these were major issues.

Table 11. Perceptions about the local environment by gender of respondent, Mundarara

	True (as percentage of respondents by gender)		False (as percentage of respondents by gender)		Don't know (as percentage of respondents by gender)	
	F	M	F	M	F	M
In your community there are issues around environmental degradation of natural resources.	27	50	71	50	2	0
In your community there are issues around water pollution.	41	38	57	63	2	0

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 63 for female respondents. N = 8 for male respondents.

With the help of the Arusha-based NGO, CORDS, the African Wildlife Foundation, who have been instrumental in establishing various WMAs in Longido district and elsewhere in Tanzania, and the facilitation of surveyors from the Longido district government, a VLUP was established in Mundarara in 2012. As noted above, WMAs are common in areas that border protected wildlife areas such as national parks and game reserves and the Mundarara VLUP was in part intended to help support prevention of conflict between pastoralists and wildlife. Within the VLUP all village land has been allocated to be used for different purposes, e.g. farming, herding, settlements; it also governs the use of forests and mining sites marked on the plan, although resources such as firewood can be still be collected by people for free from anywhere. As a result, many participants in our FGDs and BIs expressed their concern that little land has been left available for the future expansion of farming and settlements; in Olorien, for example, there is a big sign marking the start of grazing areas, where no-one is allowed to construct a boma. Nevertheless it seemed clear that the VLUP was considered especially relevant to (and useful for) pastoralists in Mundarara for its governance of grazing areas, to help sustain them through sound land management by all people respecting the grazing areas marked in the plan.

Land governance and perceptions about the law

It seemed that community decision-making in general in Mundarara was very male-dominated; the chairs of all five vitongoji were men, as was the Village Chair and the Village Executive Officer, and out of all statutory local leaders only the Ward Executive Officer was a woman at the time of our fieldwork. We were told that, as required by law, there were seven women on the Village Council (out of 18) and three women on the 'Village Land Committee' (out of ten – instead of the four

women that every village should by law have on its ‘Land Adjudication Committee’, as noted above), but participants in our FGDs and BIs said that they did not feel that those women had much say in the deliberations and decisions made by those statutory institutions. There were also a few women members of the Ilaigwanak, the traditional Maasai council, but most female participants in our FGDs and BIs did not feel that they could approach any of the women involved in local government, whether statutory or traditional/customary, with their concerns.

Before Villagisation, and as in many other parts of Tanzania, land in Mundarara had been abundant and was largely regulated through customary land tenure arrangements. However, we learned that statutory institutions have been seen in the village to have acquired more power over the past two decades as a result of the passing of the 1999 Village Land Act and the 2007 Village Land Use Planning Act, discussed above. Farmland and land for settlements in Mundarara were now completely governed by statutory regulations and institutions, and anyone wanting these types of land needed to apply to the village government, as we discuss shortly below; pastureland was jointly governed by the village government and the Ilaigwanak, under customary regulation and practice within the designated grazing areas within the statutory VLUP, as we elaborate further below.

As Table 12 below highlights, local knowledge about the relevant Tanzanian laws around land ownership and land governance was quite mixed in Mundarara. For example, male respondents in our baseline survey were more likely than female respondents to correctly know that minerals did not automatically belong to the person who had the rights over the land where they were found – 75% of male respondents (6 of 8) compared to 33% of female respondents (21 of 63). Fifty-one per cent of all respondents (36 of 71) in our baseline survey incorrectly believed that the law allowed discrimination against women as regards land ownership, while 52% (33) of all female respondents and 50% (4) of all male respondents incorrectly believed that Tanzanian law did not allow women to own land. Further, 75% (6) of our male respondents thought, again incorrectly, that men’s rights take legal precedence over women’s rights in Tanzania, as did 49% (31) of our female respondents.

Table 12. Perceptions about Tanzanian land laws by gender of respondent, Mundarara

	True (as percentage of respondents by gender)		False (as percentage of respondents by gender)		Don’t know (as percentage of respondents by gender)	
	F	M	F	M	F	M
In your country the law does not allow women to own land.	52	50	44	50	3	0
In your country the law says that men's rights to land take precedence over women's and that husband's rights to land take precedence over their wives'.	49	75	48	0	3	25
In your country it is illegal to discriminate between men and women as regards land ownership.	48	50	51	50	2	0
In your country, if you have the rights to the land, you also have rights to the mineral resources on or under the land.	52	25	33	75	14	0
In your community all people are involved and consulted in decisions about community land management.	67	63	32	38	2	0

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 63 for female respondents. N = 8 for male respondents.

As is clear from Table 12, some survey respondents, both male and female, were more aware of women’s rights to land under statutory law, such as that women could own land and that discrimination against women was illegal. Although it is impossible to be sure, we sensed that at least some of the respondents who said that women did not have land rights were thinking about their rights under local customary tenure practices rather than their rights under national law – either because, as the evidence from our FGDs and BIs suggested, they were not aware of women’s formal rights under Tanzanian laws (due to lack of education) or because, especially in the case of female respondents, many women did seem to know the formal procedures for accessing land

through the village government but were unable to claim their rights due to overriding social norms within the local Maasai culture that hold that women cannot own land, as we discuss further below.

During our FGDs and BIs, the majority of both male and female participants made clear that women played no role in Mundarara in public decision-making about land and natural resources, and particularly about issues relating to pastureland management, livestock migration and related conflict resolution, which we discuss further below. However, various women and men acknowledged that within the household, husbands sometimes consulted (or at least informed) their wife (or wives) about decisions relating to land and natural resources (cf. Kisambu et al 2017). We sensed there was a stigma for men to admit publicly that they might consult with their wives on these matters in private – even if they were increasingly doing so, for example within monogamous marriages, or between younger couples – so the fact that some men did may point positively to the potential for change.

Access to land for settlements and farms

Within the Mundarara VLUP, although some people may have grown crops on their boma, farmland and settlement areas had been separately demarcated within the village and were both governed by statutory forms of tenure, under the overall management of the village government. Participants in our FGDs and BIs shared that historically in Mundarara people just took and enclosed whatever land they wanted. However, as the local population had grown, and as land had been seen to have increased in (market/monetary) value, it had become much more difficult to get access to unoccupied areas of land for new settlements or farms and procedures had become more complex and regulated and the areas allocated for those land uses in the VLUP were already full.

“In total I own 20 acres of land including the land for my boma and my farmland. The Balozi [wa Nyumba Kumi, ‘ten cell leader’] assisted me to get the land. At that time, only the Kitongoji Chair could decide to give me land without involving the village government, so I was very lucky to get some land. Nowadays, it is very difficult, because people see the value of land today...People see that land is sweet.” (BI14, middle-aged polygamously married wealthy man)

We were therefore told that nowadays, in line with national regulations in accordance with the 1999 Village Land Act, anybody wishing to acquire land for farming or for constructing a new house or boma had to first apply to the relevant kitongoji chair, who would then forward the application to the Village Chair and the Village Council. The application would then need to be approved by the Village Land Committee, members of which would first visit the land to make an informal survey of the desired area and check it was available for allocation to the applicant, before the application could then finally be approved at a meeting of the Village Assembly.

According to village leaders we spoke with, several criteria influenced whether or not somebody would be given land, such as the purpose of the application, whether the applicant was local to Mundarara, whether they already had any land, etc. In theory, someone who already owned land or who wanted to acquire land for sale, i.e. for speculative purposes, would find their application rejected. However, participants in our FGDs and BIs shared that in practice wealthy people who already had land could always acquire more land in Mundarara as they would be able to buy it, and they also raised concerns about the slowness of the land allocation process, the need for regular follow up, and their perceptions of the particular difficulties for poorer people to get land. Largely this was related to the fees that participants in our FGDs and BIs reported as needing to be paid to support applications for land both for settlement and for farms. The amounts varied according to whom we were speaking to, and there was more consistency with regard to housing. The application fee for a house-plot was generally reported as TSh 30,000 (USD 12) and to establish a new boma cost between TSh 100,000 (USD 40) and TSh 200,000 (USD 80). For farmland, people mentioned application fees ranging from TSh 1,000 (US 40 cents) up to TSh 100,000 (USD 40). This is all in line with local practices in many parts of Tanzania, whereby most local government authorities serve in a

voluntary (unpaid) capacity and a level of social legitimacy has developed around the payment of small (unofficial) contributions towards their expenses (and time) in processing land applications and other forms of paperwork (cf. Daley 2005).

“I own 8 acres of farmland. I applied to the village government and they gave it to me in 2003. I just applied for more last December [2016] which was also approved. The application fee was TSh 6,000 (USD2.4) per acre...I got land because I am aware of the process to get land. I know how to work the system, but others struggle if they don't know how. I am very persistent and I reminded the Village Council about my application...I also lease out some of my farmland, between 2 and 4 acres. I am keeping the rest to grow my own crops and I also use the land for grazing my livestock after the harvest. After harvesting, my tenants pay me for the leasing of my land by caring for my cattle.” (BI7, middle-aged wealthy man)

We were told that those who were successful in applications for farms or new settlements would generally receive a customary ownership receipt or certificate, but if they wanted to get a statutory certificate – which we understood to mean a CCRO – they would have to pay TSh 150,000 (USD 60). It was unclear in the latter case, especially, what part of this might have been a formal (official) fee that would go towards revenue collection by higher levels of government, and what part was a contribution to local costs. However, some participants in our FGDs and BIs remained concerned that the more one contributed, the more likely one was to get land quickly, and thus access to land through the statutory channels was more difficult for poorer people. This in turn suggested particular difficulties for poorer women wanting land, if they could not afford financial contributions to support their land applications but might instead become vulnerable to pressures to pay ‘in kind’, as some participants in our FGDs and BIs hinted at, and we discuss further below.

We also learned during our fieldwork that someone from an NGO had apparently come to Mundarara in 2015 to measure people's land in order to provide them with statutory titles (CCROs, to help protect foreigners from coming in and stealing their lands, as we were told). However, the person had not yet returned, no-one knew the name of either the person or the NGO, and it was not clear if or when he would ever come back.

Meanwhile, 56 of the 57 randomly sampled households in our baseline survey reported that they considered themselves as owners of one or more house-plots – anywhere in Tanzania, not necessarily just Mundarara. The average number of house-plots was 1.52 per household. The maximum number of house-plots for one household was five, as Table 13 below shows, for a household in Injalai. We detected some confusion in the answers to these questions, with some of those households reporting to have more than one house-plot likely to be polygamous households, where the husband may have considered the house-plots of other wives' households as his own house-plots; in some cases the other house-plots may have been sites in grazing areas used by the family where they stayed during migration, and of course some wealthier villagers would have had plots in Longido town or further afield, and some of those who had moved to Mundarara from elsewhere might have had house-plots in their places of origin.

Table 13. House-plot ownership among randomly sampled households, Mundarara

	Number of households not owning a plot	Number of households with 1 plot	Number of households with 2 plots	Number of households with 3 plots	Number of households with 4 plots	Number of households with 5 plots	Total number of plots owned by all 57 randomly sampled households
Number of households	1	35	16	3	1	1	85

Source: WOLTS Tanzania baseline survey, 2016. N = 57.

Ninety-eight per cent (56) of the randomly sampled households in our baseline survey reported that household members owned their main house-plot in Mundarara, i.e. the place where the majority of household members usually lived, and there was just one randomly sampled household where the respondent was not able to answer this question.

With respect to the main house-plot of the 57 randomly sampled households in our baseline survey, 84% were reported to be jointly owned (for 48 households) and 12% were reported to be solely owned (for seven households); again, there were two households that were unable to answer this question. It was common during the baseline survey for households to report that the whole family owned the house-plot when asked whether it was jointly or solely owned, hence the high proportion of households that said it was jointly owned. In all reported cases where the house-plot was said to be solely owned, it was the household head who owned it; and in only one case was it reported that a male household head solely owned the house-plot, in Olorien. As shown in Table 14, Olorien and Injalai were also the only vitongoji where we found female-headed households reporting that the house-plot was jointly owned; female-headed households most often reported that the house-plot was solely owned by the female head.

Table 14. Ownership status of main house-plots occupied by all surveyed households, Mundarara

	Occupying a jointly owned house-plot		Occupying a solely owned house-plot	
	Percentage of all female-headed households in the kitongoji	Percentage of all male-headed households in the kitongoji	Percentage of all female-headed households in the kitongoji	Percentage of all male-headed households in the kitongoji
Olorien	20	85	80	15
Injalai	43	100	57	0
Kitarini	0	100	100	0
Les Mundarara	0	100	100	0
Olong'elu	0	100	100	0

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 5 for female-headed households in Olorien. N = 13 for male-headed households in Olorien. N = 7 for female-headed households in Injalai. N = 13 for male-headed households in Injalai. N = 2 for female-headed households in Kitarini. N = 9 for male-headed households in Kitarini. N = 4 for female-headed households in Les Mundarara. N = 5 for male-headed households in Les Mundarara. N = 3 for female-headed households in Olong'elu. N = 8 for male-headed households in Olong'elu. Two male-headed households did not respond, in Les Mundarara and Injalai.

There were no households among the randomly sampled households in our baseline survey, nor among the additionally surveyed female-headed households, that reported having any documents for any of their land. However, we learned from participants in our FGDs and BIs that ownership was actually interpreted in different ways. While some people said they had a customary ownership receipt or certificate, others felt that they owned the land simply by occupying it and had no formal documentation nor saw any need for such documentation. Moreover, the responses about sole and joint ownership were often a matter of perception, where, in most cases, the respondent considered the family as jointly owning the house-plot.

In total some 68% (39) of the randomly sampled households in our baseline survey reported that they also had land for non-residential purposes; between them they had land that was reported to total 269 ha. As shown in Table 15 below, the average size of the non-residential land that these 39 households reported having was 7 ha; two households reported that they had 30 hectares, one in Olorien and one in Injalai, with the remainder having amounts of land ranging from 2 ha to 21 ha.

Table 15. Average amount of non-residential land (ha) held by randomly sampled households, Mundarara

Kitongoji where household lived	Average of amount of non-residential land held (ha)
Injalai	8.5
Kitarini	4.33
Les Mundarara	11.2
Olong'elu	3.72
Olorien	9.94
Average for Mundarara	7.08

Source: WOLTS Tanzania baseline survey. N = 39.

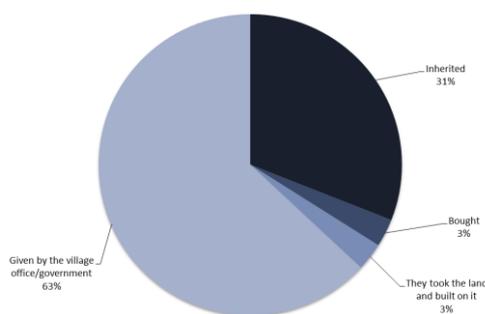
In 82% (32) of all 39 households with non-residential land, the land was reported to be located in the kitongoji the household lived in while in 13% (5) of the households it was in a different

(neighbouring) village; in two households (5%) respondents did not know where the land was located. Among the 32 households just with land in the kitongoji they lived in – so those with non-residential land in Mundarara – the total reported area was 205.5 ha and the average was 6.63 ha.

As noted above, no-one in our baseline survey reported that they were currently farming and none of this land was being cultivated at that time, suggesting, as participants in our FGDs and BIs claimed, that most of this non-residential land was unused farmland that was lying fallow at the time of the survey, because of the recent drought years, but had been originally allocated as farmland. However, our baseline data on the means of acquisition of households' non-residential land suggested that some of it had been acquired for grazing.

In 63% of the households in Mundarara with non-residential land (24 of 39), the land had been acquired through the village office/government; in 31% of households (12 of 39) it was inherited. Of those households that inherited the land, two male household heads inherited land from their fathers, one male household head inherited land from his father-in-law, two female household heads inherited the land from their husbands, and the remainder, all male-headed households, did not specify who they inherited from. In addition, one household reported having bought its non-residential land and another simply took the land and developed it, both male-headed households in Olorien. Figure 11 illustrates our data on the means of acquisition of all their non-residential land by the randomly sampled households in Mundarara.

Figure 11. Means of acquisition of non-residential land by randomly sampled households, Mundarara



Source: WOLTS Tanzania baseline survey. N = 39.

Analysing our baseline data in more detail, we found that six of the 39 randomly sampled households with non-residential land, five male-headed and one female-headed, plus one additionally surveyed female-headed household, all from Olorien, had stated that the land was for grazing. One male-headed household had bought land for exclusive grazing use, two male-headed households had inherited grazing areas, while the remaining four households, including both the female-headed households, reported that they had been given land by the village as their own for grazing. Although we do not know when these seven households acquired the land, these data suggest that at least some households in Mundarara had acquired exclusive grazing areas, whether those were areas within the communal grazing land that had been customarily used by a certain family, or new areas being allocated from the remaining communal land in the village to be held with exclusive grazing rights.

Various participants in our FGDs and BIs also reported having bought or leased land for farming. It appeared that some wealthier individuals also leased out their farmland to others in exchange for looking after their livestock; however, none of those in our baseline survey who reported having non-residential land had acquired it through borrowing or renting. According to village leaders, anybody (usually any man) wishing to sell land must come to the village government with his whole family, stating their reason for wanting to sell and confirming that everyone in the family agreed to the sale, before approval could be given; such sales were said to be very rare, but leases (renting out of land) were more common. However, we were also told that despite such safeguards, there was in

fact nothing the village government could do if a man’s wife or other family members were coerced into being there to agree to a sale of land.

“The tradition of marrying many women is challenging for women to own land. If a wife in a polygamous marriage requests land it will be in her husband’s name, otherwise other wives of the same man will be angry. This land can then be sold by the man without the consent of his wives. The problem is that a woman is afraid to come to the Village Council to raise this kind of issue for fear of the way her husband may react. No man can sell land without coming to the Village Council with his wife and having both approve the sale. But if the wife is there under duress and made by her husband to agree against her will, there is nothing the village government can do.” (FGD1, male village leaders)

Land disputes

As can be seen clearly in Table 16 below, only around one quarter of respondents in our baseline survey perceived disputes between herders and either miners, crop farmers or investors to be a problem in Mundarara. Among just the randomly sampled households, 72% (41) of respondents agreed that disputes with miners in the community were not a problem and that disputes with crop farmers in the community were also not a problem; 77% (44) thought that disputes with investors in the community were not a problem. Broken down by gender, only 38% (3) of all surveyed male respondents and 24% (15) of all surveyed female respondents thought that disputes between miners and community members were a problem in the village. Table 16 also provides our data on people’s confidence in the local justice system to resolve land and natural resource disputes in Mundarara, with only 35% (20) of respondents in all randomly sampled households thinking that it was not easy to get a just resolution to disputes, and only 30% of all female respondents; this suggested a high level of overall confidence in local dispute resolution processes.

Table 16. Perceptions about local natural resource disputes by gender of respondent, Mundarara

	True (as percentage of respondents by gender)		False (as percentage of respondents by gender)		Don’t know (as percentage of respondents by gender)	
	F	M	F	M	F	M
In your community disputes between miners and community members are not a problem.	73	63	24	38	3	0
In your community disputes between investors and community members are not a problem.	79	63	19	38	2	0
In your community disputes between crop farmers and herders are not a problem.	73	75	25	25	2	0
In your community it is not easy to get a just resolution to your land and natural resource disputes.	30	50	68	50	2	0

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 63 for female respondents. N = 8 for male respondents.

Participants in our FGDs and BIs confirmed that there seemed to be few disputes between herders and farmers or small-scale miners and herders, but instead they revealed the various issues between mining companies and the community discussed above. It seemed likely that these were not considered as land disputes with (outside) investors when respondents were answering the questions in our baseline survey, as MRMC had been in the community a long time and many of its staff, including Mr X, were known to local people. Instead, the main types of land dispute that came up in our FGDs and BIs were land boundary disputes and conflicts over migration. According to members of the Baraza la Ardhi (Village Land Council), boundary disputes were the most common land dispute they dealt with in Mundarara, caused by people expanding their farmland into their neighbours’ land. According to Baraza members we spoke with, one cause of such disputes is when land documents mention the acreage of land agreed to by the village government but are not based on a formal survey with clearly marked boundaries; this means that the actual land size taken and used by an individual may differ from the size indicated on the document, leading to future conflicts.

“I was involved in a dispute in Mairowa. People took my plot and the conflict is still not resolved. We held a meeting with the elders who know the boundaries. We also used traditional leaders and the village government but they are not fair. We ourselves are also to blame, because when we are given land we don’t follow up. Only when someone invades do we realise that we don’t know the exact boundaries. The challenge is that when you apply to the village, they tell you: “Just take land from this tree to that anthill.” They think it means 1 acre but I may think it means 3 acres so problems arise. If you look at it, I applied for 2 acres but there is no expertise in measuring the land. So if experts come to measure they will find it is more. In the end I will just have to follow what is on the document.” (B15, middle-aged married male miner)

“Sometimes the village government makes mistakes with land allocation. For example, if someone has been given a plot and they don’t develop it immediately, it may be allocated to someone else, which creates tension. In such cases the village government must intervene and give the second person a plot elsewhere. Men are more prone to these conflicts because they are the owners of the land. We had some conflicts in our extended family. My great-grandfather had some farms, which were inherited by my father. When it came to transferring ownership to his sons, the village government allocated someone my share of the land. It was a big conflict and the entire family was involved in resolving it. In the end the intruder was removed and another plot given to him elsewhere.” (B15, middle-aged polygamously married man)

We also learned that land disputes would first go up through to the village government from the kitongoji level, before going to the Baraza la Ardhi if not resolved. If the Baraza could not resolve a land boundary dispute it would be forwarded up to the ward level and then to the district level. Baraza members we spoke with shared that both women and men came to the Baraza la Ardhi to resolve their disputes, but the women were mostly widows whose lands had been grabbed by other people. We only came across two specific recent land disputes during our fieldwork and both were from among the additionally surveyed female-headed households in our baseline survey, one in Kitarini and one in Olorien. One case was an unresolved land boundary dispute, where we were told by the female household head that it was a hard life and there were no women’s rights; she did not have any land or livestock and now had to live with her daughter. In the second case we encountered, the female household head said her land boundary dispute had been resolved by the leaders and she was satisfied with how it had been resolved.

Disputes with mining companies, as noted above, were resolved by the village government in discussion with the mining companies and did not fall within the remit of the Village Land Council. Disputes about the use of pastureland and migration, which seemed to have become increasingly frequent in the years of recent drought, were also not resolved by the Village Land Council but rather by the Ilaigwanak, as we discuss further below.

Women’s access to land through statutory processes

The statutory system of land allocation, as well as the emerging land market, both grant women in Mundarara, as elsewhere in Tanzania, equal opportunities with men to access and own land. However, it likewise appeared from our fieldwork that in practice many structural challenges persisted, including strong customary norms that prevented women from accessing land. As one village leader quite openly told us: “How can a property own property? Equality is just not right.”

For example, while both women and men can apply for land by law, participants in our FGDs and BIs shared that in practice in Mundarara it was impossible for a married woman to apply to the village government for land, due to restrictive customary norms. Even though village leaders highlighted that widows would be favoured when applying for land, many other participants in our FGDs and BIs said that so long as a widow had a son, then her son must apply for her. Most widows thus continued to live on their deceased husband’s land (with their children) or moved in with their own relatives if they had no sons.

“Women cannot get access to land for settlement. They usually do not apply, because the boma is led by the father. Even if her husband dies, a woman does not go by herself. She has to wait for her sons to grow up, before she may be given land to establish a boma.” (FGD15, young unmarried men)

In general, we also found that only men’s names were written on the land documents issued by the village government. However, a female participant in one of our BIs, a widow who had been monogamously married, showed us an official document (Village Land Form No. 18 under the 1999 Village Land Act), in which both her deceased husband’s and her name were recorded as owners of the land – this document was not a full CCRO (Hati ya Hakimiliki ya Kimila) but rather a copy of a receipt for requesting one from the village government (Ombi ya Hakimiliki ya Kimila).

It appeared that many women were not aware of their rights and did not know the correct process to apply for land. As noted above, most women we spoke with did not feel that their interests were taken into account by the male-dominated governing institutions in the village, and some did not know whom to approach to get their rights protected; others were sceptical that the village government would help them, or thought they would not be taken seriously if they did not go with a male relative for support. Even if they succeeded in getting their own land from the statutory authorities women were aware that they would still have to deal with the male-dominated environment outside (cf. Mueller et al 2015).

“Most women do not know the procedures that could help them get access to land. Some women are aware and nowadays some women are even involved in the village government. But most women are scared to approach the village government. Some even got land from the village government, but then their husbands stopped them. I would allow my wife to own land.” (BI5, middle-aged polygamously married man)

“It is not easy for women to get access to land. Only when you are married can you get access to land through your husband...Most women here are still in darkness, they do not know their rights. Even the leadership is a challenge on its own, because they always prioritise men. All men, including the leaders, do not respect women.” (BI10, young monogamously married woman)

Furthermore, most women, and particularly widows, did not have the money to cover the costs associated with applying for land, or to buy or lease land in their own right. One man we spoke with, a respected figure in the community, even told us that sexual relationships were necessary if a woman wanted to get access to land.

“Women are not considered as people to get rights. Unless, when you want access to land, you have to create a sexual relationship with those people who can give you access...There are so many challenges, and very little opportunities, if any at all, for women. They must sexually bribe if they do not have money to bribe...A woman in my church has a very young daughter and her father arranged for the girl’s marriage. Both the mother and daughter were not happy, but the mother did not even know where to go to complain. It is like she was in complete darkness...We are very ignorant. There are no institutions here to help women and women do not even know their rights. So if they go to the village government, which is run by men, and they use harsh language with them, they will leave and not know where to go...I think money is the biggest challenge. If they had money, they could also buy land.” (BI15, middle-aged married male miner)

“It is not easy for women to get access to land. How can we get access to land if we do not have any resources like livestock? If you do not own the resources, how can you own the land? I have never seen any woman own land. I could be given land for farming if I followed the processes, but I never tried, because one needs to have TSh 100,000 (USD 40) in order to be considered by the village government. If you don’t have that you will not be considered...if you give them that they will come right away and show you land and put a stamp on your paper...I now live alone. I just asked my neighbour to build a small boma on her land. So I feel like it is my land, even though all the big land around belongs to her.” (BI8, elderly widow)

“I think getting land is difficult. If you are not rich you won’t get any. It is not to do with status but to do with wealth. Women, widows especially, are poor so they can’t afford it.” (BI7, middle-aged wealthy man)

One woman we spoke with explained how a group of women in Mundarara had managed to get access to some land to establish a milling business with the intervention of a retired politician. She told us how difficult it had been to get the land and then how, after a short period of operation, the milling machine was stolen and they had been unable to restart their business right up to now.

Alternatively, and as several participants in our FGDs and BIs asserted, the market could, at least in theory, provide an opportunity for women to get access to land; in practice, however, their lack of monetary resources and other assets would again prevent them from acquiring land. The evidence from our fieldwork suggested that a range of different variables were linked to power over land and resources in Mundarara, as elsewhere in Tanzania. However, the question remained, given the apparent strength of traditional social and cultural norms, as to whether wealth and money were more important than gender, as elsewhere in Tanzania, in enabling access to land (and livestock) in Mundarara today (cf. Daley 2005). If they were, or if things were moving that way, then supporting women's economic empowerment, for example through ensuring they were able to benefit to the maximum extent from local ruby mining, would be a means of supporting women to attain increased access to and security of tenure over land, and, in due course, increased influence within the local government on matters of land management.

Pastureland management

As noted above, 79% of the randomly sampled households in our baseline survey reported herding as their top source of cash income in the 12 months prior to the survey and it was the top source of cash income for 90% of all female-headed households and 78% of all male-headed households. Furthermore, 94% of all female respondents (59 of 63) and 100% of all male respondents (8 of 8) in our baseline survey agreed with the statement that: "The majority of people in this community depend on herding livestock for their survival", as Table 17 below shows. Access to pastureland and water sources was therefore a concern for many people in the village, in light of both the prolonged drought of the past three to four years and the increases in both human and livestock populations of recent decades. Thirty-two per cent (20) of all female respondents and 63% (5) of all male respondents thought there were issues around access to grazing land in Mundarara, while 59% (37) of all female respondents and 63% (5) of all male respondents thought there were issues around access to water sources.

Table 17. Perceptions about pastoralism and access to resources by gender of respondent, Mundarara

	True (as percentage of respondents by gender)		False (as percentage of respondents by gender)		Don't know (as percentage of respondents by gender)	
	F	M	F	M	F	M
The majority of people in this community depend on herding livestock for their survival.	94	100	5	0	2	0
In your community there are issues around access to grazing lands.	32	63	68	38	0	0
In your community there are issues around access to water sources.	59	63	41	38	0	0

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 63 for female respondents. N = 8 for male respondents.

As a result of the gradually increasing formalisation of land tenure over the decades since Villagisation and of other changes such as population growth and the introduction of UPE, the local Maasai have become more sedentary and we were told that movement with livestock now only took place at specific times of the year, with mainly men migrating, leaving women and children behind.

“In the past, 20 years ago, we moved with the whole family, but this no longer happens. We have become more sedentary, partly influenced by the government introducing Village Land Use Plans. The change has happened because of the formalisation of land at the national policy level. We have developed an identity which is associated with the land we inhabit. In times where we need to take animals away from the village in search of viable pasture, we now often pay others to do this.” (FGD1, male village leaders)

As also noted above, pastureland management now took place with the help of the Mundarara VLUP, with related rules and regulations to support it. Pastureland management appeared to be a joint endeavour between the village government and the traditional Maasai council, the Ilaigwanak, although some participants in our FGDs and BIs said that traditional leaders were not as powerful as they had formerly been, again due to the increasing formalisation of land tenure and the move away from customary tenure arrangements. However, while access to pasture and the organisation of migration did seem to have become more regulated, with the Ilaigwanak in collaboration with the village government taking a strong role in setting aside certain areas for dry season grazing, the Ilaigwanak still provided the main forum in which disputes over migration were discussed and settled, as they had no boundaries and their jurisdiction cut across every village where traditional Maasai leadership was still respected.

The Ilaigwanak themselves were male-dominated, with only very few women being Legwanak; all decisions about migration and herding were still made by men and we learned that women were often only informed at very short notice when men would leave with the livestock.

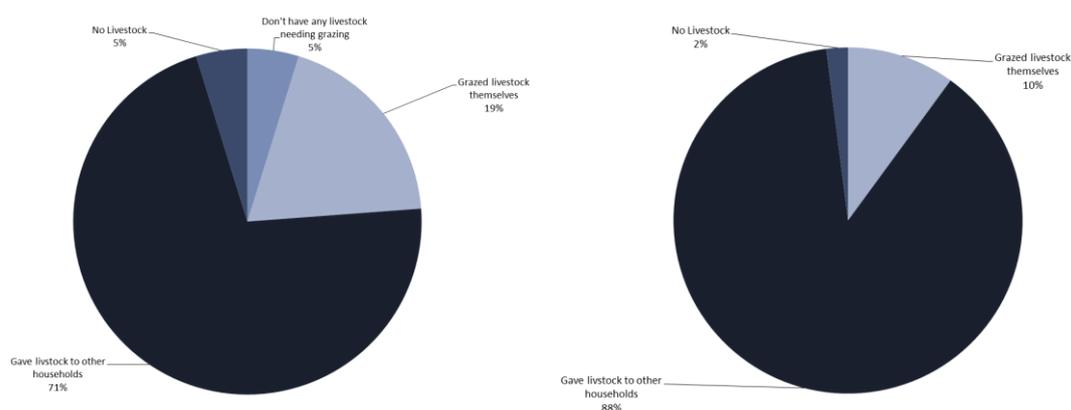
Access to grazing areas and changing movement patterns

“Land for pasture is the most important natural resource, because the Maasai livelihood depends on livestock keeping.” (BI11, married male herder)

While small livestock (goats and sheep) can make do with little pasture and dry shrubs, larger animals such as cattle depend on good pastureland for their survival. Most people in Mundarara were thus reliant on large areas of communal land for their livelihood. Only those with a small number of livestock sometimes grazed them on their farmland – or on their boma, dividing it into a part for grazing and a part for farming and also feeding their animals with left-over stubble from farming.

“Our access to grazing land is different to that of other people. We just divide our farm in half and use one half for the livestock and one half for farming. Sometimes we also feed the husks of our maize to the livestock and sometimes we let them graze around our boma. This is very common for people with only few livestock.” (BI10, young monogamously married woman)

Among the randomly sampled households in our baseline survey, only 12% (7) reported grazing livestock themselves during the last year as their main mode of grazing, of which five were male-headed and two were female-headed, and 86% (49) reported giving livestock to other households to graze, of which 44 were male-headed and five were female-headed; the remaining male-headed household did not have any livestock at all. Gender differences in reported grazing patterns were as set out in Figure 12 below. As the figure shows, among female-headed households, one of those additionally surveyed had no animals at all, another had a few animals just grazing around the boma, while all the remainder either reported their main mode of grazing as grazing animals themselves (i.e. using household members), or giving livestock to others – the predominant mode of grazing of the additionally surveyed female-headed households, whose heads were mainly widows.

Figure 12. Grazing patterns in female- (left) and male- (right) headed households, Mundarara

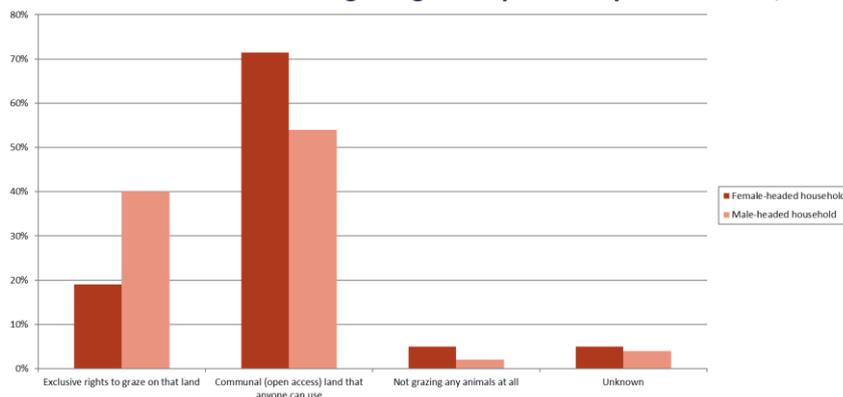
Source: WOLTS Tanzania baseline survey, 2016. Female chart includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

It appeared from our FGDs and BIs that many people paid others to herd animals for them on a daily basis, as well as to take them on seasonal migration for longer periods. Those people who were herding animals for other people were paid on a daily basis but were also allowed to use the milk and other products from the animals while they were responsible for looking after them, and they could continue looking after livestock for other people for as long as they wanted to, or as long as the livestock owner needed them to, depending on his or her available time. Two of our BIs were with relatively wealthy men who specifically stated that they paid other people to herd livestock for them, and a third BI was with a man who mentioned that women often paid others to herd for them. Further, all the women we spoke with who had livestock said that they gave them to their neighbours to look after, but we did not get any details of the arrangements that were made around this in the case of the women, whether it was for money or for in-kind payments. Given the trends in changes in local livelihoods discussed above, it seemed most likely that men who had traditionally herded livestock, including Moran, were now too busy with ruby mining and related activities to concentrate on herding full-time.

“Those who are rich employ others to take their livestock to pasture for them. Those who cannot afford that send their Moran.” (BI5, middle-aged polygamously married man)

“I employ people to take care of my livestock. Nobody did this in the past. I pay them TSh 6,000 (USD 2.4) or one goat per month. I employ four men, all from Mundarara...I work mainly as a mineral broker and my wife picks and sells rubies from the rubble...Livestock are my most important asset.” (BI7, middle-aged wealthy man)

In our baseline survey, 58% (33) of the randomly sampled households reported that they relied on communal land to graze their animals and 37% (21) that they relied on grazing land to which they held exclusive rights, of which 20 were male-headed households; three male-headed households did not respond. Among the randomly sampled households and in general, female-headed households therefore appeared to be more reliant on communal grazing areas used under local pastureland management rules and practices, as Figure 13 shows.

Figure 13. Main means of access to grazing land by all surveyed household, Mundarara

Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 21 for female-headed households. N = 50 for male-headed households.

Exclusive grazing areas included land both around people's house-plots and within the boma, as well as areas of communal grazing land in the village to which people's families either had traditionally had customary rights to exclusive use, as their own area, or which they had acquired permission to use in an exclusive way from the village government, as discussed with respect to land allocation processes above. Closer inspection of our baseline data suggested that all those who reported exclusive grazing rights had large herds, certainly with hundreds of livestock in most cases. However, it was not clear if these exclusive rights were permanent year-round rights or only seasonal rights to use certain areas of dry season grazing at the relevant time. Further, female-headed households, who, as noted above, appeared to be slightly more reliant than male-headed households on herding for cash income and had fewer exclusive rights to grazing land seemed likely to be more vulnerable than other segments of the community in Mundarara to the threats to pastoralism from mining.

"My father owned some grazing land that was just for our family to use. It was a hill that included a spring for watering livestock, and other people had to ask his permission to use it. He did not seek any permission himself to use this land but just took it for himself without any conflicts." (BI6, middle-aged widow)

"We had some land for herding that was only used for our family's livestock, like calves and sick animals. During droughts we would keep all the animals in there. The men just fenced a lot of land. They just looked around and since there were no neighbours they just fenced it. Today there is no more land available to do that. Unless you have money to buy land, there is no more land available for free." (BI8, elderly widow)

Prior to Villagisation, as noted earlier, there were no formal village boundaries and pastureland was perceived to be both plentiful and of good quality. However, erratic rainfall, population growth and the general increase in crop farming in the past ten years (current drought years excepted) have led to many conflicts over pasture in and around Mundarara. The growth in the number of farms and settlements in Mundarara, as well as the presence of mining companies, has increased the distance people have to walk to reach grazing areas, even if these are now specified in the VLUP. People from different vitongoji used different grazing areas during the rainy season, for example, those from Les Mundarara went to Gilai or Oltinga and people from other vitongoji went to Loosoitok. However, all communal pastureland was shared with Maasai people from neighbouring villages, requiring collaboration between the different village governments and traditional councils, and in one of our FGDs participants shared that there were strong relationships between all parties in practice.

"People from here go over the mountain to Gilai. And people from other villages also go there, so it is chaos. In the past, pasture was close to settlements, but now we have to go far. Some also go to Oltinga and people from Longido also come there, so the grass and the land are destroyed due to the large numbers of animals. They do not have to ask for permission and it is free. Normally, we mix without problems, but one just has to introduce oneself." (BI5, middle-aged polygamously married man)

During our fieldwork we learned that most of Mundarara’s pastureland was open to all during the rains but some parts were set aside for dry season grazing for weak and small animals, which could not migrate. The Ilaigwanak and the village government called a public meeting to inform people when the reserved areas would be opened for dry season grazing; that also opened the season for general migration with larger livestock. If the terms of use of reserved dry season grazing areas were violated by any individual, they would have to pay a fine.

“Today, the village government decides together with the Ilaigwanak. After deciding they call a public meeting and inform everybody. Not everybody respects their decisions. During setting the regulations, they also set a fine, which people who do not follow [the regulations] have to pay...Women do not migrate but they can pay someone to go and migrate.” (BI15, middle-aged married male miner)

Participants in our FGDs and BIs also shared that although the Ilaigwanak and the village government jointly decided when to open seasonal migration, according to rainfall patterns and forecasts, and jointly recommended where to migrate to, everybody was still free to go to different places if they wished – and as long as they had permission from the people in the places they were going to. Usually migration started in September and the most common place to migrate to was said to be neighbouring Muriatata, which was three days’ walking distance from Mundarara. However, several people also mentioned that in the last five to 10 years even Muriatata had had no rain and no viable pasture, so some people had moved as far as Simanjiro district, or to Kenya. It thus appeared that the length of migration in terms of both the overall distance and the period away from home had increased in recent years, and that those who migrated were sometimes forced to spend up to five months away from the village. In February 2017, at the tail end of the dry season, we found that even some people who had stayed in Mundarara almost up to that point had recently migrated due to the severity of the local drought.

We learned during our fieldwork that previously while pastoralists had rarely migrated long distances, when they did so they would normally move with the whole family and set up a new boma for the time they were there. However, by the time of our fieldwork migration appeared to have become a regular annual seasonal event in the dry season. Eighty-six per cent (49) of the randomly surveyed households in our baseline survey reported that at least some members of their household moved with livestock in different seasons. Eighty-six per cent (43) of all 50 male-headed households reported this, as did 76% (16) of all 21 female-headed households. There were some differences here according to where people lived in the village, with 100% (17) of randomly sampled households in the most remote kitongoji, Injalai, reporting that they had household members who moved seasonally with their livestock. Likewise, 100% (14) of randomly sampled households in Olorien moved seasonally with their livestock. 78% (7) of households in Kitarini moved seasonally with their livestock, as did 63% (5) in Les Mundarara, and 67% (9) in Olong’elu. We did not ask how far they moved or how many members moved, and these data contradict what we were told about people living temporarily away from the household (e.g. for a season) when we were gathering our initial demographic data on each surveyed household – but they also suggest that people were not including migration with animals in those data. Our baseline data on who in the household did different tasks also supported the other evidence that implied that women did not migrate with livestock, thus supporting the findings from our FGDs and BIs; it was the Moran, the young male warriors, who were most likely to do this, while many households paid others to take their livestock on migration, as just noted above – another practice that did not exist in the past. However, some male participants in our FGDs and BIs told us that women were not allowed to migrate with animals, because of the danger of wild animals, as well as the possible dangers of being raped. This latter possibility was not mentioned as an issue by any of the female participants in our FGDs or BIs, and it seemed more a matter of men wanting to control women and therefore not wanting them to go outside the boma where they could get pregnant with a stranger’s child. Especially for female-headed households where there were no adult sons, this could cause problems, as they would then

either have to pay somebody to take their livestock, or ask their neighbours and then pay in kind (i.e. through food, clothes, etc.). It may therefore be more important to secure first women's rights to livestock, because if men negotiate access to grazing land the women with livestock can pay men to herd for them, or seek support of male relatives to negotiate access to grazing land, but they can also just graze a few livestock at the boma to survive – if they have secure rights to the house-plot.

“Women are allowed to keep their own cattle and herd them in the area around their boma and in the village but are not allowed to take cows away from the village in the dry season. They give the cows to men who will then take them away. There is a danger a woman may be raped if she leaves the village.” (FGD1, male village leaders)

The lack of predictability in rainfall patterns and the increase in human population and livestock numbers have also led to an increase in conflicts over pasture use, with decreased availability of pastureland mentioned as a major concern by participants in our FGDs and BIs in Mundarara. Along with the general shift away from customary tenure towards statutory tenure, these changes have led people to migrate much further than in the past. Conflicts over pasture have become more common both within the village and between neighbouring villages. It was mentioned by various respondents that nowadays, when they migrate, they are often chased away and have to move further and further. The general rule used to be that herders could stay in one area until it started to rain in their home area, and then they could be asked to move back immediately. However, we were told that due to general lack of rainfall everywhere they were nowadays chased away even when it had not rained in their home region. The fact that pasture is shared with wild animals further exacerbates the pressure on the land; for example, if mining sites block access to pasture, people may face risks in taking new routes with their livestock if they have to pass through areas full of wild animals. There were also conflicts related to people from other villages, such as neighbouring Ketumbeine, coming to Mundarara when it had rained there.

“There are conflicts over migration. Even today some people went to Sinonik [*in another ward*] and were chased away. They were told to go back home. Usually, they then negotiate with the owners, otherwise if they go back home, the livestock may die. People with money may pay to be allowed to stay, others may have to go home and livestock will perish.” (FGD9, widows)

The most common way to resolve conflicts was through individual negotiations or village meetings. People also mentioned that nowadays they often went to check out the pasture and discuss pasture access informally with individuals living in those areas (relatives or friends) before actually migrating there, in order to reduce conflicts. Thus it appeared that people were now so concerned about needing to mitigate and reduce conflicts over pastureland that they were taking matters into their own hands and making private grazing arrangements instead of leaving everything to the village government and Ilaigwanak as had traditionally been the case in easier times.

“Past migration was easy as there were low levels of regulation due to there being plentiful amounts of pasture. Now Maasai pastoralists are chased away by other Maasai from grazing land. Migration has increased in terms of distance and length of stay compared with 10-20 years ago which has similarly increased conflicts. As a result, we are being forced to reduce our herds and try to diversify to other livelihoods.” (FGD17, men involved in mining)

Conclusions from Mundarara

Climate change and human population growth have both contributed to making pastoralist livelihoods in Mundarara less predictable than they used to be. The uptake of farming activities (despite the drought of the last few years) has coincided with land tenure becoming more formalised and land management more regulated. The establishment of a VLUP has demarcated the areas set

aside for pasture and thereby reduced the availability of land for the expansion of settlements and farming. At the same time, many people have started trying to diversify their livelihoods, and mining has provided one avenue for diversification – even though expansion of the mining sites has also contributed to pressures on overall land availability in the village.

While some jobs have been created, the main beneficiaries from mining appear to be the many male traders and brokers, some of whom have become relatively wealthy from selling rubies. Mining has also provided women (and especially widows) with some opportunities to generate a small cash income through the collection and sale of left-over rubble. However, the benefits to women have been minimised due to their lack of knowledge about the value of the minerals they are collecting, as well as the gender-specific discrimination they face in accessing the rubble, which ranged from verbal abuse to direct violence in the accounts we heard during our fieldwork.

Even though mining and related activities have clearly contributed to the local economy in Mundarara, some negative issues were also raised. We found that many local people were unhappy about the limited engagement of mining companies with Mundarara people, and that improvements were needed in terms of consultation, compensation and the provision of more benefits to the community. These issues have contributed to resentment building up, and to violence and protests.

The increased involvement of local men in mining and the general trend towards livelihood diversification have led local women to take on more roles outside the household. While women were increasingly engaged in herding, and many also engaged in various cash income-earning activities, women still continued to be responsible for all domestic work and were often not allowed to keep any money they made from their small businesses. We found that decision-making within the community remained largely male-dominated at all levels, despite the involvement of women in formal government institutions as required by law. However, changes seemed to be visible within at least some households. For example, although polygamy was still more common than monogamy, monogamous marriages appeared to be becoming more common and were characterised by more equity of household decision-making, for example about budgeting and expenditure. Even in polygamous households it seemed that some women might have held more power than was openly acknowledged, and we were told that favoured wives were often more involved in decision-making and had more rights than other wives. We also felt that what people said they did and what they actually did were not always the same, and some men seemed open to changes that would support women's rights and benefit the whole household while also respecting local culture and traditions.

The increasing formalisation of land tenure in theory has provided women in Mundarara with equal rights to access land and to have formal joint ownership of household land, thereby ensuring their tenure security. In practice, however, we were regularly told that men did not allow women to own any land and that the village government only granted land to widows with adult sons. Furthermore, most livestock belonged to men only. With these two important assets concentrated in men's hands, women had fewer opportunities to independently generate wealth or to contribute cash income to their household economy. Widows (and the very few separated women), especially those with children to look after, also often seemed to be left with few assets, limited access to resources and little male support. Although we encountered some very poor men, these women thus appeared to be among the most vulnerable people in Mundarara.

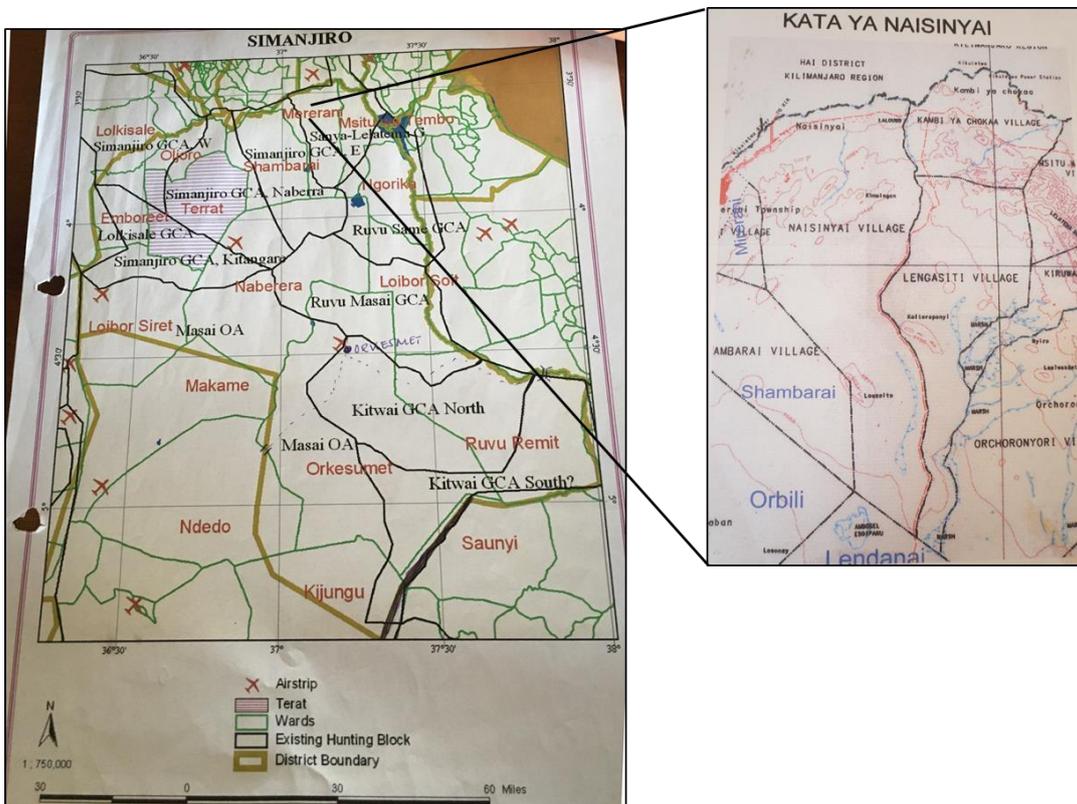
Climate change, drought and mining have also led to conflicts over increasingly scarce pasture and water resources. These external threats were thus changing pastoralist livelihoods and gender roles and divisions of labour in Mundarara, while the internal threats many women faced within the community seemed at the same time very difficult to overcome.

Naisinyai Village

Location and population

Naisinyai village lies in Naisinyai ward in Simanjiro district, Manyara region, in northern Tanzania. The nearest medium-sized town is Mirerani, which borders Naisinyai immediately to the south; the Simanjiro district headquarters are based 145 km further south along a graded dirt road at the small town of Orkesemet. Naisinyai village centre is about 19 km south of Kilimanjaro International Airport, along a new tarmac road whose construction was completed during the period in which we carried out our fieldwork. From there it is a further 65 km west to the major town of Arusha, along the main Moshi-Arusha tarmac trunk road. No precise data were available on the total land area of Naisinyai, although village leaders estimated it to be around 30 km². The village’s three main land uses are pastoralism, crop farming and mining. Parts of Naisinyai are included within the borders of the Mirerani Controlled Area (MCA), the only place in the world where tanzanite gemstones have been found. According to the Arusha Zonal Mining Office, as at 1 June 2016 732 PMLs had been granted in the MCA for small-scale mining of tanzanite, of which around 180-200 were then active; one large- and two medium-scale tanzanite mining companies were also present in Naisinyai. As discussed earlier, after we completed the fieldwork on which our present report is based, a concrete wall was built around the entire MCA and strict controls on everyone entering and leaving the tanzanite mines were put in place. Our analysis speaks primarily to the situation as we found it in 2016 and 2017 (before the wall was built) but where relevant we highlight possible implications from these significant new developments for the people of Naisinyai.

Map 4. Location of Naisinyai within Simanjiro



Source: Official maps in the Naisinyai village office, August 2016.

Naisinyai is made up of three vitongoji – Naisinyai Kati, Oloshonyoki and Naepo. Unlike in Mundarara, we saw hardly any traditional Maasai boma in Naisinyai during our fieldwork; instead,

extended families more commonly lived together in clusters of households, with several houses or huts built near one another. Many modern houses were also visible, with mud brick, burnt brick or cement walls. The total population of the village as at 9 August 2016 was 8,770 people, living in 1,243 households. The distribution of households across Naisinyai's three vitongoji is given in Table 18; it was not possible to calculate population densities due to the lack of precise data on the village's area.

Table 18. Number of households in each kitongoji, Naisinyai

Kitongoji	Number of households
Naisinyai Kati	425
Oloshonyoki	348
Naepo	470
Total in Naisinyai	1,243

Source: Official data from Naisinyai Village Government, as at 9 August 2016.

A total of 28 female-headed households were included in our baseline survey, of whom six fell within the 103 randomly sampled households, equivalent to 6% of the random sample. Extrapolating to the village as a whole suggests that at least 75 households in Naisinyai were female-headed at the time of our survey – only a quarter of the national average rate for female-headed households noted above.

The average size of the randomly sampled households in Naisinyai was 7.06 people. The average size of all 28 female-headed households was 5.71; the average size of all 97 male-headed households was 7.08. There were in total 728 people (333 females, 385 males, and 10 whose gender was not given) living in the randomly sampled households, with their age breakdown as summarised in Table 19 below. The 10 people whose gender was not given and two people whose age was not given all came from two households where survey respondents did not want to disclose this information.

Table 19. Age distribution of people living in 103 randomly sampled Naisinyai households

Age (in years)	Number of people	Percentage of total people in each age group
5 or under	122	17%
6 to 12	157	22%
13 to 18	129	18%
19-24	78	11%
25-34	72	10%
35-44	73	10%
45-54	46	6%
55-64	23	3%
65-74	17	2%
75 and over	9	1%
Not given	2	0%
Total	728	100%

Source: WOLTS Tanzania baseline survey, 2016. N = 728.

The data in Table 19 suggest by extrapolation that at least 56% of Naisinyai's population were children (aged 18 or under), at least 4% were elderly (aged 65 or older), and just 40% of the population were working age adults (aged 19 to 64). The youthfulness of Naisinyai's population is underscored by the fact that in total at least 77% of the members of our randomly sampled households were under the age of 35, a finding that, as with Mundarara, is in line with the national average noted above.

Our baseline survey was carried out with the most senior adult household member who was available and willing to be interviewed. Forty-eight per cent (49) of the respondents from randomly sampled households were the household heads, 45 male and four female. The spouses of the household heads made up a further 49% (50) of all respondents; 49 of these were wives of male household heads and in the case of one female household head in a polygamous marriage, her

husband (who was recorded for census purposes as the head of another wife's household) was the respondent. In two households the male head's daughter was the respondent, in one household the male head's daughter-in-law responded, and in one household the respondent was a granddaughter of the female household head. Fifty-five per cent (57) of all respondents in the random sample were female and 45% (46) were male; 20 respondents in the 22 additionally surveyed female-headed households were the female household heads, one was the head's daughter and one was male, the head's grandson.

Naisinyai is ethnically very homogenous, with almost all inhabitants being Maasai – the ethnic group of 95% (98) of the heads of randomly sampled households in our baseline survey; the remaining five household heads were Shambaa, Meru, Nyamwezi, Nyaturu and Nyiramba. Christianity is the predominant religion – attributed to 97% (100) of the heads of randomly sampled households; 74% of these 100 Christians were reported to be Lutheran, with the remainder Pentecostal (19%), Efatha (a pentecostalist denomination, 4%), Kilakuno (a pentecostalist Simanjiro mission, 1%), Catholic (1%), and unspecified (1%). Three household heads were reported to be Muslim.

Naisinyai's three vitongoji

The main settlement areas in Naisinyai are all located close to the main road leading from Kilimanjaro International Airport to Mirerani town. Oloshonyoki is closest to Mirerani, Naisinyai Kati lies in the middle and Naepo is the most rural of the three vitongoji, nearest the airport. The village office and a primary school are located in the village centre, Naisinyai Kati, and houses within this kitongoji are scattered around these two key buildings. The main well is also located in Naisinyai Kati, outside the village office, and there are five other water sources in the village which are all located along the main road, near different settlements.

Oloshonyoki is the most built up kitongoji and it had the most burnt brick houses at the time of our fieldwork, spread either side of the main road into Mirerani. It was easy to walk between different households in Oloshonyoki and this kitongoji felt physically smaller than the other two. It was also the only kitongoji where we found any non-Maasai household heads or spouses of household heads in our baseline survey, with the other two vitongoji appearing to be 100% Maasai.

In contrast to Oloshonyoki, households in Naepo were very spread out, with large distances between them, and we observed numerous large/high quality houses interspersed with much poorer-looking residences in this kitongoji. Naepo was also the largest kitongoji in terms of human population at the time of our fieldwork and already had its own primary school. In 2015 Naepo had therefore requested to become a separate (new) village and the process of formalising this was ongoing.

Farmland in Naisinyai, used by people from all three vitongoji, is located across the main road from the village centre and follows the path of the seasonal Kikuletwa river which runs between Mirerani and Arusha. Naisinyai's pastureland (i.e. traditional grazing areas) is beyond the main mining areas on the east side of the village.

Recent history of economic and population change

According to participants in our FGDs and BIs, the landscape around Naisinyai has changed dramatically over the last 50 years, mainly as a result of the expansion of mining since its beginnings in the 1960s. However, we detected a general perception that mining operations had expanded most rapidly within the last 10 years – contributing to the clearing of much thick vegetation and cutting down of trees, a reduction in available pastureland, and the expansion of settlements to accommodate the related influx of people into the local area – and village leaders informed us that most mining operations had only really got going after about 1997, linked to the general growth of the Tanzanian economy that was by then under way, as discussed above.

“10 years ago the village was very different and mining only occupied a small amount of land. Now we are forced to migrate our livestock large distances to navigate around the mines. The size of the village has expanded a great deal in this time. There are many more people now and the settlement areas are much bigger.” (FGD24, polygamously married first wives)

With the exception of this physical expansion, it therefore appeared that Naisinyai did not change substantially as an initial result of Villagisation in 1974. We were told that there had previously been only a few settlements in the village, mainly along the then dirt road into Mirerani; unlike many other parts of Tanzania there was limited relocation of people in Naisinyai during Villagisation and the former village office was still visible behind the new (current) one. Administratively, Naisinyai used to be part of Mirerani ward, but as the township grew new wards were sub-divided and Naisinyai became part of a new Naisinyai ward. However, the MCA mining blocks along the hilly ridge that separates the main settlement areas from the village’s pastureland all still fall within the territory of Naisinyai village, as we describe further below.

The main changes with Villagisation were social and land use related, as sedentarisation was encouraged with the introduction of universal primary education (UPE) from 1977, and then as crop farming in the local area started to increase. Some participants in our FGDs and BIs said that farming had particularly increased over the last 10 years, with the establishment of a number of large-scale farms that have altered the course of the Kikuletwa river; as the farmers dug irrigation canals to divert water from the river to their farms, the amount of water being taken off upstream (in the upper and middle course of the river) was said to be such that the river had dried up and no longer reached Naisinyai most years, so farming was no longer irrigated.

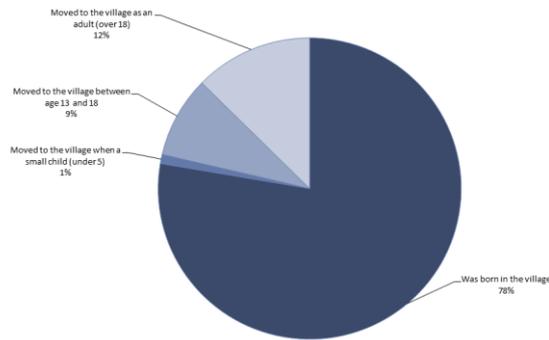
“I was born in Naisinyai in 1965. This used to be a purely pastoralist area. In 1974 and 1975 Villagisation started and affected the area. In 1975 my parents took me to school. It was a temporary shelter built at the place where the school now stands. The first classes started there in 1976 and I was among the first students. In 1977 they separated the classes into Class 1 and Class 2. After that the community was mobilised to take all children to school. I completed school in 1986. After that I was circumcised and became a Moran.” (B11, middle-aged wealthy man)

The use of pastureland became more regulated after Villagisation too. Further, Naisinyai’s traditional grazing areas were reported to have become notably less accessible with the development of mining, as livestock paths between the different mining sites were sometimes blocked and the large mining pits themselves created new dangers for livestock, as we discuss further below.

In more recent years the expansion and development of Mirerani town has wrought the biggest changes in the local area. For example, the Simanjiro District Council has promoted the establishment of an Export Processing Zone (free trade area) within the boundaries of the Mirerani Township Authority, to encourage the development of factories and other businesses to support the local mining industry. Over the period since the mid-1990s Naisinyai village has also transitioned from being a purely pastoralist community to one that is much more of an agro-pastoral community.

Further, there was a widespread perception that, as a result of the mining boom, the Mirerani area had seen a large influx of people from other parts of Tanzania, and this was probably true in relation to many of the small-scale miners and the employees of the larger-scale mining companies living in Mirerani town or in camps within the MCA. However, as noted above, the permanent population of Naisinyai village itself was still very ethnically homogenous, and only 36% (37) of all respondents in the randomly sampled households in our baseline survey agreed with the statement that: “There have been many newcomers to this community in recent years and they are coming here to work in mining.” As Figure 14 shows, 78% (80) of all heads of randomly sampled households were born in Naisinyai, while just 22% (23) had moved to the village from other parts of Tanzania.

Figure 14. Age of household head when they moved to Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. N = 103

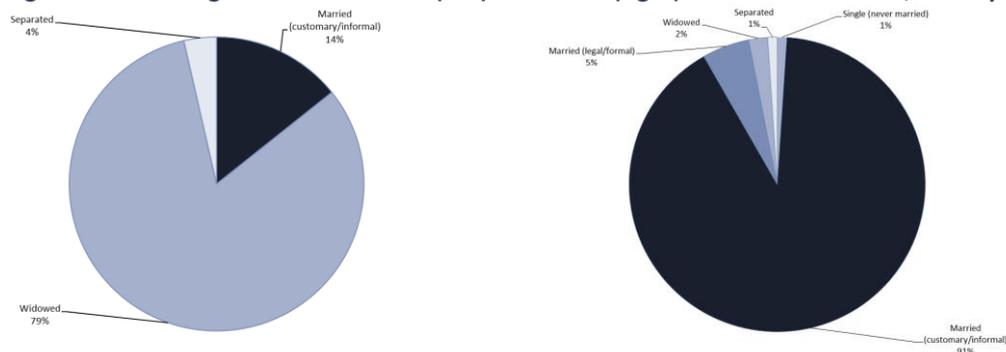
As Figure 14 shows, only 12% (13) of all heads of randomly sampled households moved to Naisinyai as adults, 9% (9) moved as teenagers (between the ages of 13 and 18) and just one household head moved to the village when a small child (under 5). All those who came to Naisinyai as teenagers moved for marriage, as did eight of those who moved as adults, of whom only one was a female household head. One male household head moved as an adult to Naisinyai because the family was moving to the area, and four others, three in Oloshonyoki and one in Naisinyai Kati, moved for work (one to be a pastor; the other three did not specify the type of work or business). Thirty-one per cent (9) of all 29 heads of randomly sampled households in Oloshonyoki, the kitongoji nearest Mirerani town, had moved to the village as adults and just 59% (17) of them were born there. In contrast, 82% (28) of all 34 heads of randomly sampled households in Naisinyai Kati, the village centre, and 88% (35) of all 40 of those in Naepo were born in Naisinyai.

Livelihoods and gender relations

Marriage and family situation

Household structures in Naisinyai were very similar to those in Mundarara. Eighty-seven per cent (90) of all heads of randomly sampled households in our baseline survey were in customary marriages; two of these household heads were women in polygamous marriages where the husband was alive but was recorded for census purposes as the head of another wife’s household, and all the rest were men. Six per cent (6) of all heads of randomly sampled households were widowed, of whom four were widows and two were widowers. From the remaining households, five male household heads were formally married, one male household head was single (never married), and one male household head was reported to be separated. Figure 15 gives the breakdown of marriage status in all surveyed female- and male-headed households.

Figure 15. Marriage status of female- (left) and male- (right) headed households, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. Female chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households.

As Figure 15 shows, 91% (88) of all 97 male-headed households were headed by a man in a customary marriage. In contrast, 79% (23) of the 28 female household heads were widowed, 14% (4) were in customary polygamous marriages with the husband recorded for census purposes as head of another wife’s household, and the remaining female household head was separated. As in Mundarara, the very low numbers of reportedly separated household heads in Naisinyai was most likely due to the stigma around separation and divorce within the local culture (cf. Daley et al 2017).

“Women feel like they are owned by their husbands in the same way that a man owns land – he is free to do what he likes with it. In our culture women are not allowed to divorce and the Ilaigwanak [*traditional Maasai Council*] preside over marital disputes.” (FGD2, male village leaders)

Among all 95 randomly sampled households in our baseline survey in Naisinyai whose head was married (either formally or customarily), 54% (51) were reported to be monogamous marriages, all male-headed households, and 46% (44) polygamous marriages, of which two were the female-headed households in customary marriages just mentioned above and the remainder were male-headed households. As Table 20 shows, the average number of wives in polygamous marriages among our randomly sampled households in Naisinyai was two and the highest number was eight.

Table 20. Number of wives in polygamous marriages, Naisinyai

Number of wives	2	3	4	5	7	8
Number of households	28	8	3	3	1	1

Source: WOLTS Tanzania baseline survey, 2016. N = 44.

Seventy-two per cent of all the married households in the random sample in Naisinyai Kati were monogamously married (23 of 32), compared to 49% of those in Naepo (17 of 35) and just 39% of those in Oloshonyoki (11 of 28); Oloshonyoki was the visibly wealthiest kitongoji, as noted above, which seemed likely to explain the higher rate of polygamy there. Among the six widowed households within the random sample overall, one had been in a monogamous marriage, another in a polygamous marriage consisting of seven wives, and the other four (one widow and three widowers) did not say what type of marriage it was. Eight of the 19 widows among the additionally surveyed female-headed households had been in monogamous customary marriages and 10 had been in polygamous customary marriages; one had been in a monogamous formal marriage. It was notable that almost all the female widowed household heads we interviewed during our baseline survey felt it was important to tell us the kind of marriage theirs had been. However, unlike in Mundarara, it was also notable that none of the female-headed households in Naisinyai reported that they did not self-identify as female-headed. Further, participants in our FGDs and BIs revealed a wide variety of marriage practices in Naisinyai, and it appeared that the more traditional practices, such as arranged marriages and ‘booking’, were becoming less common; it seemed that this was happening more quickly and more deeply than in Mundarara.

“I don’t remember when I got married, I did not decide it. My parents chose my husband and I just had to follow their decision. We love each other so much that he would not even marry another wife.” (BI4, middle-aged monogamously married woman)

“I did not have an arranged marriage. I met my wife and we then introduced our families to one another before marrying.” (BI21, middle-aged monogamously married man)

“I got married in 1995. In the past, men got married to women they had never met. Someone would just tell you that there is a beautiful woman who suits you. So I was requested to take things to her, like sugar, soda, beer, to introduce myself. Then I had to give four cows as bridewealth. The first girl I wanted was already booked by another man, a herder who just wanted the girl to help him with his livestock, so her parents decided to give her to me instead. My second wife was actually supposed to be my first wife, because I booked her from a pregnant woman, but she gave birth to a boy! Later she gave birth to a girl, so I took her as my second wife. I booked her before her mother was even pregnant with her...Nowadays there are some changes. Bookings are done after you have seen the child, not before.” (BI1, middle-aged, wealthy man)

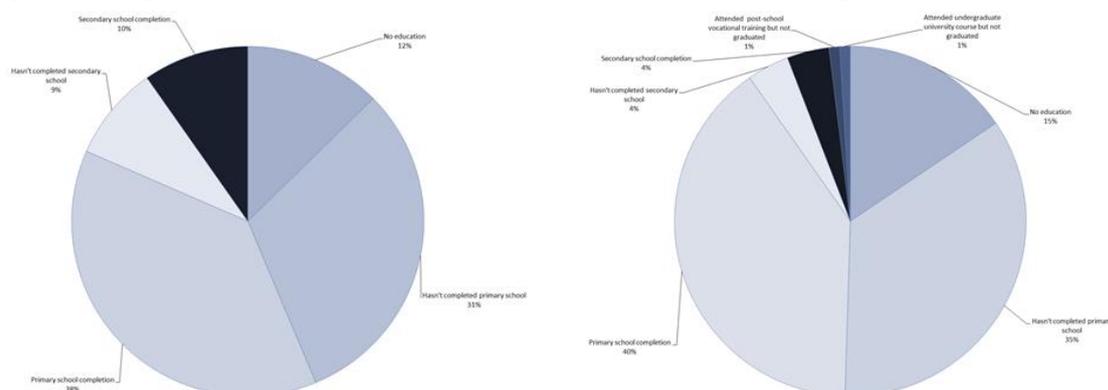
Eight per cent (8) of the randomly sampled households in our baseline survey, all male-headed, reported having at least one disabled member, with disabilities including blindness, muteness, rickets, convulsions and paralysis. Six per cent (6) of the randomly sampled households reported having orphans living with them (children who had lost both parents), five male-headed households and one female-headed.

At the time of our survey two randomly sampled households reported to have at least one other person living in the house with them who was not part of their household; in both cases these were visiting relatives. Further, the vast majority of households reported that all members permanently lived at the household's main residence. Two people often lived elsewhere (temporarily for the year), a brother of the household head who went to visit relatives and a son of the household head who went away for herding; two others, a son and a daughter of the household head, usually lived elsewhere in the medium to longer term for their education. Only six female and 10 male members of randomly sampled households were reported to sometimes live elsewhere (temporarily for a season); five were away for herding, one was visiting family elsewhere, one was away mining and the rest were away for schooling. However, from data gathered elsewhere in our baseline survey it appeared that the majority of households did in fact have members who moved seasonally with livestock, as we discuss further below.

Education

Education levels in Naisinyai appeared to be low. 'Primary school completion' was the highest education level attained by adult female members in 38% (39) of the randomly sampled households in our baseline survey and by adult male members in 40% (41), as illustrated in Figure 16 below. Moreover, the highest education level attained by adult females in 43% (45) of all randomly sampled households and by adult males in 51% (52 households) was either no education at all or having started but not completed primary school; among all 103 randomly sampled households, there were 13 with adult female members and 16 with adult male members who had not received any education at all.

Figure 16. Highest education level of adult females (left) and adult males (right) in Naisinyai households



Source: WOLTS Tanzania baseline survey, 2016. N = 103

As Figure 16 also shows, the highest education level reached by any adult male in our randomly sampled households was 'attended undergraduate university course but not graduated', in just one household in Naepo, followed by 'attended post-school vocational training but not graduated' in one household in Oloshonyoki. There were also four households where an adult male had education completed secondary school, three in Oloshonyoki and one in Naepo. The highest education level reached by any adult female was 'secondary school completion' in 10 households, three each in Naepo and Naisinyai Kati and four in Oloshonyoki. All these households with better educated female members were male-headed; looking just at the 28 female-headed households in our baseline survey (i.e. including those randomly sampled and those additionally surveyed), 25% (7 households) contained

no adult women with any education, a further 25% contained at least one adult woman who had started but not completed primary school, and 50% (14 households) contained at least one adult woman who had completed primary education.

These data from our baseline survey were confirmed by many participants in our FGDs and BIs who claimed that boys were generally favoured when it came to education in Naisinyai. However, we were also told that girls had more chance to get an education nowadays compared to former times when all girls in Naisinyai were married off at a very young age.

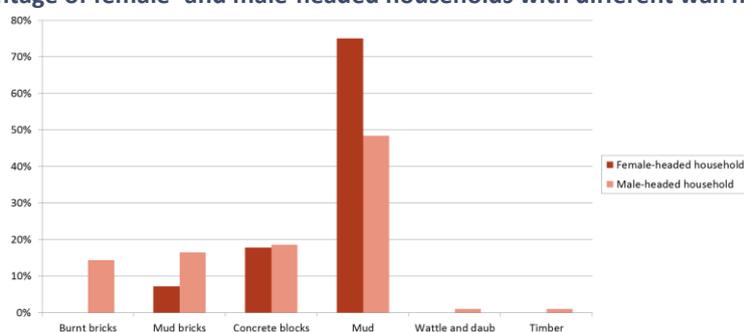
“It is the father who decides who should go to school and this usually only means boys, as the father will want his daughters to get married young...We would like to see girls go to school regardless of their father’s wealth – no father is encouraging girls to go to school. We believe women who are educated will be prepared to fight for empowerment.” (FGD24, polygamously married first wives)

Relative wealth and poverty

Housing

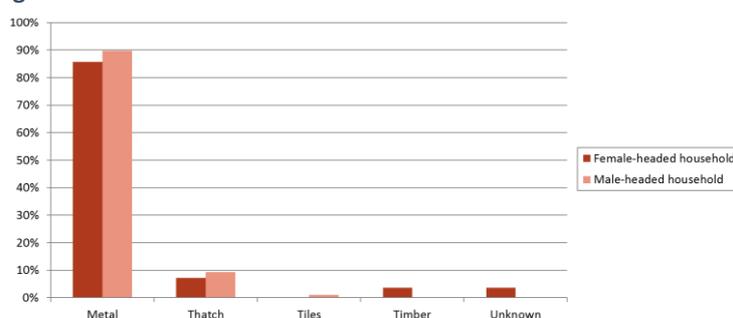
It appeared during our fieldwork that people in Naisinyai have increasingly been building modern houses as a result of cash income (and related overall local development) generated by mining. In our baseline survey, where we recorded the highest-order (i.e. most expensive) wall and roof materials of each surveyed household’s main residence, only 50% (52) of the randomly sampled households lived in mud houses, while 16% (16) had houses made from mud bricks, 14% (14) from burnt bricks, and 18% (19) from concrete blocks. Likewise, 88% (91) of the randomly sampled households had a metal roof and only 10% (10) had thatched roofs. Figure 17 and Figure 18 illustrate our data on housing type and materials.

Figure 17. Percentage of female- and male-headed households with different wall materials, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households

Figure 18. Percentage of female- and male-headed households with different roof materials, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households. One female-headed household did not respond.

As these two figures show, there were quite marked differences in housing quality between female- and male-headed households. Female-headed households tended to live in houses with lower-order

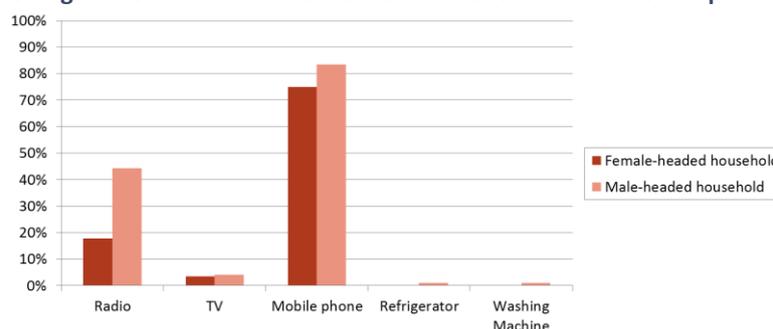
(cheaper) wall materials; 75% (21) of all female-headed households had a mud house compared to 48% (47) of all male-headed households, while no female-headed households had houses made from burnt bricks but 14% (14) of all male-headed households did. Gender differences in roof materials were fewer, but the only household with tiles in our baseline survey was male-headed.

In line with our observations noted above, Naepo and Naisinyai Kati had the highest proportions of mud houses, with 68% of randomly sampled households in Naepo and 62% of those in Naisinyai Kati living in mud houses. In Oloshonyoki, the kitongoji nearest Mirerani town, there was generally higher quality housing as well as much greater diversity of wall materials – 24% of randomly sampled households in Oloshonyoki had a house made with burnt bricks, 31% with mud bricks, a further 31% with concrete blocks, and 14% with mud. In the most rural kitongoji, Naepo, 20% of randomly sampled households had thatched roofs and 78% metal; in contrast, 97% of households in Naisinyai Kati and 93% of those in Oloshonyoki had metal roofs.

Possessions

Our baseline survey found that 83% (85) of all randomly sampled households in Naisinyai had mobile phones, 42% (43) had radios and 5% (5) had televisions. There was also one male-headed household with a washing machine and refrigerator. As Figure 19 below shows, and as in Mundarara, female-headed households were much less likely to have a radio than male-headed households, suggesting greater poverty among female-headed households in Naisinyai. However, as Figure 19 also shows, gender differences were not so great for mobile phones, which were more common than in Mundarara and which 84% (81) of all male-headed households and 75% (21) of all female-headed households reported having.

Figure 19. Percentage of female- and male-headed households with different possessions, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households

Electricity, water and sanitation

Eighty-nine per cent (92) of the randomly sampled households in our baseline survey in Naisinyai did not have mains electricity. Ten of the households that did have mains electricity were male-headed households and just one was female-headed; these 11 households were located in all three vitongoji, but almost half of them (five households) were in the village centre, making up 15% of the randomly sampled households in Naisinyai Kati. No generators were reported, but a larger proportion had solar power instead of mains electricity – 56% (58) of all randomly sampled households across all three vitongoji. Fifty-seven per cent (55) of all 97 male-headed households had solar power compared to only 46% (13) of all 28 female-headed households; thus male-headed households were more likely to have both types of electricity. The remaining households relied completely on battery-powered torches and/or kerosene lanterns for their lighting.

Naisinyai people had previously relied on the Kikuletwa river for water for both household consumption and livestock, but by the time of our fieldwork many relied on wells and outside mains taps (piped water) throughout the year; some of these wells and water supply infrastructures had

been built by the local mining companies, but several participants in our FGDs complained that the well water was salty, which they associated with chemicals leaking into the soil from mining. Table 21 gives our data on the use of wells in Naisinyai.

Table 21. Number and percentage of randomly sampled households using wells, Naisinyai

Means of access	Open deep well	Open shallow well
Private	3 (3%)	8 (8%)
Nearby – Communal/shared	13 (13%)	0 (0%)
Nearby – Paid-for access	37 (36%)	2 (2%)

Source: WOLTS Tanzania baseline survey, 2016. N = 103.

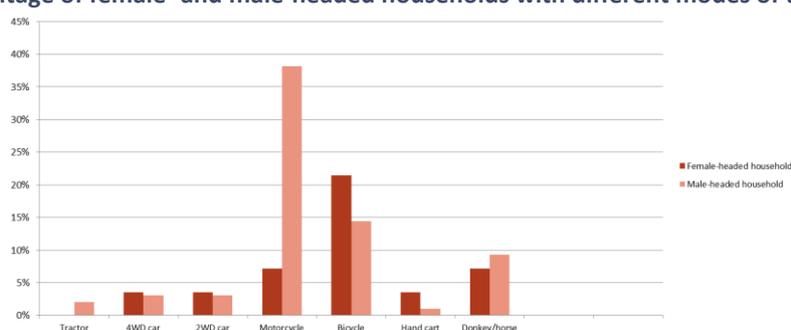
For both male- and female-headed households across all three vitongoji, the most common ways to access water were through paid-for use of nearby open deep wells and outside mains taps. Thirty-six per cent (10) of all female-headed households and 35% (34) of all male-headed households paid to use a nearby open deep well; 32% (9) of all female-headed households and 23% (22) of all male-headed households used an outside mains tap. Eleven per cent (3) of all female-headed households and 15% (15) of all male-headed households used an outside tap that was not linked to the mains. There was also one male-headed household from Naepo that relied on rainwater harvesting and one female-headed household from Naisinyai Kati, from among those additionally surveyed, who had a mains water supply inside the home. The remaining households in Naisinyai accessed their water through the other types of wells noted in Table 21 above.

Concerning sanitation, which was vastly better provisioned in Naisinyai than in Mundarara, only 32% (33) of the randomly sampled households in Naisinyai did not have a toilet at all, 14% (14) relied on a public toilet, and 50% (51) had an enclosed long-drop external toilet (without a flush tank); two households had interior flush toilets (one male-headed and one female-headed), two had partly enclosed short-drop external toilets, and one had a short-drop external toilet with no privacy at all. There were few gender differences, with 39% (11) of all female-headed households and 32% (31) of all male-headed households not having a toilet at all.

Transportation

Motorcycles were the most common form of transport in Naisinyai, used by 38% (39) of the randomly sampled households in our baseline survey; 17% (17) had bicycles and 11% (11) had donkeys. As Figure 20 below shows, there were significant gender disparities in access to all modes of transport in Naisinyai. For example, 38% (37) of all male-headed households reported having a motorcycle, compared to just 15% (4) of all female-headed households who reported having any kind of mechanised vehicle (two had a motorcycle, one had a 2WD car and one had a 4WD car); no female-headed households reported having a tractor or lorry. Further, although 21% (6) of female-headed households had bicycles, compared to just 14% (14) of male-headed households, we did not see any women riding bicycles during our fieldwork and thus it seemed that even within female-headed households with bicycles it was mostly male household members who used them.

Figure 20. Percentage of female- and male-headed households with different modes of transport, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households

Overall, our WOLTS baseline survey data on housing type and materials, ownership of certain possessions, and access to electricity, water, sanitation and transportation provided some indications of relatively higher poverty rates among female-headed households in Naisinyai. This was supported by the findings from our participatory fieldwork phase, which revealed specific areas of difficulty for women, as we discuss further below.

Main livelihoods

Agriculture dominated livelihoods in Naisinyai and almost all households appeared to engage in traditional Maasai pastoralism as their main livelihood activity. However, participants in our FGDs and BIs reported a general trend towards the diversification of household livelihoods away from pastoralism, as a result of what they perceived to be the combined effects of an increasing human population in the local area, climate change – in the form of increased frequency and duration of droughts – and the take-over by mining companies of the majority of the village’s pastureland. Various people we spoke with during our fieldwork therefore highlighted the growing importance of farming, mining and small businesses to local livelihoods.

“The decline of quality pasture has meant that herding is becoming less viable – especially as a solitary livelihood option. Families have been forced to diversify – this includes me, as I now engage in crop farming. Greater mechanisation of farming has contributed to its popularity with pastoralists.” (BI18, elderly widow)

“As a child, my family depended on livestock keeping – both men and women. I now depend on mining more than livestock due to the challenges of climate change and increased drought. In the past, grazing lands were much closer to people’s settlements.” (BI21, middle-aged monogamously married man)

Nevertheless, the overall level of livelihood diversification still appeared to be relatively low. In our baseline survey, 92% (95) of the randomly sampled households mentioned that their household included ‘herders herding own livestock’; 93% (26) of all 28 female-headed households reported to include ‘herders herding own livestock’, as did 92% (89) of all 97 male-headed households. In contrast, just two randomly sampled households, one each in Naepo and Naisinyai Kati, said that their household included ‘people with formal employment’.

Overall, 62% (64) of the randomly sampled households in our baseline survey had relied on only one source of cash income in the previous 12 months and 21% (22) had relied on just two sources. Just 11 households from the random sample, three female-headed and eight male-headed, had relied on three sources of cash income, as did one of the additionally surveyed female-headed households; two male-headed households also reported having relied on four sources of cash income in the previous 12 months. However, gender differences in numbers of cash income sources were not clear-cut, as Table 22 below shows – 39% (11) of all female-headed households and 31% (30) of all male-headed households had two or more sources of cash income in the year prior to our survey, while more than 60% of both male- and female-headed households relied on only one source of cash income. Interestingly, the only households that reported to have had no cash income sources in the previous 12 months were four male-headed households.

Table 22. Number of sources of cash income among all surveyed households, Naisinyai

Number of sources of cash income	None	1	2	3	4	Total
Female-headed households	0 (0%)	17 (61%)	7 (25%)	4 (14%)	0 (0%)	28 (100%)
Male-headed households	4 (4%)	63 (65%)	20 (21%)	8 (8%)	2 (2%)	97 (100%)

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households.

There were clear differences with respect to the number (and hence diversity) of cash income sources in the different vitongoji, with households in the village centre appearing to have the most diverse cash incomes. Sixty-eight per cent of all randomly sampled households in the most rural kitongoji, Naepo, furthest from Mirerani town yet closest to the airport and the main Moshi-Arusha

trunk road, reported having had just one source of cash income in the previous 12 months, compared to 72% in Oloshonyoki, nearest Mirerani town, and 47% of those in Naisinyai Kati, the village centre. Conversely, just 21% of all randomly sampled households in Oloshonyoki reported having more than one source of cash income, compared to 33% in Naepo and 47% in Naisinyai Kati.

Some 77% (79) of the randomly sampled households in our baseline survey reported herding as their top source of cash income in the previous 12 months. Eighty-two per cent of these households (65 of 79 were born in Naisinyai. In Naepo, 88% of all randomly sampled households reported herding as their top source of cash income in the previous 12 months, compared to 79% in Naisinyai Kati and 59% in Oloshonyoki. Nine per cent (9) of all randomly sampled households, from all three vitongoji, reported crop farming as their top source of cash income in the 12 months prior to our survey. Three male-headed households in Oloshonyoki reported some form of business as their top source of cash income; the heads of two of these households had been born in the village while the third had moved to Naisinyai as an adult.

Just 3% (3) of the randomly sampled households in our baseline survey reported some form of involvement in mining as their top source of cash income in the previous 12 months, all male-headed households from Oloshonyoki and Naisinyai Kati vitongoji; the head of one of these households was born in the village, another moved to Naisinyai as a teenager and the other as an adult. There were also two additionally surveyed female-headed households that reported mining as their top source of cash income, and a third that reported mineral trading.

Table 23 provides the gender breakdown in top sources of cash income reported by all our surveyed households across the whole village.

Table 23. Top source of cash income for all surveyed households, Naisinyai

Top cash income sources	Female-headed households	Male headed-households
Herding	14 (50%)	76 (78%)
Crop farming	8 (29%)	7 (7%)
Mining	2 (7%)	3 (3%)
No cash income	-	4 (4)
Unspecified other cash income	1 (4%)	1 (1%)
Mineral trading	1 (4%)	-
Selling eggs	1 (4%)	-
Sugar sales	1 (4%)	-
Petrol station business	-	1 (1%)
Hotel business	-	1 (1%)
Unspecified business	-	1 (1%)
Pastor	-	1 (1%)
Mason	-	1 (1%)
Motorbike driver	-	1 (1%)
Totals	28 (100%)	97 (100%)

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households.

As Table 23 shows, 78% (76) of all male-headed households reported herding as their top source of cash income in the previous 12 months, compared to just 50% (14) of all female-headed households. Conversely, 29% (8) of all female-headed households reported their top source of cash income in the previous 12 months as crop farming, compared to just 7% (7) of all male-headed households. Taking mining and mineral trading together, 11% (3) of all female-headed households had relied on these activities for their top source of cash income in the year prior to our survey, compared to just 3% (3) of all male-headed households. These data suggest a lower dependence of female-headed households on herding for their livelihoods than of male-headed households, which tallies with our data above on livelihood diversification (in terms of numbers of different cash income sources), and suggests that female-headed households may either have been more successful in taking advantage of the wider (non-herding) opportunities presented by the development of the local area as the local

mining economy has grown, or have been forced to diversify their cash incomes due to constraints on their rights to land and livestock, which are very different for women than for men.

The full range of cash incomes earned by people across all surveyed households in the 12 months prior to our baseline survey was reported as being from zero, in the case of four male-headed households, right up to a male-headed household in Naepo that reported to have earned TSh 16 million (USD 6,400) from cow sales. All of the top five highest cash incomes earned in the 12 months prior to our baseline survey were found in male-headed households, with the household head earning or receiving the money in every case. As well as the overall highest earner from Naepo, other high earners were a second Naepo household that received TSh 12 million (USD 4,800) from cow sales, an Oloshonyoki household that received TSh 7.2 million (USD 2,880) from a petrol station business, and two households from Naisinyai Kati that received TSh 6.3 million (USD 2,520) from cow and goat sales and TSh 5.2 million (USD 2,080) from a mix of herding and crop farming, respectively.

The two highest-earning female-headed households were in Naisinyai Kati; one was reported to have earned TSh 4 million (USD 1,600) from herding in the 12 months prior to our baseline survey, the other to have earned TSh 1.2 million (USD 480) from cow sales. The third highest earning female-headed household lived in Naepo and reported to have received a combined total of TSh 1.1 million (USD 440) from herding and mining. However, in the case of five female-headed households and 14 male-headed households, there was cash income coming into the household but the survey respondent did not know the amount, making it difficult to draw any conclusions from our baseline data about whether female-headed households in Naisinyai were generally poorer or had generally received lower cash incomes than male-headed households. Moreover, for the four male-headed households just noted above that reported having received no cash income in the previous 12 months, we cannot definitively say how they were able to meet their cash needs, but it seemed likely that this was from a mixture of payments in kind (rather than cash) as well from the generosity of their relatives and neighbours.

The majority of participants in our FGDs and BIs told us that most people in Naisinyai were engaged in mining in some way or other – whether through physically mining themselves (digging) in jobs with mining companies or as small-scale miners, trading minerals at the local tanzanite market in Mirerani town, collecting and sorting left-over rubble, or providing services to miners and mining companies. Mining was therefore frequently mentioned as an important source of cash income by participants in our FGDs and BIs, despite the very low reporting of mining (and related activities) as a top source of cash income in our baseline survey just noted in Table 23 above. We asked several different questions in our baseline survey to elicit the different types of involvement in mining by people in Naisinyai (e.g. whether through employment or casual labour, in large-, medium- or small-scale mining companies, whether year-round or seasonal, and whether anyone had ownership or management stakes in mining companies). However, the responses to our questions were contradictory and we were therefore unable to draw any firm quantitative conclusions from our data. All we can say is that 13% (13) of all randomly sampled households reported that they included members who had been involved in tanzanite mining over the previous two years, mostly in the form of seasonal or casual work with small-scale mining enterprises; that these households were found in all three vitongoji; and that there were no gender differences in the reported rates of involvement in mining between male- and female-headed households. Further, four randomly sampled households, from all three vitongoji, reported that their households included ‘miners in official mining companies (large-scale)’, and two from Oloshonyoki reported that their households included ‘miners in official mining companies (small-scale)’; one household in Naepo also reported including ‘people who own artisanal mining companies’, which we understood in the context to mean they owned a small-scale mining enterprise. However, as in Mundarara, it became clear during our FGDs and BIs that there had been significant under-reporting of household involvement in mining during the baseline survey. The two most likely reasons for this were that, first, it seemed that people did not want to give the appearance of being wealthy and thus cash incomes from

mining were under-reported, and second, trading minerals was not always seen as directly working in mining, so those who were trading and brokering often did not say when asked that they were involved in mining.

On the other hand, 83% of all male and female respondents in our baseline survey (39 of 47 and 65 of 78, respectively) said they agreed with the statement that: “The majority of people in this community depend on mining for their survival”. Of the 12 households from among all those surveyed in our baseline survey that reported receiving any cash income at all from mining in the past 12 months, in six of them respondents either did not know or did not share details of the amounts earned. Two male-headed households, both in Naisinyai Kati, reported to have received TSh 100,000 (USD 40) each from sieving minerals (rubble collection and sorting) and trading minerals, respectively, and a third male-headed household, in Oloshonyoki, reported to have received TSh 100,000 (USD 40) from selling tanzanite. One randomly sampled female-headed household from Naepo reported to have received TSh 300,000 (USD 120) from trading minerals and one of the additionally surveyed female-headed households in Oloshonyoki reported to have received TSh 220,000 (USD 88) from sieving minerals. The household reporting the highest known cash income from mining or related activities in the 12 months prior to our baseline survey was an additionally surveyed female-headed household from Naisinyai Kati that earned TSh 1,000,000 (USD 400) from sorting rubble. As in Mundarara, mining was undoubtedly contributing to cash incomes in Naisinyai, both directly and through its indirect effects on the local economy, but it had brought numerous problems and was viewed ambivalently by local people, as we elaborate below.

Herding

Table 24 below sets out the different types of cash incomes from herding received by all 81 households within our random sample who reported receiving money from these activities in the 12 months prior to our baseline survey, with some of them reporting more than one specific cash income source. Among this 79% of randomly sampled households who had received some form of cash income from herding in the previous 12 months, at least 28% (23 households) sold cows, 22% (18) sold goats and 4% (3) earned money from chickens (selling eggs and live chickens). This suggests that live animal sales were the most common source of cash income from herding in Naisinyai. However, 58% (47 households) did not specify the precise source of the cash income from herding, and no household specifically mentioned that they had sold milk, meat, hides and skins, or wool in the previous 12 months. We were told that milk could be sold by women when there was a surplus, and that the money from milk sales could be kept by them to meet household needs. However, our baseline survey took place in the dry season when milk production tended to be very low; many animals were away on migration and many people in Naisinyai also kept their animals elsewhere on a more permanent basis, where those looking after them would be using the milk for their own needs, as we discuss further below, meaning that households in Naisinyai could not fully benefit from the potential market for their livestock products provided by the neighbouring Mirerani town.

Table 24. Cash income from herding among randomly sampled households, Naisinyai

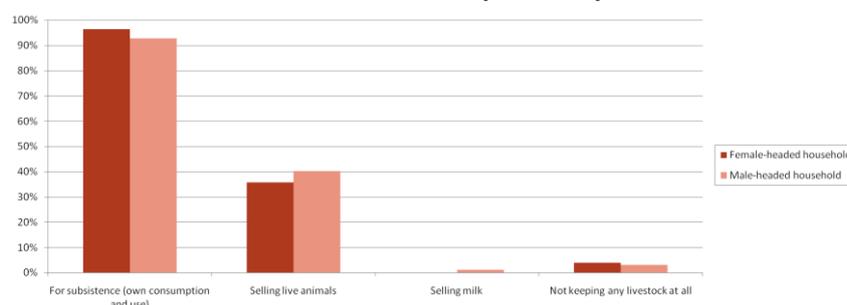
Source of cash income	Number of households	As percentage of households receiving any cash income from keeping animals
Herding – cow trade	23	28%
Herding – goat trade	18	22%
Selling chickens and/or eggs	3	4%
Herding – unspecified	47	58%

Source: WOLTS Tanzania baseline survey, 2016. N = 81.

Across Naisinyai, 93% (96) of the randomly sampled households reported that they were using their livestock and other animals for their own subsistence at the time the survey was carried out, compared to just 41% (42) who reported that they were selling live animals. Just four households were not keeping any livestock at all, three male-headed and one of the additionally surveyed female-headed households, while four further male-headed households reported to only be selling

live animals and not using livestock for subsistence at all; just one male-headed household reported that they were keeping animals for the intended purpose of selling milk. Our data are broken down by gender in Figure 21 below, where respondents reported all uses of their livestock that applied.

Figure 21. Use of livestock and other animals by all surveyed households, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households.

As Figure 21 shows, there was little disparity between male- and female-headed households in terms of the type of their reliance on livestock for their livelihoods, although it appeared that in many of the female-headed households selling live animals the actual sales were carried out by sons or other male relatives of the female household head, as we discuss below. As in Mundarara, these data might seem to potentially contradict our data on cash incomes received in the previous 12 months, suggesting that either all the unspecified cash income from herding was actually from activities like milk and hide sales – given the proximity of markets and potential demand in Mirerani town – and/or that many more households were forced to sell livestock in the previous 12 months for cash income than felt that they were keeping livestock mainly for the purpose of selling live animals for cash. However, livestock keeping clearly had huge cultural significance for the Maasai pastoralists of Naisinyai, as elsewhere, with livestock used as a traditional store of wealth and status and in traditional practices such as bridewealth payments. For many local people livestock would thus only be sold when needed in times of poverty or drought or hardship, rather than being kept mainly for the purpose of generating cash. Conversely, when cash income could be obtained from other sources, such as mining or crop farming, livestock would not need to be sold.

The most common type of livestock in Naisinyai were goats, which 90% (93) of the randomly sampled households) in our baseline survey kept, followed by cows, kept by 87% (90); sheep, kept by 54% (56), and donkeys, kept by 11% (11), were much less common. Both male- and female-headed households reported to be keeping all the different types of livestock but the largest herd mentioned in our baseline survey was a herd of between 1,000-2,000 cows, reported by a male-headed household in Oloshonyoki. However, cows were not very visible at all in Naisinyai during any of our fieldwork and, as just noted above, many animals belonging to households in Naisinyai were kept elsewhere and looked after by others on a more permanent basis, as we discuss further below. Patterns of herding also appeared to reflect the characteristics of different parts of the village, as shown in Table 25 below. While sheep were kept by a similar proportion of households across all three vitongoji, cattle were most common in Naepo, the most rural and spread out kitongoji in Naisinyai, chickens were most common in Oloshonyoki, nearest Mirerani town, and none of our randomly sampled households kept donkeys in Naisinyai Kati, the village centre.

Table 25. Number and percentage of randomly sampled households keeping animals, Naisinyai

Kitongoji	Chickens		Cattle		Sheep		Goats		Donkeys	
	No. of HHs	As percentage of HHs in kitongoji	No. of HHs	As percentage of HHs in kitongoji	No. of HHs	As percentage of HHs in kitongoji	No. of HHs	As percentage of HHs in kitongoji	No. of HHs	As percentage of HHs in kitongoji
Naepo	18	45%	38	95%	21	53%	38	95%	7	18%
Naisinyai Kati	15	44%	29	85%	19	56%	31	91%	0	0%
Oloshonyoki	17	59%	23	79%	16	55%	24	83%	4	14%

Source: WOLTS Tanzania baseline survey, 2016. N = 47 in Naepo. N = 43 in Naisinyai Kati. N = 35 in Oloshonyoki.

Participants in our FGDs and BIs in Naisinyai revealed quite strict gendered divisions of labour in herding, with women mainly in charge of milking and looking after old and sick animals and men generally in charge of watering livestock and going on migration. According to our baseline survey, women were responsible for milking in 82% (84) of all randomly sampled households; no-one was reported to be doing any milking in the remaining 18% (19 households). Boys were responsible for herding large animals in 71% (73) of all randomly sampled households, with girls responsible in 2% (1) and women in 4% (4); three of these four households where women herded large animals were male-headed. With regard to livestock sales, as mentioned above this was largely the preserve of men, who were responsible for livestock sales in 89% (92) of all randomly sampled households; boys were responsible for livestock sales in 4% (4) of all randomly sampled households and women in just 2% (2), both male-headed households. Among the 22 additionally surveyed female-headed households, in 10 of these households men were responsible for livestock sales and in eight households, boys were; it was also very rare within our survey for any women to be involved in slaughtering animals.

Participants in our FGDs and BIs told us that traditionally, although herding was an activity for the whole family, local women had been much less involved than they were now, and two reasons were given for this change. First, and as in Mundarara, since the post-Villagisation introduction of UPE and the increased push from around 2000 to meet educational targets in the MDGs, children in Naisinyai were now more likely to be going to school, making them unavailable for tending livestock during school term times; this work had thus shifted to women. Second, as the village had developed, men had become busier with other income-generating activities, including mining and crop farming, leaving most day-to-day herding tasks to women – or other people, as we elaborate below. However, while it seemed clear that women were now much more involved in many aspects of herding in Naisinyai, longstanding norms around gendered roles and responsibilities remained, with men still predominantly in charge, as our baseline data and participatory seasonal labour analysis exercises showed.

“Herding is very different now, especially for women. It used to be men who took primary responsibility for the herd but now it is women who handle day-to-day responsibilities. Children also used to help with herding but now they are not interested as they go to school and learn about other occupations. Women must take up an even greater workload as a result.” (BI22, middle-aged polygamously married woman)

“Men and women used to be equally involved in herding animals. Now herders have more responsibilities at home such as taking children to school and engaging in farming and mining. They therefore have to employ people to herd their animals.” (BI21, middle-aged monogamously married man)

Crop farming

Many participants in our FGDs and BIs shared that increased livelihood diversification in Naisinyai, including through crop farming, had at least partly been a result of the challenges encountered with herding. As noted above, farming in Naisinyai used to be irrigated, with farmers diverting water from the seasonal Kikuletwa river to their farms through small canals. However, participants in our FGDs and BIs also explained that the water does not reach all farms in Naisinyai anymore, which they attributed to an increase in large-scale farming over the last 10 years. Because the Kikuletwa river originates in Arusha, the irrigated farming in Naisinyai was dependent on sufficient rainfall there; we were told that because of the recent drought the river had effectively dried up and there was not enough water available for farming.

That said, 82% (84) of the randomly sampled households in our baseline survey reported to have been farming (or to have just harvested) agricultural land in Naisinyai at the time the survey was carried out. The average area of their cultivated land, including land that household members owned, rented or borrowed, was 4.5 ha. Our data on the scale of crop farming in Naisinyai are

broken down by kitongoji in Table 26 below. The largest amounts of cultivated land were found among households living in Naepo, where one household reported farming 25 ha and another 50 ha.

Table 26. Average area under cultivation (ha) by randomly sampled crop farming households, Naisinyai

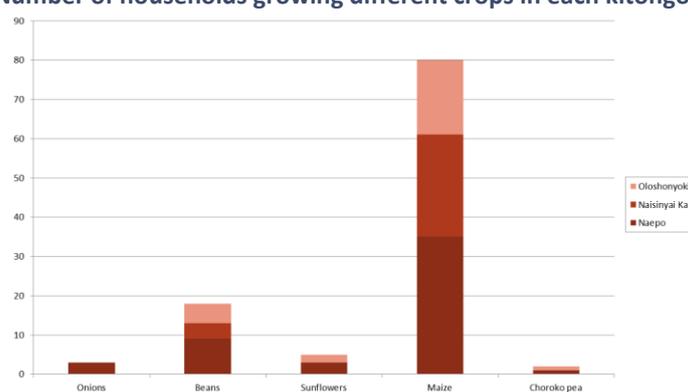
Kitongoji	Average amount of land under cultivation (ha)
Naepo	5.1
Naisinyai kati	3.1
Oloshonyoki	5.1
Average for Naisinyai	4.5

Source: WOLTS Tanzania baseline survey, 2016. N = 84.

A total of 374.5 ha were reported as being under cultivation by these 84 crop farming households at the time our baseline survey was carried out. Extrapolating to Naisinyai overall suggests that there could have been some 4,521 ha under cultivation for crop farming in total in the village at that time, farmed by some 1,014 households.

However, there was not a large variety of crops grown on their agricultural land by the households we surveyed. Ninety-five per cent (80) of the 84 randomly sampled households that reported growing crops in our baseline survey grew maize, 21% (18) grew beans, 6% (5) sunflowers, 4% (3) onions and 2% (2) choroko peas. Among the three vitongoji, farming seemed to be more prevalent and diverse in Naepo, where there was more space for farms, as Figure 22 illustrates.

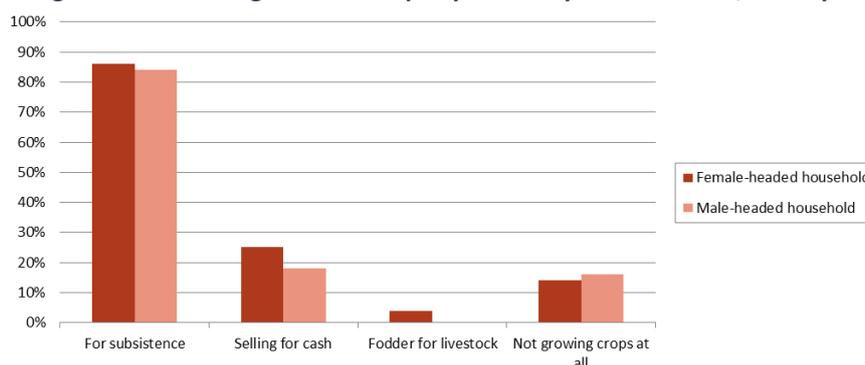
Figure 22. Number of households growing different crops in each kitongoji in Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. N = 84.

The most common use of crops in Naisinyai was for subsistence. All 84 of the randomly sampled households in our baseline survey that were cultivating agricultural land were growing crops for their own subsistence, and at least a fifth (18) of them also sold their crops for cash, most commonly bags of maize and beans. Just 18% (19) of all randomly sampled households reported that they were not growing any crops at all, not even on their house-plots. These data are slightly at odds with our data on sources of household cash income discussed above, where only 14 households reported to have received any cash from selling crops in the 12 months prior to our baseline survey being carried out; 10 of these households were in Naepo, one was in Naisinyai Kati and three were in Oloshonyoki. The reported monies received also varied widely. One male-headed household from Naepo reported to have received TSh 2 million (USD 800) from the sale of maize, while another, from Naepo, reported to have only received TSh 70,000 (USD 28) from the same; among female-headed households, one randomly sampled household in Naepo reported to have received just TSh 30,000 (USD 12) from selling crops but an additionally surveyed female-headed household in Oloshonyoki reported to have received TSh 300,000 (USD 120) from selling maize.

As our data in Figure 23 show, crop farming for both subsistence and sale took place in roughly equal proportions of male- and female-headed households, but it was male-headed households that were slightly more likely not to be growing any crops at all.

Figure 23. Use of agricultural crops by all surveyed households, Naisinyai

Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households.

Participants in our FGDs and BIs shared that farming in Naisinyai was largely mechanised at the time of our fieldwork, with most crop farmers hiring in tractors (operated by men) to prepare their fields; some wealthier male farmers also mentioned hiring in casual labourers to help with preparing fields for planting seeds and weeding. This suggests that there could be constraints on the ability of poorer female-headed households to engage in crop farming in their own right on anything other than a small scale; female-headed households would thus either rely on manual labour at the family level or hire labourers or tractors according to their economic strength. Further, our baseline survey data provide evidence that, although both women and men were involved in farming, there were some gender divisions to contend with. For example, men were reported to be involved in the overall farming of crops for sale in 75% of all randomly sampled households, and for food in 70% of all randomly sampled households, compared to just 36% and 37%, respectively, where women were involved. Yet it appeared from our FGDs and BIs that women were more likely to be involved in providing labour for manual tasks such as planting, weeding and harvesting, as our baseline data set out in Table 27 also show.

Table 27. Gender divisions in agricultural tasks among randomly sampled households, Naisinyai

	Men	Women	Boys	Girls	People from other households	No-one
Crop farming of crops for sale	75%	36%	4%	1%	14%	15%
Crop farming for household food	70%	37%	5%	0%	12%	17%
Planting	68%	49%	8%	0%	15%	17%
Weeding	66%	45%	6%	0%	17%	20%
Harvesting crops for sale	60%	45%	6%	1%	22%	23%
Harvesting crops for household food	63%	51%	6%	1%	21%	18%

Source: WOLTS Tanzania baseline survey, 2016. N=103.

Many of the female respondents in our baseline survey reported that men in their households took part in farming, but during our participatory seasonal labour analysis exercises there was a lot of debate about the respective roles of women and men in practice, with some women reporting that men just came to help with harvesting in order to measure the size of the harvest. Participants in our FGDs and BIs also shared that, while some married women farmed independently on plots that they were given to use by their husbands, all women generally had to assist their husbands with farming on all the household's land, with their husband assigning tasks to them as he saw fit.

"In the rainy season men pay for a tractor but then just give orders. Women have to make sure no animals enter the farm during ploughing and if any tools are stolen, the woman has to pay. If the man brings someone to help with weeding, women have to cook for him. During the drought, men pay other men to prepare the fields and women have to collect the grasses. In the cold season, men only pay for someone to look after the crops because they do not want to be out in the cold. Harvesting is just done by women. After harvesting, the woman has to go away while he counts 'his' maize – it now belongs to him." (FGD5, widows)

Table 27 also clearly shows the importance of non-household members to crop farming in our randomly sampled households. We were unable to establish whether these people were men or women, and whether they were paid in cash or kind, and no-one in our baseline survey reported that their households included ‘people farming for other households or enterprises’ for payment either in cash or in kind. However, it appeared most likely that, as elsewhere in Tanzania, the majority of people farming for others were poorer people reliant on undertaking casual labour to meet their cash needs.

Gender relations

As in Mundarara, divisions of labour within households in Naisinyai appeared to follow traditional Maasai patterns, whereby women were in charge of all domestic activities, including water collection and fetching firewood, as well as milking and looking after sick and weak animals. According to our baseline survey, women were responsible for cooking and washing clothes in 97% (100) of all randomly sampled households, collecting firewood in 96% (99) and collecting water for household use in 95% (98); girls also had a role in cooking and water collection in 1% of randomly sampled households and collection of firewood in 2%. Conversely, no boys were reported to do any of these domestic tasks, and no men were reported to cook, wash clothes or collect firewood; men were reported to collect water for household use in just 1% of randomly sampled households.

Participants in our FGDs and BIs in revealed that typically in Naisinyai households the husband was in charge of allocating work to his wife (or wives), as well as to his children. While it seemed that women in monogamous marriages often suffered from work overload, many women from polygamous households complained about the unfair division of labour between co-wives.

“Our husbands tell us to do so many things, like attend school meetings, look after sick animals, go to the farm, and so on. We get no rest and if we fail to do all the work, he just tells you that he will get another wife.” (FGD5, widows)

“Co-wives in polygamous marriages alternate activities such as collecting firewood, herding, collecting water and so on. It is the husband who delegates the work...Workloads are very unfair – some wives are like servants while others feel they have as much power as their husband. Men who have several wives are usually rich and will treat their first and second wives as servants. It is normally the last wife who is the special one. They are not happy when their husband gets married because the new wife will not ease the workload on them because she gets special treatment. First wives often get abused because they are older and less desirable.” (FGD24, polygamously married first wives)

Likewise, even though many participants seemed to think that traditional gender roles had changed in recent decades and that women were now also more engaged in various cash income-generating activities, such as mining or small businesses, money still tended to be controlled by the husband. Only small amounts of money, such as that from milk sales or small farm produce sales, could be kept by wives, and usually only for household purposes rather than for the wife herself. However, although the majority of participants in our FGDs said that decisions over the use of all money were made by men only, some participants (and particularly those in monogamous marriages) reported that in their household decisions concerning the use of money were made jointly.

The significance of these norms and practices around financial decision-making stands out when considering who within the household was earning cash incomes, particularly in male-headed households. Out of 155 people in the randomly sampled households in our baseline survey who were reported to have received any kind of cash income in the 12 months prior to the survey being carried out, just 32% (50) were women, of whom only five were (female) household heads, 43 were wives of male household heads, and the remaining two were relatives from the extended family. Of the 105 men reported to have received any cash income, 89% (93) were (male) household heads, nine were brothers of the household head, one was a brother-in law of the household head, and two were nephews of the household head. In 38% (39) of all randomly sampled households, both the

husband and wife (or wives) were reported to receive an income, in 58% (60) there was just one person receiving cash income, and in 4% (4), as noted above, all male-headed, no-one reported having earned any money. However, there were 54 randomly sampled male-headed households containing a husband and wife, where no women members received any cash income at all, making the women in these households extremely dependent on their husbands through lack of even the small bargaining power that might come from any contributions they made to the household's cash economy.

“We don't own any of the produce after harvest, we must ask permission from our husbands if we want to spend money. He will only agree if it is for a 'good reason', for example if his wife wants to buy goats for the family or to build a new house for them to live in. A 'bad reason' may be spending money on girl's education or food for children. If the husband needs the money for any reason he will ignore the requests of his wife.” (FGD21, polygamously married second and third wives)

“Decisions surrounding money are made by the husband and sometimes he will consult his favourite wife. The favourite wife will often criticise her co-wives, saying that they are not clean and cannot build a house, things like that. The money women earn from mining must also be given to their husband; if not, the husband will not allow them to go back to the mine. The favoured wife may inform the husband if she thinks a co-wife is hiding money.” (FGD24, polygamously married first wives)

“I have divided some land for my wives, where they decide what to plant. They are now independent and don't need to ask me for clothes or sugar, because they can sell the harvest...Generally, my wives decide over the farm money, which is not much, and I make decisions about all other income.” (BI1, middle-aged wealthy man)

“My first wife has a business of buying and selling small things like soap. She borrowed some money from me to start this business and she has paid me back.” (BI3, polygamously married elderly man)

“I got married when I was already mature. My parents arranged it and I was the only wife. My husband died a long time ago. Because it was just me, we shared decisions on money. As a woman, I knew the animals better than my husband, so I would make the judgements on which animals to sell and which to keep.” (BI18, elderly widow)

As in Mundarara, most women participants in our FGDs and BIs in Naisinyai identified their general lack of any assets or monetary resources as their most significant problem. In particular, livestock, the most important asset in Maasai communities, was still traditionally owned and inherited only by men; chickens, however, kept by around half of all households in our baseline survey (as shown in Table 25 above), could be owned by women.

“All the livestock of the husband is usually inherited by sons, who can decide whether to give some to their mothers or not. Sometimes they just give their mothers the very old animals that are about to die.”... One of the women laughed, saying: “My husband tortured me when he was alive, and now he does not even leave me any livestock. If the children are still young, the brothers-in-law are asked to take care of the livestock, or the brother of the wives, but they have to put a mark on the livestock, so when the sons grow up, they will get it. No women get any livestock.” (FGD5, widows)

Other big challenges for gender relations that were frequently mentioned in our fieldwork in Naisinyai were women's lack of education, discussed above, and a lack of substantive and meaningful female representation in local land and natural resource governance and decision-making bodies, which we discuss further below. On the other hand, we learned that some 15 informal women's savings and credit groups (with approximately 30 members each) had been established in Naisinyai, for women to support each other to start small businesses and buy livestock. Group meetings were seen as useful places for women to get together and discuss possible solutions to some of the issues and challenges they faced. Further, we learned that some women in Naisinyai had already come up with innovative solutions to prevent the capture of money they earned by their husbands, such as the use of mobile money.

“One of the biggest challenges is respect towards women – it is not common for women to own assets because they are not seen as equal. There is no one to speak up on behalf of the interests of women – the village government is dominated by men who tell women to go away. Many of us are part of a women’s group. We bought some chairs that we can rent out to gain an income. We also offer loans to each other to help start small businesses.” (FGD21, polygamously married second and third wives)

“Me and my friend are part of a women’s group where we discuss our issues and share our hopes concerning constructing our own businesses, such as a nursery. We have shown our proposal to the village leaders, who say they will discuss it but they haven’t yet. They have repeatedly put it off and no progress has been made. We remain hopeful about the future. We want to own land as a group to start our businesses – we don’t want to be paid in cash as our husbands will take our money. We want to use bank accounts on our phones to prevent this.” (BI22, middle-aged polygamously married woman)

“Mining is the real problem here. Women have been more severely affected by mining and men are reluctant to help. No-one cares about women and their problems. We have a female [ward] councillor who is more approachable than the men but we don’t see any hope of change in the short term...We don’t know where else to go. No-one is listening.” (BI2, young, polygamously married second wife)

“There are a few women in leadership positions here, but there should be more. In future there will be more, I’m sure of it...I share decisions with all three of my wives.” (BI3, polygamously married elderly man)

“Women don’t have money to apply for land. The village government is not responsive to women or poor men. There are not many women in the village government who can protect our interests. Women don’t have a voice! I am a traditional women’s leader but there are not many strong women left like me. I don’t see enough fight to change things...Maasai culture oppresses women, but women lack education so there aren’t many of us who are aware of this or the possibility of changing our lives.” (BI18, elderly widow)

“The women on the Village Council don’t have any powers so they are not worth approaching about anything. Maybe if women stood up together they would have a better chance of being heard. It hasn’t happened yet but I am hopeful!...Men are too powerful and women are not united to speak and be heard. There is a culture of shame among women if one of us speaks out.” (BI20, widow)

Mining in Naisinyai

As noted above, the Mirerani Controlled Area (MCA), a 7 km by 2 km strip of land that follows a ridge of hills, is the only known source of tanzanite gemstones in the world. tanzanite is a blue and violet coloured variety of zoisite and it was accidentally discovered by a local man named Ali Juu ya Watu in 1967. Mining in the Mirerani area has expanded substantially since then, initially through small-scale mining and then with the involvement of bigger companies following the official designation of the MCA around 1995/96; at that time a large part of Naisinyai’s pastureland was incorporated into the MCA and we were told that no alternative grazing areas were given to Naisinyai village to be used in its place. According to the Arusha Zonal Mining Office, as at 1 June 2016, some 1,600 PMLs had been issued in the zone, of which 1,400 were in Mirerani and 732 were specifically in the MCA, with around 180-200 operational.

“Mining started in 1960s. Before that [*in the 1950s*], people used to just pick tanzanite from the ground and the Maasai were playing Bao [*a traditional game using counters*] with it. A man called Ali Juu Ya Watu discovered tanzanite. He took some stones to Kenya and was told that they were very precious. So more people came and the mining started. An airport was constructed to transport the tanzanite out of the country.” (FGD3, members of Ilaigwanak)

According to slightly different data from MEM in Dar es Salaam, as at 2 June 2016 there had been 1,840 mining licences awarded throughout the 18 wards of Simanjiro district as a whole – almost all of which have some mining, and only three of which, including Naisinyai, are in Mirerani. 1,368 of these 1,840 mining licences were either for tanzanite specifically or gemstones in general. The total area held under all mining licences in the district was 96,797 ha, of which some 7% (or 6,810 ha) was

held under general gemstone licences and a further 0.8% (or 817 ha) was held under licences specifically for tanzanite mining. The vast majority of the land in Simanjiro held under mining licences (87,294 ha) was held under 17 separate PLs held by just nine mining companies, and less than 9% of the licensed area (8,440 ha) was held under 1,813 PMLs. Ten MLs covering 1,063 ha, all for gemstones, had also been issued in the district to large- and medium-scale mining companies. The PMLs ranged in size from 10.28 ha to 0.01 ha, and there was a clear pattern in the MEM data whereby smaller plots of land (<0.2 ha) tended to be owned by individual miners with only one licence to their name, while a greater number of PMLs larger than 0.2 ha were registered either to private small-scale mining companies or to co-operatives of small-scale miners. Companies included Paradiso Minerals (of Mundarara fame), with either full or 50% ownership of 26 separate gemstone PMLs in Simanjiro district, ranging in size from 0.13 ha to 0.51 ha and averaging 0.27 ha; examples of mining co-operatives in Simanjiro included the Merelani and Naisinyai Small Miners Primary Co-operative Society Ltd, controlling 24 licences with an average size of 0.25 ha, and the Soito Small Miners Primary Co-operative Society Ltd with 11 licences averaging 4.9 ha in size.

The MCA has been divided into six blocks, all of which contain tanzanite; Block D also contains the grossular and tsavorite varieties of garnet (cf. Gemdat 2017). Block A has been allocated to the medium-scale mining company Kilimanjaro Mining while the Block A extension included 227 PMLs, of which only two were operational due to the poor geology (depth of the minerals, with production layers only starting at 200-300 metres underground) making small-scale operations too costly. Block C is the largest block, and the current mine shaft there is 750-800 metres deep. It was initially given to a graphite mining company in a joint venture with STAMICO when mining was nationalised and the first three blocks were created in 1971, but the large-scale mining company, Tanzanite One, has been operating the block C mine since 2004 (cf. URT 2015). Blocks B and D have been allocated to small-scale miners operating on PMLs, under 176 and 329 licences respectively, and the Block D extension also hosts the medium-scale mining company Tanzanite Africa. During our baseline survey and initial participatory fieldwork only Tanzanite One and Tanzanite Africa were operational; Kilimanjaro Mining was active again by the time of a follow-up visit to Naisinyai in the summer of 2017, but it was rarely mentioned during our FGDs and BIs. As noted already, the whole MCA – including blocks A, B, C and D – has been enclosed by a concrete wall since April 2018.

Tanzanite One and Tanzanite Africa

Tanzanite One's sorting and area headquarters building is very close to the centre of Naisinyai village. According to the British Managing Director, the company's current owners (since 2014) have been 30% Tanzanian and 70% Indian; the company pays royalties and corporation tax, and 50% of their profits go to STAMICO. The previous South African owners, Richland Resources, had left Tanzanite One with major debts but at the same time they were widely reported by participants in our FGDs and BIs in Naisinyai to have been very good neighbours. They were said to have frequently met with the community and engaged in various acts of CSR, such as rehabilitating a school and building a church and a water pipe for the community; they were also reported to have employed many local people and regularly given women bags of left-over minerals to sort through.

“Prior to the change of owners of Tanzanite One, the company was very active and socially responsible. This stopped under the new owners and the only benefits now are to men, who get jobs. Before, women were given sand by the company to sell, it also built a church, a school and a water pipe for the community. We cried when the previous owner left, we have nothing bad to say.” (FGD4, monogamously married women)

“Tanzanite One moved a boma and compensated that family. It must have been fair compensation because the family did not complain. When they constructed the road to Kilimanjaro Airport, some people were compensated where trees were felled. Tanzanite One have also constructed a secondary school and some water points. Others have done very little, only when they have been called to meetings for fundraising. Tanzanite One does not need to be called.” (FGD19, male and female members of Village Land Council)

Various participants in our FGDs and BIs were unhappy with the new Tanzanite One management; the company was reported to now hardly hire any local people and to be very disengaged from the community, and the new owners were said to have stopped giving women the bags of mineral waste to sort through. As a result of the changed conditions, we learned that many Naisinyai villagers had protested against the new management, and some small changes followed. The Managing Director acknowledged to us that, although he was generally pleased with the company's CSR activities, more could be done to support the local community; further, he said that although the company staff member who dealt with community relations in Naisinyai had a good rapport with the Village Chair and spoke regularly to him, wider communication such as through community meetings could be beneficial.

"The community recently protested against Tanzanite One and the new owners responded in December 2016 by attending a village meeting. Two bulls were donated by the owners as a traditional way of offering an apology. They also offered a verbal apology for their conduct. They promised to hire 24 new people from Naisinyai which was fulfilled. They also gave people the opportunity to pick through waste minerals." (FGD20, monogamously married men)

"Tanzanite One became so bad after the change of ownership. With the previous owners, there were very clear benefits for women who were given bags of minerals to sort through. This gave women a lot of money which they used to pay for their children to go to school and to buy food. Five years ago, after the change of ownership, these bags stopped coming to the village. In 2016, the village protested at the site of Tanzanite One. They were also frustrated that promises had been broken. As a result the owner started offering bags of minerals again – he employed 10 women to take the bags to the community but they steal all the minerals and deliver bags of left-over soil and rock. The minerals are returned to the owner who pays the 10 women a small amount." (BI2, young polygamously married second wife)

The other company that came up frequently during our fieldwork was Tanzanite Africa, which was also seen as not doing enough to support the local community and hardly employing any local people. Even though Tanzanite Africa was reported to have built a well for Naisinyai people's livestock, participants in our FGDs and BIs were concerned that herders' access to pasture was frequently blocked by the company's operations and that it did not allow women to pick through the rubble for left-over minerals. As with Tanzanite One, we learned that local people did not accept this passively but instead engaged in a number of demonstrations against the company, of which one appears to have been led by women only.

"Tanzanite Africa has a very bad relationship with the village and has only employed three people from Naisinyai, the rest of the workers are migrants. They offer no communication with the village to resolve disputes." (FGD20, monogamously married men)

"Tanzanite Africa has also operated very badly, which provoked protests by a number of women's groups. They promised to financially support Naisinyai's women's groups in 2013 but it took until 7th January of this year [2017] for it to happen. Fourteen women's groups received a total of TSh 15 million (USD 6,000). This however is not enough and we hate Tanzanite Africa. Men benefit from the mines so they didn't join in with the protests and they didn't receive any money. The money was only given as a plea to stop further protests. We aren't hopeful of receiving any more money in the future. Women are far more negatively impacted by mining – there are few women employed (less than ten) and we are not allowed to pick through waste minerals." (FGD24, polygamously married first wives)

"Sometimes Tanzanite Africa blocks the road used by livestock so that they cannot pass through. We have called the Minister and the Regional Commissioner about this and they have come to put up a sign that says that this road is for cattle. However, this was very recent, just two weeks ago, so we don't know what will happen." (FGD3, members of Ilaigwanak)

Small-scale miners

We were only able to obtain very limited information about the small-scale mining companies and co-operatives that had PMLs in the MCA during our fieldwork. Many participants in our FGDs and BIs perceived the vast majority of small-scale mining licences to be held by outsiders. While a few women had PMLs, it appeared that none of the local Maasai women owned a licence in Naisinyai (Stakeholder Interviews August 2016). Several participants in our FGDs and BIs were concerned about lack of transparency and consistency within the mining licence application process. The application procedure for a licence for small-scale mining (a PML) involves asking the Residential Mining Officer (RMO) in Mirerani to survey the plot and allocate a number, which the applicant then has to take to the Zonal Mining Office in Arusha town. According to participants in our FGDs and BIs, the application fee to the RMO was TSh 100,000 (USD 40), followed by a further TSh 54,000 (USD 22) for the application at the Zonal level; the actual cost of the mining licence was said to vary according to the licence type, with amounts quoted ranging from TSh 500,000 (USD 200) to TSh 1,000,000 (USD 400).

Furthermore, many people complained that most small-scale miners failed to report to the Naisinyai village government after having been granted a licence, which meant that local people were often surprised to find a new mining site being established. Throughout our FGDs and BIs we detected a general feeling of concern about lack of transparency and accountability with regard to small-scale mining, and a general perception of the powerlessness of the village government to defend Naisinyai people's rights. Likewise, the village government itself appeared to feel that the law was not in the villagers' favour, and served instead to protect the profits of small-scale miners.

“When the Ministry offers a licence, there is a law that the licence holders should report to the village government, but most people do not do this. So they only come back to the village government when they have a dispute, but that is too late.” (BI1, middle-aged wealthy man)

“The mines are encroaching more and more on the village and it is dangerous. Small-scale mining licences are being granted despite their close proximity to important resources. The village government has attempted to contact the Ministry to raise their concerns but they don't listen. All men and women are threatened by these developments...To get access to a mining site, one must apply to the Ministry of Minerals and inform the village government before starting operations. The local government cannot overrule permissions granted by higher levels of government, although they can attempt to defend settlement land if it is under threat. Usually, there are no conflicts because the village cannot do anything about it – they have to tolerate having their land grabbed, although they are frustrated by it.” (FGD6, men involved in mining)

“They are adhering to the laws that permit mining companies to operate in the village, so we cannot do anything about the miners who are taking the wealth out of the village. The national law protects miners and their profits. If it was up to the village authorities, we would remove the small-scale miners as they add nothing to the local economy.” (FGD2, male village leaders)

“The big mining companies don't always respect the titles of the small-scale miners. They sometimes dig under their plots...Large mining companies are more responsible though. Small-scale miners cause the biggest problems. They don't rehabilitate the land and instead they just exploit the land and leave.” (BI3, polygamously married elderly man)

On the other hand, Naisinyai village leaders acknowledged that some of the small-scale mining companies had made financial contributions to the community, helping to raise money to build toilets for the village schools. Also, because of the number of conflicts between small-scale miners two dispute resolution bodies had been established in the MCA to deal solely with mining conflicts.

“We don't deal with disputes relating to mining concessions. The miners have two committees for dispute resolution instead. One has been created by the miners, the Dispute Mediation Committee. The other is by the Ministry.” (FGD19, male and female members of Village Land Council)

“Mining conflicts are very tricky, because the property rights are vertical, but the layers are slanted, so if you want to mine, you do it diagonally, so you cross into someone else’s plot. People even killed each other over this. The government has established a dispute resolution committee, which deals with such disputes that are only related to mining.” (B11, middle-aged wealthy man)

Contributions of mining to local livelihoods

According to many female participants in our FGDs and BIs, the benefits from mining to people in Naisinyai had disproportionately accrued to men. As in Mundarara, women, and specifically widows, engaged in the collection of left-over minerals but this was a highly dangerous activity that ran the risk of verbal abuse, violence and rape. In contrast, mineral trading and brokering, which offered good cash income-earning opportunities in the local market for tanzanite in Mirerani town, appeared to be largely in male hands, and most of the local employment created by mining also seemed to benefit men rather than women. However, as noted above, some local infrastructure had been built by mining companies in Naisinyai, including wells and water pipes and taps, and some buildings had been maintained, and these kinds of more indirect benefits from mining were felt by both women and men. In addition, the growth of mining has clearly made a tremendous contribution to local development in Naisinyai as a whole, in the form of markets for local food and services, the presence of new shops, and the very recent construction of the tarmac road to Kilimanjaro International Airport.

Jobs

As already indicated, with the exception of Tanzanite One, most mining companies operating in the MCA, including the small-scale companies, did not seem to employ many local people. We learned that the main jobs given to local people were those of security guards, and those were only to men. In one of our FGDs with male miners, we were told that it was necessary to apply through the village government for these jobs, as the village government had to forward a reference to the mining companies; participants had some concerns about lack of transparency and potential for corruption in this process, claiming they had to pay up to TSh 1 million (USD 400) to get a job, and the Managing Director of Tanzanite One acknowledged to us that access to jobs could be improved as too often those getting jobs were, for example, friends of brokers.

Participants in our FGDs and BIs shared that some 200 young men from Naisinyai had been employed by the former owners of Tanzanite One, but nearly all of them had left their jobs since the new owners took over in 2014 and only 6 local people were still employed by the company. For those few men who were employed in any of the mines in the MCA, participants in our FGDs and BIs complained that they faced very difficult working conditions and low salaries. For example, we were told in one FGD that Tanzanite Africa only hired a few casual workers, who were paid just TSh 30,000 a week (USD 12). Furthermore, we learned that most of the small-scale mining enterprises did not create any direct employment, but instead just let local men do the digging and drilling and the sorting of materials for them in exchange for the benefits to be obtained from the left-over rocks; theft by workers in the small-scale mines was a further issue.

“The mining companies exploit workers by paying very low pay and harassing them. If an employee has a nice house and assets it is reported back to the mine through spies who are paid much better. It’s not possible to be rich if someone works for the mining companies so they will assume that they stole minerals from the mine if they have a nice house. Their assets will be seized by the mine and they will be sacked. The police have been bribed so will not listen to the workers. The conditions are also extremely dangerous, walls often cave in with people dying. No compensation is paid to their families. Many labourers suffer from TB due to the bad air quality but the owners don’t care.” (FGD25, men involved in mining)

Rubble sorting and mineral trading

Due to the lack of formal employment opportunities in the various mining companies, many men in Naisinyai had instead become mineral traders and brokers, buying the left-over materials from the mines and selling them on to the big tanzanite market in Mirerani town. The majority of these brokers and traders were men, but some women were also involved.

“Our main income comes from mining. I don’t have a licence as I don’t own a plot. I had some money and together with two other women we put TSh 150,000 (USD 60) together. We just wait for the men to get out of the holes and then buy the minerals from them. We then go and sell them at a profit. I am known for this and I am a fighter. Sometimes we get TSh 100 (US 4 cents) profit and sometimes less. Sometimes we can get a big gemstone to be sold for TSh 500,000 (USD 200)...I think mining offers very good opportunities. There are also some women involved who are even stronger than me, they buy big vehicles. In total about 15 to 20 women are engaged in this business, but many more men are involved. They come from different parts of Tanzania.” (B14, middle-aged monogamously married woman)

During our fieldwork we observed a small number of very large modern houses in Naisinyai, and among the participants in our BIs was one very wealthy man who owned 50 ha of farmland and four licensed mining plots. However, it was difficult to be sure about the extent to which local mining and mineral trading offered the opportunity for more than a handful of people in Naisinyai to become very wealthy, as those people we spoke with who had mining plots shared that it was hard to make much money because of the operational costs involved.

At the lower end of the wealth/poverty spectrum, and as in Mundarara, the collection of left-over minerals from the mining sites clearly offered an important cash income-earning opportunity for poor women, and widows in particular, who used the small proceeds to buy food for their children, as well as some unemployed men. Yet 65% (51 of 78) of all female respondents and 60% of all male respondents (28 of 47) in our baseline survey agreed with the statement that: “In your community there are issues around access to minerals”. Female participants in our FGDs and BIs told us that they walked up to four hours to reach the mining sites in the MCA but were not always given permission to access the waste minerals and sometimes had to walk back empty-handed. More shockingly, we were told that women going to the mining sites for this purpose were often verbally abused, beaten and raped – and at least three people had been killed – by the many young unemployed men who also hang around the mining sites waiting to access the left-over rubble from mining. In order to protect themselves from these extreme threats to their well-being, it appeared by the time of our fieldwork that women now mostly went in groups or accompanied by a man, yet they continued to face daily harassment and danger. We were told that married women who had been raped often faced further abuse from their husbands, who blamed them for the rape, and there was a huge stigma around this, with many women not wanting anyone to know about the violence inflicted on them and husbands often finding out only if the woman became pregnant as a result of the rape. However, even though both the village government and the traditional Maasai council leaders (Ilaigwanak) were aware of this major issue for the community as a whole, many of the women we spoke with felt that not enough was being done to protect them. On the other hand, since the time of our fieldwork, some of these problems of violence against women may have been reduced by the newly-built MCA perimeter wall, not least because it has restricted individual women’s access to the mining sites unless they belong to registered groups.

“We go to the mining site every day. When we go there, we ask for permission to use the waste minerals. Sometimes we get permission and sometimes we don’t. Sometimes we get TSh 500 or TSh 1,000 (US cents 20 to 40) from mining. The maximum we would get in one day is TSh 2,000 (US cents 80). Only women do this. Some men go down the mines. We buy flour or vegetables with the money we get. We are not happy with this work, but we have no other option. It takes us four hours to walk to the mining area and four hours to walk back. We have no option but to do this every day, because our children need to eat.... Women are being raped when they go to collect the waste materials. When we go to collect the waste, unemployed

men also come to collect stones and abuse us verbally and throw stones at us. Sometimes they also grab the stones we have collected and beat us. They also threaten us, so that we are scared to go back again. We usually go in groups of five, but it does not help, as we are still abused. We have nowhere to report to, only to our sons, who then beat up those men. But we cannot report to the village government. They will keep on raping us, because we need to feed our families. The village government is aware of the problem. They sometimes contribute a goat and some oil to treat the women who have been raped. They also give permission to the Moran to beat up the offenders. Many have been taken to the police and then released again. They have now also started raping young boys.” (FGD5, widows)

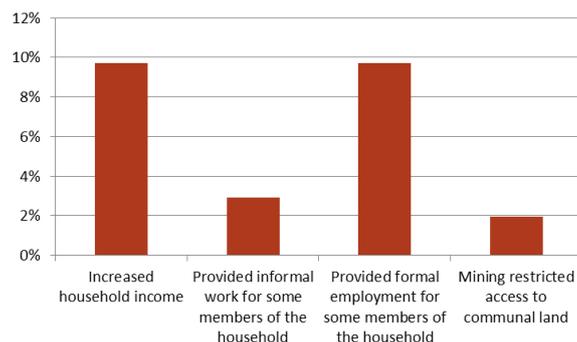
“Many women are beaten by their husbands after being raped. Some are even pregnant by their rapist. Countless women have been raped and many do not even report it to their husbands, they just talk among themselves. Many women go to the mining site early in the morning and come back late, because their husbands are away and do not look after their families, so they have to provide food for the family. That is why they engage in mining and just put up with the rape. We do not have anybody we can talk to about these things, so we are very happy for this research so we can report on these issues. Initially a few of the rape cases were reported to the police, but nothing happened, so now the women just keep quiet. We feel like nobody cares about it, not the government, not men, nobody. Once a 15-year-old boy accompanied his grandmother to the mining site to protect her. They suffocated him and many men raped his grandmother and killed her. They just left her there, until someone found her. Many unemployed men just live in the bush near the mining site. We don’t know how many, but we feel like they are no longer human. They also fight with women over the waste materials.” (BI4, middle-aged monogamously married woman)

“Women cannot go near the hill, because it is the controlled area, and they could be raped. Those who rape them run away, so you cannot take them to court. In 2004, many people have also fallen in holes and were injured. Cattle can even fall to death in those holes. We got a lot of pain from those unfilled holes, but the government does not see our pain. Even though we complained, nothing happened. We have taken some individual cases to court, but just a few. We would like you to share your report with the Ministry, the Zonal Officer and the RMO. They need to know what people feel, we feel a lot of pain. Three people were killed by miners. They dropped one boy in a hole, killed his mother and also raped and killed a young girl. We feel like the government does not care about the loss of these people.” (FGD3, members of Ilaigwanak)

Effects of mining

Partly as a result of these extreme social problems linked to the growth and development of mining in Mirerani, we detected an overall ambivalence among Naisinyai people with regard to the effects of mining on themselves and their village. Some participants in our FGDs and BIs mentioned that increases in the number of modern houses and the increasing wealth that some people had experienced were directly related to mining, and they thus felt that mining’s overall contribution was positive. However, others felt that the negative environmental and social impacts far outweighed the positive impacts; mining was seen to have affected both water quality and the quality of and access to Naisinyai’s traditional grazing areas, as we discuss further below. Most people we spoke with during our fieldwork also agreed that women in Naisinyai were much more negatively affected by mining than men, as rape and abuse seemed to have become endemic in the community and to be carried out with impunity.

In our baseline survey only 13% (13) of all randomly sampled households reported any kind of direct effects on their households from mining in the previous two years, and they largely highlighted just the benefits in terms of increased cash income and employment that mining had brought to them personally, as Figure 24 below shows. In only two households did anyone in our survey mention that mining ‘restricted access to communal land’, although it became clear during our FGDs and BIs that this was in fact a major issue for the people of Naisinyai, and is likely to be exacerbated by the newly-built MCA perimeter wall. It was also clear that those households that did report effects of mining were only considering the large- and medium-scale mining companies rather than small-scale mining as well, and, according to village leaders, that they were representative of the roughly 10% of villagers who were mainly dependent on mining rather than being pastoralists and agro-pastoralists who were also involved in mining.

Figure 24. Reported effects of mining on randomly sampled households, Naisinyai

Source: WOLTS Tanzania baseline survey, 2016

The responses to our baseline survey perceptions questions suggested that disagreements with miners and issues with mining were indeed a major problem in Naisinyai, with 44% (34) of all female respondents and 47% (22) of all male respondents disagreeing with the statement that: “In your community disputes between miners and community members are not a problem”. The respondents that thought disputes between miners and the community were a problem included 70% of respondents from Naepo, 40% of respondents from Naisinyai Kati and 17% of respondents from Oloshonyoki. Further, although during our baseline survey only 12% (15) of all respondents agreed with the statement that: “In your community, companies have been able to come in and take people’s land without consulting ordinary people” and 46% (57) disagreed with the statement, the remaining 42% did not know how to respond. Most participants in our FGDs and BIs also mentioned that they would like to see more interactions between the mining companies and the villagers, especially in the form of information meetings, better working conditions and more concrete CSR.

Almost all participants in our FGDs and BIs appeared to think that mining as a whole should contribute more to Naisinyai’s development than it was contributing at the time of our fieldwork. While some people accused the village government of not standing up for the rights of the community, for example by urging individual villagers to stop protesting to the mining companies, others felt that the village government was powerless to act in the face of the protection that mining companies and small-scale miners were granted by the central government. Various people also shared their fears that even more land in the local area would be allocated to mining, as some months prior to our fieldwork some people had come to survey land in Naisinyai that was outside the MCA and had claimed that there was tanzanite in the ground there too.

“Mining has brought about impacts that are more positive for men than for women. Women have the same status as children so they can’t get high paying jobs in the industry...More men have benefited than women from mining employment. The village government informed me that large mining companies were going to start operating in Naisinyai. The people in the village benefit from the mining because it offers people a source of income and means they don’t have to be dependent solely on livestock keeping. For the village to get maximum benefits the companies would need to employ fewer migrants and more local workers, and women’s groups should be supported by the companies.” (BI21, middle-aged monogamously married man)

“The mining companies offer nothing to women, there are no jobs. When they go to find minerals and firewood they are raped. The mining companies are taking more grazing land, cutting down trees and causing environmental destruction...The mining companies are allowed to keep operating without restrictions. The only action the village government has taken is to send out patrols of young men to search for perpetrators who rape women and cut down trees.” (BI2, young polygamously married second wife)

Environmental degradation

Although the social effects of mining were clearly felt more strongly and negatively by women in Naisinyai, environmental effects, such as reductions in pastureland, more limited access to grazing areas, and decreasing water quality from chemical contamination, appeared to have been felt

equally by everyone. As indicated already, many participants in our FGDs and BIs in Naisinyai perceived that the development of mining and consequent population increases had drastically decreased forest cover and available pastureland in the village, and in general the environmental impact of mining appeared to be much more pronounced in Naisinyai than it was in Mundarara. Furthermore, both the large and medium-scale mining companies as well as the small-scale mining enterprises were reported to drill many holes in the ground; these were often left unfilled and as such posed an ongoing threat to both humans and livestock, particularly in the small-scale mining areas due to lack of fencing. Some people we spoke with also mentioned the general increase in pollution, as mining debris was just left strewn on the pastureland.

“Mining activities have destroyed the environment by cutting down trees and dumping mining debris on the landscape. The shafts they drill are left unfilled and animals sometimes fall in and die. Everyone is affected by these impacts.” (FGD22, polygamously married men)

Particular concerns were voiced about the chemicals used in mineral processing and their inadequate disposal. Linked to their worries about decreasing water quality, some people we spoke with thought that there had been a surge in the numbers of children and elderly women with bowed legs as a result of the effects of the chemicals used by the local mining companies in the MCA, particularly from fluoride contamination.

“Mining affects the surrounding land very badly...We feel that the miners need to construct a waste pit for their chemicals.” (FGD20, monogamously married men)

“Tanzanite One built a processing plant right next to a settlement and I don’t think it is proper to construct that right next to people. They should have done it elsewhere. They use chemicals which they mix with water for processing. The waste from processing is dumped right next to people’s houses. It is difficult to control animals and children not to go there, so they get poisoned. Many children under 10 have got bent legs – they go out from under the knees and then back in. And some old women also got the same. The children’s legs are normal until they reach the age of 6 or 8 and then this starts happening...We think it is related to mining. The processing plant lets women sort through whatever is there after processing, as some minerals may remain. Women and children do this and I think it is how they get this problem with their legs. Also, some chemical materials are dumped somewhere and when it rains the materials come down with the water like milk [white colour]. The government has come to take the affected people as we have told our MPs about it. The hospital has taken some children for rehabilitation, but they did not get down to the root cause. More than 50 children are affected by this.” (BI1, wealthy middle-aged man)

Table 28 provides our baseline survey data on people’s perceptions about the local environment in Naisinyai, broken down by gender, which gives some idea of the extent of concerns about mining-linked water pollution and environmental degradation; these issues, however, came out much more strongly in our FGDs and BIs.

Table 28. Perceptions about the local environment by gender of respondent, Naisinyai

	True (as percentage of respondents by gender)		False (as percentage of respondents by gender)		Don’t know (as percentage of respondents by gender)	
	F	M	F	M	F	M
In your community there are issues around environmental degradation of natural resources.	29	32	69	60	1	9
In your community there are issues around water pollution.	23	26	74	68	3	6

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 78 for female respondents. N = 47 for male respondents.

In sum, while mining companies in Naisinyai (mainly Tanzanite One) were seen as having brought some benefits to the local community in terms of infrastructure development, employment and various CSR projects, small-scale miners, who were mainly outsiders, were seen to have brought few

direct benefits to the local community but to have caused major social issues that especially affected women. Like in Mundarara, both large-scale and small-scale mining have created various indirect cash income-earning opportunities through rubble sorting and mineral trading and brokering. However, as elsewhere in Tanzania, our fieldwork revealed many grievances with both large-scale and small-scale miners, including the take-over and degradation of pastureland, the worsening quality of water resources and, most importantly, the raping and killing of women and children (cf. Sosy 2013; UNEP 2012).

“How can we as a community benefit from all this mining? Even from the small-scale miners, there is no benefit, no contribution coming to local government. These companies are all located in Naisinyai but they use the name from Mirerani! How can we get recognition that the minerals are actually in our village?” (FGD19, male and female members of Village Land Council)

Land allocation processes

“There is no land that is secure because the village authorities don’t see beyond the boundaries of the village which are getting smaller and smaller – but they are blind to this.” (BI22, middle-aged polygamously married woman)

Land governance and perceptions about the law

Before Villagisation, as elsewhere in Tanzania, land in Naisinyai was regulated through customary land tenure arrangements and passed down through inheritance within families and clans. However, as a result of the passing of laws such as the 1999 Village Land Act and the 2007 Village Land Use Planning Act, anyone wanting either land for farming or land for settlements now needed either to apply for it to the village government or to acquire it through the market, as we discuss shortly below, although pastureland still seemed to be largely regulated according to customary practices.

As in Mundarara, both the village government and the Ilaigwanak in Naisinyai were male-dominated and women did not appear to participate in local land and natural resource management and governance beyond their official (statutorily prescribed quota) positions in the relevant village government institutions, although we came across at least one exception – a strong woman in the ward government leadership. Like their counterparts in Mundarara, participants in our FGDs and BIs, especially female participants, expressed a clearly felt need to have more women involved in community decision-making about land and natural resources, but for the present time, even where women were aware of the law it seemed that social norms prevented them from claiming their rights.

“I am aware that statutory law says that men and women are equal but issues in the village prevent this from being a reality. To get land a woman must send her sons instead. We don’t understand why it is so unfair – every man regards us as nothing.” (BI2, young polygamously married second wife)

“Most Maasai women must be married [*to get land*]. If they are widowed, they must come with a son to be considered. Without a son, the land should be given under close supervision of the village government. Married women do not get land [*laughing*], that is our tradition. Most often we assist people with the things they need, but Maasai women do not need land, so it is not in their minds that they should own land...You cannot fight in darkness – you cannot fight for people who do not see the need. I think women should have the right to own land.” (BI1, middle-aged wealthy man)

While most male participants in our FGDs and BIs either claimed that women had equal land rights to men or said that women did not need to own land, most women were very much aware of the injustices in their daily lives and wished to see progress with regards to women’s land rights. However, and again as in Mundarara, our baseline survey data suggested that many women in

Naisinyai were in fact not aware of their statutory rights and thought that it was ‘legal’ to discriminate against women – as Table 29 below shows. It is notable that 51% (40) of all female respondents and 68% (32) of all male respondents thought that the law did not allow women to own land and 54% (42) of all female respondents and 34% (16) of all male respondents thought that men’s rights to land took precedence over women’s rights. Yet this also implies that many men in Naisinyai did know the law; 66% (31) of all male respondents agreed that it was false that men’s rights to land took precedence over women’s, and 47% (24) of all male respondents were aware that it was illegal to discriminate between men and women as regards land ownership. The apparent contradiction between this and the strong perceptions expressed by male respondents on the question of ownership of land can be explained by the strength of the gendered local norms about land ownership – that women’s land ownership was just not considered a socially legitimate concept in the traditional Maasai culture. Thus, even where men were aware of gender equality provisions in Tanzanian law, against discrimination for example, this knowledge could not surmount their deeply entrenched beliefs that women just did not need and/or had no socially legitimate claim to own land, as any land women needed would always be provided to them through their husbands or other male relatives.

Table 29. Perceptions about Tanzanian land laws by gender of respondent, Naisinyai

	True (as percentage of respondents by gender)		False (as percentage of respondents by gender)		Don’t know (as percentage of respondents by gender)	
	F	M	F	M	F	M
In your country the law does not allow women to own land.	51	68	42	28	6	4
In your country the law says that men’s rights to land take precedence over women’s and that husbands’ rights to land take precedence over their wives’.	54	34	41	66	5	0
In your country it is illegal to discriminate between men and women as regards land ownership.	59	47	32	51	9	2
In your country, if you have rights to the land, you also have the rights to the mineral resources on or under the land.	46	40	37	45	17	15
In your community all people are involved and consulted in decisions about community land management.	63	81	32	17	5	2

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 78 for female respondents. N = 47 for male respondents.

As Table 29 also shows, male respondents in our baseline survey were also more likely than female respondents to correctly know that minerals did not automatically belong to the person who had the rights over the land where they were found – 45% (21) of all male respondents compared to 37% (29) of all female respondents.

Access to land for settlements and farms

At the time of our fieldwork, and unlike Mundarara, Naisinyai did not have a Village Land Use Plan to help regulate and manage the village’s land. Participants in our FGDs and BIs shared that land allocation processes and access to land in Naisinyai had instead become very commoditised, due to population growth and a shortage of available land for new farms and settlements. They claimed that whereas in times past people could fence off as much land as they needed for farming or to establish a boma, nowadays everyone either had to buy or lease land or apply for (a very limited amount of remaining available) land from the village government on payment of fees.

“My parents owned countless cows, goats, sheep and donkeys. They didn’t own any land, very few people had private land because it wasn’t needed – there was enough free land for everyone. Access to land has changed now – everyone must follow procedures for everything – settlements, farms, grazing land, and all of it requires money. It never used to be like that – everything was free.” (BI18, elderly widow)

According to the village government, and in line with national regulations in accordance with the 1999 Village Land Act, applications for house-plots had to be submitted to the Village Executive Officer (VEO) and then passed onto the Village Council’s Village Land Committee for a decision on the application. After discussing it, the council members would take their recommendation to the Village Assembly for formal approval. We were told that this same process applied for all people, whether locals of Naisinyai or newcomers/outsideers. However, the success of an application depended on the availability of land, which we were told was very limited; although settlements in Naisinyai appeared to be expanding, people we spoke with reported that large areas of land that could potentially be used for settlements, as well as for grazing, had been taken over by the growth of mining. The success of a land application also depended on whether or not the committee members thought that the applicant just wanted to sell the land (i.e. for speculative purposes) after being granted a plot, in which case their application would be refused. According to village government leaders, successful land applicants would then be given a customary ownership certificate or receipt – but not a formal CCRO.

However, as in Mundarara, it seemed clear that other (more unofficial) criteria were also used to decide whether someone would be granted land – for example, with the exception of widows without sons, women could not apply for land in their own right, as we discuss further below. Another exception concerned the expansion of existing settlements in more remote parts of the village, i.e. if many children lived in one boma, the household would be allowed to expand their land, provided it did not impact upon their neighbours. Village leaders informed us that people were also permitted to buy and rent land; no-one in our FGDs and BIs mentioned renting land although some mentioned buying it.

Ninety-seven per cent (100) of the randomly sampled households in our baseline survey reported that they owned one or more house-plots – anywhere in Tanzania, not necessarily just Naisinyai. The average number of house-plots was 1.47 per household, and among households where the household head was married multiple house-plot ownership was just as likely to be found in monogamous as in polygamous marriages. In Naepo there was one household with four house-plots and another with five, as Table 30 shows.

Table 30. House-plot ownership among randomly sampled households, Naisinyai

	Number of households not owning a plot	Number of households with 1 plot	Number of households with 2 plots	Number of households with 3 plots	Number of households with 4 plots	Number of households with 5 plots	Total number of plots owned by all 103 randomly sampled households
Number of households	3	63	30	5	1	1	147

Source: WOLTS Tanzania baseline survey, 2016. N = 103.

Ninety-seven per cent (100) of the randomly sampled households in our baseline survey reported that household members owned their main house-plot in Naisinyai, i.e. the place where the majority of household members usually lived. One male- and one female-headed household were renting the house in which they lived, and one male-headed household was using the household head’s brother’s plot without paying rent.

With respect to the main house-plot of the 103 randomly sampled households in our baseline survey, 89% were reported to be jointly owned (for 92 households), with the majority of these households stating that the husband and wife jointly owned the house-plot and just four households stating that it was the whole family who owned the house-plot; the one household that was renting said that their landlords jointly owned the house. Of the nine randomly sampled household that were reported to be living in house-plots that were solely owned, four were female-headed and five were male-headed households; two male-headed households, one renting and one borrowing their house-plot, were unable to answer this question. As Table 31 below shows, sole ownership of house-plots appeared to be far more common among female-headed households than male-headed

households in all three vitongoji. However, there were also five female-headed households, three in Naepo and two in Naisinyai Kati, that reported joint ownership of the main house-plot; these were cases either of polygamous marriages where the husband was ‘officially’ head of another wife’s household or of widows who jointly owned their house-plot with their sons.

Table 31. Ownership status of main house-plots occupied by all surveyed households, Naisinyai

	Occupying a jointly owned house-plot		Occupying a solely owned house-plot	
	Percentage of all female-headed households in the kitongoji	Percentage of all male-headed households in the kitongoji	Percentage of all female-headed households in the kitongoji	Percentage of all male-headed households in the kitongoji
Naepo	23	91	77	9
Oloshonyoki	0	96	100	4
Naisinyai Kati	25	97	75	3

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 13 for FHH in Naepo. N = 34 for MHH in Naepo. N = 7 for FHH in Oloshonyoki. N = 28 for MHH in Oloshonyoki. N = 8 for FHH in Naisinyai Kati. N = 33 for MHH in Naisinyai Kati. Two male-headed households did not respond, in Oloshonyoki and Naisinyai Kati.

During our FGDs and BIs people also frequently expressed the belief that they owned the land they lived on or farmed, even without having any kind of formal, statutory title to it, and only four of the randomly sampled households in our baseline survey reported to have any land ownership documents at all, which were all in the name of the male household head. We thus clearly detected that even though most people in Naisinyai had no documents for their land, they still felt that they owned it. On the other hand, many participants in our FGDs and BIs were aware that without documentation their land rights were not secure, and they thus wished either to have statutory titles for their land or to have better protection of their customary rights.

“I don’t worry about not having a title for my land. Naisinyai people believe that they own their own land.” (BI20, widow)

“Some people have titles for the land but most don’t have any kind of official document.” (FGD6, men involved with mining)

“Previously there was no exclusive ownership of land, but now we have some. I believe that where our boma is, that is our land. I don’t know whether my husband requested for that land, because he had it before I came. But we do not have a document for it.” (BI4, middle-aged monogamously married woman)

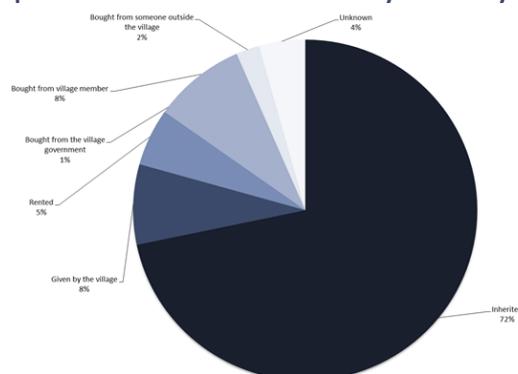
“We own a small plot of farmland but we cannot apply for any more because there is none available. We have no title for our farmland. We have no title for the boma either – the village is very behind.” (BI2, young polygamously married second wife)

In total some 89% (92) of all the randomly sampled households in our baseline survey reported that they also had land for non-residential purposes; between them they had land that was reported to total 424.5 ha, averaging 4.6 ha per household and including the 374.5 ha of agricultural land discussed above. One household reported having 50 ha, another 25 ha, and another 15 ha; all three pieces of land were in Naepo and were agricultural land. The other 89 households had amounts of land ranging from 1 ha to 15 ha. Some of this was for farming and some was grazing land that they had acquired for their own use with exclusive private rights; some was also unused farmland. In 91% of these households (84 of 92) the land was in the same kitongoji, in 3% (3) it was in a different kitongoji within Naisinyai, in 4% (4) it was in a neighbouring village, and in one case it was in a nearby town. Meanwhile those households with no non-residential land generally just owned a house-plot and relied on herding for their livelihoods, utilising the common pastureland.

As Figure 25 below illustrates, 72% (66 of 92) of the households in Naisinyai with non-residential land had acquired the land through inheritance; five of them were female-headed households. Six households, one female-headed and five male-headed, across all three vitongoji were renting land, while all 10 households that had bought land were male-headed and eight of them lived in

Oloshonyoki, nearest Mirerani town. Inheritance was most common in Naepo and lowest in Oloshonyoki, yet renting was also more common in Naepo and most of those with non-residential land in Naisinyai Kati reported having been given it by the village government.

Figure 25. Means of acquisition of non-residential land by randomly sampled households, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. N=92

As these data show, there were thus a range of means of access to non-residential land, including farmland. The formal process of applying for farmland from the village government was the same as that for land for settlements described above. However, as in Mundarara, it seemed that no more farmland was available to be allocated, and thus nowadays the only way to get access to farmland (all of which was located in the vicinity of the river for irrigation purposes, as noted above) was either through inheritance or through renting or buying it from other owners; alternatively Naisinyai people could go to look for farmland in other (neighbouring) villages.

“We used to have five acres for farming and I still have them. We just got them through traditional ways of land allocation. Nowadays it is very difficult to get access to farmland, because all land has been divided. I also bought some plots of land, so if my children want to farm they can get some land. I have about 50 acres of land behind the hills and another nine and two in other places.” (B11, middle-aged wealthy man)

As for housing, it also appeared that married women could only request farmland from their husbands, and could not apply to the village government for land (even if there was any land available to be allocated). Furthermore, we learned that most often farmland was inherited by sons. However, in some cases it seemed that widows also inherited farmland, and in polygamous marriages the inherited land was sometimes used by some wives to establish their own house.

“No women own farmland, the village government don’t allow it. One woman applied and the village government phoned her husband to ask why she was applying. The husband was not aware of it and told them never to give her land. She won’t inherit farmland ever.” (FGD24, polygamously married first wives)

“When a husband dies, his first wife usually stays in the original boma and the others divide his farmland to establish their own houses. Some also end up going to relatives, because of the hardships they suffer as a result of their husband’s death.” (FGD5, widows)

Land disputes

Unlike in Mundarara, where land disputes were rare, farmland boundary disputes were reported by participants in our FGDs and BIs to be very common in Naisinyai, as the borders of plots were poorly defined and farmers often extended the trenches of their borders into other people’s plots. Because of this, Naisinyai’s Baraza la Ardhi (the Village Land Council) held meetings every Monday during farming seasons which were used to discuss tensions between villagers. If disputes could not be solved by the Baraza, they were forwarded to the traditional Maasai council, the Ilaigwanak, to be discussed and resolved using traditional means of dispute resolution.

Despite these findings from our FGDs and BIs, only four of the randomly sampled households in our baseline survey and one of the additionally surveyed female-headed households reported to have been involved in a land or natural resource dispute in the two years prior to the survey being carried out. Four out of these five disputes were related to land boundaries, from all vitongoji in Naisinyai; the other was a conflict between a mother and her son. Table 32 describes all reported disputes during our baseline survey in Naisinyai, including from the random sample and the additional female-headed households.

Table 32. Land and property disputes between August 2015 and August 2016, Naisinyai

Kitongoji	Type of dispute	Type of household	Resolution	Details of the dispute
Disputes recorded in the baseline survey in the randomly-sampled households				
Naepo	Other	FHH	Yes	It was a conflict between the mother and son because of misunderstandings between them. There was cruelty on both mother and son during the harvest season. It was resolved by the old neighbours.
Oloshonyoki	Land boundary	MHH	Yes	The leaders involved with the environment have resolved this.
Oloshonyoki	Land boundary	MHH	No	There is no final resolution to the problem because the village elder did not come on time. Until now it is not an active conflict but there is no final agreement towards it.
Naisinyai Kati	Land boundary	MHH	Yes	The neighbour did not accept that the area of land was not his. The neighbour was hard-headed and did not want to accept the fact that the area was not his and accepted it only to cover up but it is not really solved. The dispute is still there a little bit.
Disputes recorded in the baseline survey in the additional female-headed households				
Naepo	Land boundary	FHH	Yes	There was a land conflict that was resolved by a village elder.

Source: WOLTS Tanzania baseline survey, 2016

Our baseline survey also established some data on people's perceptions about land disputes and access to justice in Naisinyai which suggested that the majority did not consider disputes between different types of land user in themselves to pose a major problem in the village, as shown in Table 33 below. However, it was also clear that a substantial proportion of our survey respondents did consider land and natural resource disputes problematic. As noted above, 44% of all female respondents and 47% of all male respondents did not agree that disputes between miners and the community were not a problem i.e. they thought that they were a problem. Likewise, on the key issue of access to justice, 55% (43) of all female respondents and 51% (24) of all male respondents agreed with the statement that: "In your community it is not easy to get a just resolution to your land and natural resource disputes".

Table 33. Perceptions about local natural resource disputes by gender of respondent, Naisinyai

	True (as percentage of respondents by gender)		False (as percentage of respondents by gender)		Don't know (as percentage of respondents by gender)	
	F	M	F	M	F	M
In your community disputes between miners and community members are not a problem.	53	49	44	47	4	4
In your community disputes between investors and community members are not a problem.	56	55	37	45	6	0
In your community disputes between crop farmers and herders are not a problem.	63	72	36	28	1	0
In your community it is not easy to get a just resolution to your land natural resources disputes.	55	51	38	45	6	4

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 78 for female respondents. N = 47 for male respondents.

Women’s access to land through statutory processes

Both the statutory system of land allocation and the emerging land market grant women in Naisinyai, as elsewhere in Tanzania, equal opportunities with men to access and own land. However, as in Mundarara, it appeared from our fieldwork that in practice many structural challenges persisted, including strong customary norms that hindered women’s access to land through statutory processes. During our FGDs and BIs various women mentioned that simply the fact that they were women prevented them from getting access to land through the village government, and some reported having been sent home by the village government when they had tried. Very few women held positions on the Village Land Committee, and the women we spoke with clearly felt that they had little influence in the generally male-dominated environment, although this was less so than in Mundarara.

“Women don’t have enough money to get access to land and are also told that men should apply on their behalf – just being a woman is a problem! These issues have intensified because there is so little land available these days. There is no difference between being a widow or a married woman, accessing land has the same challenges.” (BI20, widow)

“We don’t know how to apply for land ourselves, because it is not common for women to apply. The Land Committee won’t allow us to apply – they tell us that we should be ashamed and that our husband should apply for us, or our son if we are widowed.” (FGD21, polygamously married second and third wives)

“If a woman is married she cannot get land because her husband should get it for her. Even if she is a widow, she needs to go with a son to be given land. I think this is not good. Women should just be given land regardless of whether they come with a husband or a son.” (BI17, elderly man, never married)

Given the very limited availability of land to be allocated by the village government in any case, the lack of monetary resources to buy or lease land was frequently mentioned as an even bigger issue preventing women from getting access to land. Further, even in cases where women did manage to inherit land from their husbands or other family members, their rights were still not secure as their relatives or neighbours might try to grab the land from them.

“Women don’t have money for land and associated bribes. Even if they did, their husbands prohibit it. There is a cultural problem whereby women can’t own land and must give any money they earn to their husbands.” (BI22, middle-aged polygamously married woman)

“I inherited a farming plot from my family after my husband died. This was given to me by my parents, who had migrated with their livestock in search of fertile pasture. I was initially asked to look after the land but was then given it. It has not been easy for me to retain the land, after some years more people wanted farmland and threatened to grab my land – I was strong though. I have never had a title for my settlement or farmland but I am lucky because I have my sons to protect the land.” (BI18, elderly widow)

Pastureland management

As noted above, 77% of the randomly sampled households in our baseline survey reported herding as their top source of cash income in the 12 months prior to the survey and it was the top source of cash income for 50% of all female-headed households and 77% of all male-headed households. Furthermore, 92% of all female respondents (72 of 78) and 100% (47) of all male respondents in our baseline survey agreed with the statement that: “The majority of people in this community depend on herding livestock for their survival”, as Table 34 below shows. Access to pastureland and water sources was therefore a concern for many people in the village. As Table 34 also shows, 47% (37) of all female respondents and 55% (26) of all male respondents thought there were issues around access to grazing land in Naisinyai, while 60% (47) of all female respondents and 72% (34) of all male respondents thought there were issues around access to water sources.

Table 34. Perceptions about pastoralism and access to resources by gender of respondent, Naisinyai

	True (as percentage of respondents by gender)		False (as percentage of respondents by gender)		Don't know (as percentage of respondents by gender)	
	F	M	F	M	F	M
The majority of people in this community depend on herding livestock for their survival.	92	100	5	0	3	0
In your community there are issues around access to grazing lands.	47	55	49	40	4	4
In your community there are issues around access to water sources.	60	72	40	28	0	0

Source: WOLTS Tanzania baseline survey, 2016. Table includes additional female-headed households, as well as those randomly sampled. N = 78 for female respondents. N = 47 for male respondents.

It seemed clear from our fieldwork that the nature of pastoralism in Naisinyai had changed significantly over recent decades, and especially over the past decade, not only due to climate change and population growth, but especially also due to the large increases in mining operations, which were widely perceived to have taken over the majority of the village's pastureland. The distance to pasture had therefore increased, and because of this many people told us that their animals now had to be looked after by relatives (or paid workers – as we discuss further below) living elsewhere (outside the village) for much, if not all, of the year. Yet despite the pressures on pastureland and the increasing difficulties for Naisinyai herders, many participants in our FGDs and BIs still considered pastoralism to be their best cash-income earning option, as they could make money from livestock sales the whole year round and it was more reliable than farming (because of the dependency on rainfall in Arusha which fed the seasonal Kikuletwa river).

“Me and my husband are most reliant on herding, as mining and farming are less dependable. In times of drought we can sell livestock, but crops won't grow if it's too dry. Mining offers the opportunity of earning quick money but there are many challenges with this and it usually does not happen.” (BI2, young polygamously married second wife)

Access to grazing areas and changing movement patterns

We learned that pastureland had gradually decreased in Naisinyai since the 1970s, due to combined increases in mining, farming and human settlements, with increasing numbers of people occupying more land for houses through buying from longstanding residents of the village areas of former pastureland that had previously been passed down through their families for grazing. However, while it seemed that even 10 years ago pasture had still been available within the village boundaries, the expansion of both farming and mining activities had meant that only a very small patch of pasture now seemed to be left within Naisinyai village, which participants in our FGDs and BIs said could only support about 20 cows. This compares to the situation before the expansion of mining when the majority of the MCA had been used for grazing, as well as land beyond it and, further beyond, in neighbouring Emishie village, which used to be part of Naisinyai village more than 10 years ago and which was still used for grazing by people from Naisinyai. However, the small patch of pasture still in Naisinyai, beyond the MCA and which was left around, behind and between the mining companies' operations, was only used by very few people, mostly women – either widows with no Moran in their households who could take their livestock further away, or no money to pay other people to do so, or women (or widows) with young children who needed a regular milk supply and thus had to keep their cattle close by. Thus, although in total few people continued using this pasture area, and were allowed to pass in between the mining companies to reach it, this was reported to be a very dangerous undertaking due to the open pits and the high risk these vulnerable women ran of being raped or abused by the unemployed young men hanging around the mines, as discussed above. Although firewood was also collected from this same area behind the mines, women went in groups to collect it; however, we were told that men did not want their livestock to

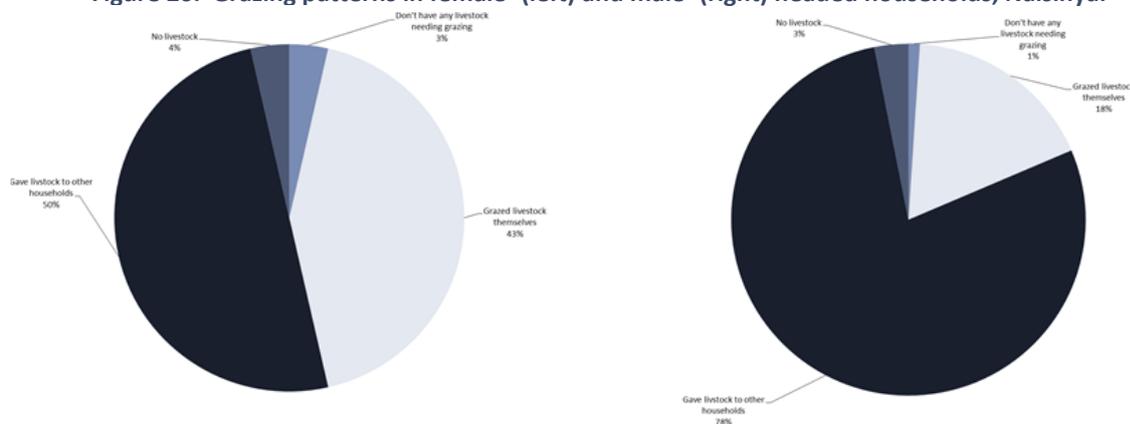
mix with other people’s, meaning the women were supposed to go to pasture on their own. On the other hand, as highlighted above, the newly-built wall is likely to significantly affect all of this. While the wall may halt or at least reduce incidents of violence, it also poses new challenges for pastoralists’ livelihoods, as the small pasture area lying inside the MCA is no longer accessible from Naisinyai and access to other grazing areas, water sources and places where firewood was collected at the time of our fieldwork has been constrained, with people required to walk much further now to get around the mining sites.

“A big pasture land has been taken over by mining. There is only enough pasture for very few livestock, maybe 20 or so. Most people have taken their livestock to other villages, but we all go to the small place that is left. It has not been decided publicly, just that everybody saw that there is not enough pasture left, so they have taken their animals away. We have to go around the mining areas to reach the small bit of pasture. Because our children need milk, we cannot take our livestock far, so we just stay on that small part...Before mining came, pastureland used to be very close. Now some people also take their cows to the farms to eat the left-overs [*stubble*] from farming, due to the lack of pasture.” (FGD5, widows)

“We are also at risk when we take livestock to the grazing land which means passing by the mines. Our husbands do not allow us to mix our livestock with women from other families. This would give us better protection, by not being on our own. We just leave the village on our own, but then wait for other women to join us, so that our husbands don’t find out. Women and children have been sexually abused by these miners who also steal livestock to eat themselves. The Maasai men have done very little to stop this. If they find the perpetrators they will beat them which stops the abuse for a week or two but they always come back. The village elders do nothing.” (FGD4, monogamously married women)

Among the randomly sampled households in our baseline survey, only 17% (17) reported grazing livestock themselves during the last year as their main mode of grazing; conversely, 77% (79) reported giving livestock to other households to graze, and more male-headed households relied on this mode of grazing than female-headed households. As Figure 26 below shows, 78% (76) of all male-headed households in our baseline survey reported that they had given livestock to other people to graze, compared to 50% (14) of all female-headed households, and only very few households had livestock that didn’t need to be taken beyond the household’s house-plot or farmland for grazing; like in Mundarara, some herders also used the stubble left over on their fields after harvesting to feed their animals. As Figure 26 also shows, proportionately more female-headed households grazed livestock themselves, either because they had no-one else to do it for them or because they could not afford to pay others, and this underscores the dangers of rape and violence that women faced in accessing the remaining village pastureland beyond the mines.

Figure 26. Grazing patterns in female- (left) and male- (right) headed households, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. Female chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households.

While women appeared to be more heavily involved in herding during the rainy season and the cold season, we learned that most households in Naisinyai either sent their adult sons (Moran) on

migration or paid people to migrate with their animals. People from wealthier households in particular mentioned hiring people to help with herding, and generally those with big herds used hired labourers while those with fewer animals depended on family members. In the case of very long droughts, it seemed that it was also common to take shifts within the family to look after the animals that had migrated. It was mostly men who migrated; only in very rare cases might women also join the migration, and most widows would ask neighbours or relatives to take their livestock on migration. Overall some 60% (62) of all randomly sampled households in our baseline survey in Naisinyai reported that some members of their household had moved with livestock to live temporarily elsewhere in different seasons in the previous year, and it became clear in our FGDs and BIs that the main reasons for this were to do with the combined effects of the expansion and presence of mining and the overall human population growth in the local area. Fifty-eight per cent (23) of all 40 randomly sampled households in Naepo reported that some members had moved with their livestock, as did 59% (20) of all 34 randomly sampled households in Naisinyai Kati, and 66% (19) of all 29 households in Oloshonyoki. The gender differences in migration patterns revealed in our FGDs and BIs were also confirmed in our baseline data, whereby 60% (58) of all 97 male-headed households reported that some members had moved with livestock but only 39% (11) of all 22 female-headed households did so.

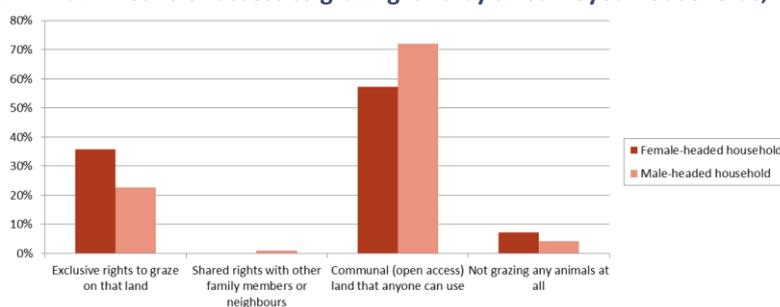
“We employ people to look after our livestock during migration or take shifts in the family, so we will go for a month at a time to look after the herd. During the long rains women look after the herd but on migration only men go.” (FGD25, men involved in mining)

“I have three wives, two are with my livestock and Moran on migration and one is with me in Naepo. It is not common for women to go on migration but it is required when there are long droughts because children need milk from livestock.” (BI24, middle-aged polygamously married man)

“I employ herders to take my livestock 100 km to Naberera for migration. I employ farm workers too, Naisinyai villagers and some migrants from outside...One of the biggest challenges in herding is population growth. Other villages are growing and this puts pressure on land.” (BI3, polygamously married elderly man)

In our baseline survey 67% (69) of the randomly sampled households in Naisinyai reported that they relied on access to communal land for grazing their animals. However, as in Mundarara, a large minority of 25% (23 households) also relied on exclusive grazing areas including land around their house-plots or their farms, all living in Naepo and Naisinyai Kati vitongoji. Forty-five per cent of all randomly sampled households in Naepo had such exclusive grazing rights (18 of 40), as did 24% (8 of 34) of those in Naisinyai Kati, but none in Oloshonyoki, nearest to Mirerani town and where house-plots were visibly smaller and more densely situated, as noted above. Further, the heads of many of the households with exclusive grazing rights were born in the village and came from families with longstanding customary claims to certain areas of land. The breakdown on main means of access to grazing land by gender is as given in Figure 27, and, interestingly, shows that those households with exclusive grazing areas were proportionately more likely to be female-headed than male-headed: 36% (10) of all female-headed households compared to 23% (22) of all male-headed households.

Figure 27. Main means of access to grazing land by all surveyed households, Naisinyai



Source: WOLTS Tanzania baseline survey, 2016. Chart includes additional female-headed households, as well as those randomly sampled. N = 28 for female-headed households. N = 97 for male-headed households.

“My parents owned a huge number of cows, goats and donkeys in the 1970s and 1980s. They owned some land for grazing that other people in the community would come and ask permission to use. My father just fenced off this land and declared it as his. He did not ask anyone’s permission. When he died, the land was opened up for everyone to use.” (BI22, middle-aged polygamously married woman)

As noted above, many people have permanently moved at least some of their livestock out of Naisinyai to be looked after by relatives or paid workers in other areas. As also noted above, participants in our FGDs and BIs shared that many herders in Naisinyai now took their livestock to Emishie village for grazing, which is 30 to 40 km away and was formerly part of Naisinyai but has become a village in its own right. Access to this pasture area was reported still to be free, and with no permission from anyone needing to be sought in order to use it. However, since the main pasture area was also shared with people from Losoito, there was a special committee – kamati ya ng’ombe – which organised pasture use, i.e. setting aside certain areas for dry season grazing. On the other hand, we were also told that there was no water in Emishie, so livestock could only stay there for one day before being taken back to Naisinyai to drink. Other common migration destinations included Terrat, Tilil, Laandapan, Naberera or Orkesumet, with permission to bring livestock for grazing needing to be sought from the respective village governments in all those places. Furthermore, we learned that individual herders needed to make arrangements with families in the host areas to get access to water points and receive permission to establish a temporary settlement.

“All the village members follow the collective decision of taking the herds to the grazing areas at an agreed time. Whoever disobeys this will suffer punishment such as having a cow taken away. Those who migrate to other villages must seek permission from the host village. To reduce conflicts about natural resources, there should be a special tribunal for them. The Ilaigwanak need to maintain traditional rules that govern pasture use. The problem is they are becoming too political.” (FGD23, young unmarried men)

“It takes one day to travel to Emishie but there is no water there so we must return to Naisinyai the following day. We constantly repeat this 12 hour trip, day after day...We are forced to travel these distances because the mines in Naisinyai have taken all of the grazing land in the village. Only a very small amount remains in the village which would support a maximum of 20 cows. The old grazing land where the mines are now could sustain the whole village. The takeover by the mines happened a long time ago and they have continued to expand ever since.” (FGD20, monogamously married men)

“When I was young my family had only 20 cows. In those days, the hill was a thick forest with lots of pasture, so the grazing areas were very close. Only the Moran could take cows there, due to the thick forest. This was up to about 1986, when I finished school and became a Moran. When mining started we witnessed the forest gradually melting away and the grass for grazing was finished. Now my animals are 30 km away. If they have to drink, they have to come here. They walk from 8pm at night until 9am. They usually stay two days in the pasture area and then come home for water for one day. During the rainy season, they can just stay there. My brother’s children herd my animals for me. Before I used to employ people, but once the children finished school, they could herd the animals. I have up to 300 cows now.” (BI1, middle-aged wealthy man)

“Grazing used to be free and you could get pasture anywhere, because there were not so many people. Now there are settlements everywhere and the number of livestock has also increased. Because of this, nowadays you have to ask for permission to migrate. Nowadays herding is more complicated...the problem now is pasture.” (BI17, elderly man, never married)

As in Mundarara, the frequency, distance and length of migration in search of pasture appeared to have increased in the last two decades. As just noted above, those who grazed their livestock 20 to 30 km away from their main settlement areas would bring them back for water every few days, but those who took their livestock 100 km away would not come back until the long rains between March and June. While we learned that the precise timing of migration was decided by the Ilaigwanak, herders could take their animals to different villages, with the destinations usually decided by (male) household heads. No migration from other areas seemed to take place into

Naisinyai itself, since most former pastureland had been taken over by mining. However, some individuals within Naisinyai could ask for permission from the landowners to graze their animals on farmland in Naisinyai after harvest.

Another challenge facing herders in Naisinyai was the lack of rainfall in recent years, as well as the drying up of rivers as the perceived result of large-scale irrigated farming and mining. Our FGDs and BIs took place in February 2017, at the tail end of a long drought and during a time when the short rains had failed. Thus it was perhaps no surprise that people compared the present unfavourably to years past, when there was enough available pasture in the village to avoid the need for the kind of migration taking place during our fieldwork, when we were told livestock would have to migrate every year between September and March, and even for up to a year when the drought was severe.

“Access to pasture has changed because of the new pressures on land which have restricted viable grazing land. Farms have been established which were previously grazing land. Rainfall is much less reliable now so we are forced to migrate further to find pasture. Rivers which used to run from Arusha to Naisinyai have dried up which has contributed to land degradation. These issues have affected the rules of pasture use.” (BI22, middle-aged polygamously married woman)

“Ten years ago there was more reliable rainfall and so migration would happen less often and involve smaller distances. In the past, pastoralists might only migrate for 3-4 days at a time before returning to their permanent settlements. Now, however, it takes two days just to get to Tilil or four days if the animals are weak. The duration of their stay is completely dependent on the rains and may range from three months to years. Our husbands and sons took the livestock to Tilil in October. Our husbands only stayed for a week to make sure everything was ok and organised but our sons stay for the whole of the migration.” (FGD21, polygamously married second and third wives)

As in Mundarara, various participants in our FGDs and BIs also mentioned an increase in conflicts over pasture use and migration due to climate changes, human population increase and general pasture shortages; most often these seemed to be resolved through discussions between individual families or by the Ilaigwanak, and often publicly in village meetings or through individual negotiations for smaller cases (cf. Shem 2010).

“Pasture is free to access in the village but there are challenges in trying to migrate across the village boundary. Pastoralists in other villages restrict our access to pasture because they claim that the people of Naisinyai sold their land to the mines and so should suffer the consequences.” (FGD21, polygamously married second and third wives)

“Sometimes there are conflicts over migration, then the affected parties just meet and apologise. To reduce conflicts, which have become too much, we now go before migration to speak with a family and negotiate access to pasture. Migration has become very difficult. Before we used to go just over the mountain, but now we have to go very far.” (FGD5, widows)

Conclusions from Naisinyai

Naisinyai village has changed rapidly in the last few decades. As it is the only place in the world where the tanzanite gemstone has been found, mining has expanded dramatically in the Mirerani area since the Tanzanian mining economy took off in the late 1990s. As a result, dense vegetation and pasture have been cleared both for mining itself and for the expansion of settlements, farms and infrastructure.

Mining has clearly contributed positively to the economic and infrastructural development of the local area and some individuals have amassed large amounts of wealth due to mining. However, it has also changed the nature of local pastoralism, as herders now have to migrate much further to access pasture and many people in Naisinyai have to keep their animals in other villages throughout the year. There have also been considerable negative social and environmental consequences of

mining for people in Naisinyai, which in many instances have been borne disproportionately by women.

While gender roles appeared to be slowly changing, and women were increasingly engaged in herding and other cash income-generating activities, women were still generally not able to own land, livestock or other assets and often had to hand over any money they earned to their husbands.

At the same time, mining-related increases in violence, rape and abuse have predominantly affected women, turning their daily chores, such as collecting firewood and herding animals, into very dangerous activities. Also, the small benefits some women have derived from the collection of left-over rubble are more often than not offset by the dangers incurred. While the village government is aware of these problems, it has been largely powerless and many women seemed to feel that the male-dominated society in which they live needs to do more to adequately protect them.

While the MCA perimeter wall that was built after we completed the fieldwork on which this report is based may help to address some of these issues of violence, there seems no doubt that the enclosure of the tanzanite mines in itself poses a significant further threat to the livelihoods of Naisinyai people. More grazing areas were enclosed by the wall than were being mined at the time of our fieldwork, and traditional access routes to key natural resources on the far side of the mines were blocked off. However, it will take some time for the overall balance and full consequences of these very recent developments for the people of Naisinyai and neighbouring communities to be seen.

Overall Conclusions

While Mundarara felt a little more remote and ‘traditional’ than Naisinyai, both villages have undergone similar processes of change in the last decades. Climate change and population growth have contributed to changing pastoralist livelihoods and to increasing land scarcity and livelihood diversification in both villages. Mining activities in both villages started many decades ago but they have substantially increased over the last 10 to 20 years, which has contributed to a more rapid decrease in the availability of pastureland. This has been much more pronounced in Naisinyai, where most of the pasture area has been taken up by mining (at all scales) and the expansion of settlements and farms.

Mining in both villages had brought only few (usually low-paid and precarious) jobs for men, but had contributed to opportunities for general livelihood diversification through a number of mining-related income-generating activities. While the left-over rubble from both medium-scale and small-scale operations tended to be sorted through by both men and women in Mundarara and by women (often widows) and unemployed young men in Naisinyai, any gems found were bought (at low prices) by the (mostly) men who were engaged in trading the minerals, some of whom had become very wealthy as a result. At the same time, in both villages women engaged in sorting through the rubble faced violence and abuse, but this seemed to be much more extreme in Naisinyai.

Women nowadays were not only much more likely to be engaged in various income-generating activities, they were reportedly also much more engaged in herding than in the past in both villages. Yet it appeared that while women’s responsibilities had increased, this change had not yet been accompanied by a major shift in their very low status. In both villages women’s workloads were high but it was very difficult for them to own any land or livestock or other assets or to keep any money they earned from their own work. Further, women did not feel that they had a voice or that their interests were being protected.

Gender stereotypes that inform men’s and women’s roles and responsibilities are difficult to change, but some slow changes were nevertheless visible in both villages. Monogamous marriages and ‘love marriages’ seemed to be increasing and monogamously married couples were more likely to mention that decisions were taken jointly and that women also had their own sources of cash income. Likewise, government quotas for women in the statutory village government institutions have increased women’s representation in decision-making in both villages. Even though it was often mentioned that these women did not have much influence in practice, many women still appreciated having female representatives and wished for more women to be included in decision-making positions. Furthermore, in Naisinyai some women seemed to have been able to at least partly overcome discrimination and engage in trading minerals and the various women’s groups also appeared to provide a platform for women to discuss issues and organise themselves.

Questions about how to support women more within the community came up strongly in both villages during our fieldwork. In Mundarara, educating women and men about land rights, providing leadership training to women, and assisting with group formation to help women gain access to land and livestock were offered as possible solutions, although the enormous time burdens faced by most women remained a key obstacle to be overcome. In Naisinyai, with the existing women’s groups providing an avenue for women to get their voices heard and generate some cash income, more changes like this were seen to be helpful in supporting the village’s sustainable development. In Mundarara other big issues related to the collection of rubble in ruby mining, the general operations of mining companies and possibilities for engaging in small-scale mining under licence, and the protection of customary land use rights and issues around pastureland and migration with livestock. In Naisinyai other big issues likewise related to the activities of big mining companies, small-scale mining under licence, and the protection of customary land use rights.

Both our case studies in Tanzania highlight the need for mining companies to engage more proactively with affected communities and expand their CSR programmes and activities. They also highlight the need for different land user groups (especially pastoralists, crop farmers, mining companies and small-scale miners) to come together with local governments to find solutions for the increasing challenges to pastoralist livelihoods and to address the increasing land scarcity and pastureland degradation that affect the whole community. At the same time, we detected a need for women to be better represented in decision-making positions and to stand together in working with men in their communities to adapt long-standing gendered norms so as to protect and support women and address the difficulties all vulnerable people are facing in these mining-affected communities today.

In both villages, ensuring that all people in the community have a forum where they can meet and discuss land and natural resources in a participatory way would therefore help to address the various issues that came up in our research around gender, land, mining and pastoralism – including men and women, young and old, rich and poor, and with specific support to vulnerable groups to ensure their concerns could be heard, acknowledged and addressed. It also seemed clear from our fieldwork that mining companies and individual miners need to actively work together with the whole community to generate more opportunities for women and vulnerable people and specifically to hold the perpetrators of violence against women to account. The changing situation on the ground in both communities as our fieldwork progressed makes these things all the more urgent to address; mining has continued to boom and since we completed the fieldwork on which our present report has been based, the main settlement areas in Mundarara have expanded and housing quality has visibly improved, while adjusting to the sudden and rapid construction of the MCA perimeter wall has become a most pressing concern for people in Naisinyai.

Within the broader national context, what is needed is the enabling of a more gender-equitable and genuinely local participatory land tenure governance and management of natural resources that allows women and vulnerable people to realise their rights that are afforded by national law and upheld by Tanzania's signature to international instruments. Education and awareness-raising is critical to this if local institutions are to choose to ignore or adapt existing gendered norms and practices that do not currently support gender equality in land and property rights. Yet this challenge arises in a fast-moving national political and economic context in Tanzania, just as much as it does in our two study communities. Much has changed in the country as a whole between the time we started our research and the publication of this report. Climate change and population growth continue apace and the physical degradation of, and conflicts over, the rangelands do not seem to abate. Likewise, the governance framework of the mining sector and the legal framework around land have both come under review within the context of wider changes in governance since the election of President Magufuli. However, processes of review offer scope for renewal and reform, and thus present a moment for ensuring that issues around land, mining and pastoralism in Tanzania are henceforth always considered hand in hand with issues around gender. Our detailed and methodologically rigorous research over the past two and a half years has shed light on some of the intersections between these different themes and demonstrated the value of considering them together – not just in Tanzania, but everywhere.

Annex 1. The WOLTS Project in Tanzania

WOLTS concept

Mokoro's multi-country, practical and action-oriented strategic research project, the WOLTS Project, has three long-term goals:

1. To establish a stronger evidence base on the internal and external threats to women's land tenure security in selected developing countries, especially in the context of LSLAs;
2. To strengthen the capacity of communities, NGOs/CSOs and local governments to protect and secure women's land rights in the face of these threats, contributing to a paradigm shift that sees gender equality and women's rights mainstreamed within community land management, land tenure governance and land rights protection efforts worldwide; and
3. To see tangible improvements in women's land tenure security in the communities and countries reached by the project, and wider sharing and dissemination of the lessons learned and tools developed for a greater and more lasting impact.

Gender, land, pastoralism and mining

WOLTS has initially focused on pastoralist communities in mineral-rich areas of Tanzania and Mongolia, where we are working with our national NGO/CSO partners – HakiMadini, in Tanzania, and People Centered Conservation (PCC), in Mongolia. Together we have been carrying out a two-year pilot study in four communities affected by mining investments that explores gender and land relations in different pastoralist contexts and facilitates the development of a methodology for continuing community engagement. The aim is to develop both generic and context-specific analytical, capacity development and advocacy tools to support gender equity and specifically protect the land rights of the most vulnerable people. To date there have been limited studies of the intersection of gender, land, pastoralism and mining, thus WOLTS aims to contribute to this knowledge gap in a practical and action-oriented way.

Study activities in Tanzania

Activities in Tanzania under the first six phases of the pilot study have included:

1. Inception mission in Dar es Salaam and Arusha in February 2016 to conduct research protocols and initiate document collation and background research (Phase 1).
2. Development of community selection criteria and assessment of likely study sites, incorporating community selection missions between June and October 2016 that involved field visits to five different districts across four different regions (Phase 2).
3. Baseline survey of 10% of households in the two communities selected for the study, in August and October 2016 (Phase 3). (See Annex 2 for details of the methodology.)
4. Participatory fieldwork in the two selected communities in February 2017 (Phase 4). (See Annex 3 for details of the methodology.)
5. Follow-up field visits to both communities between June and August 2017 and a multi-stakeholder workshop in November 2017 to share and validate findings (Phases 5 and 6).
6. Interviews with over 137 key stakeholders in Dar es Salaam, Arusha and local areas between February 2016 and August 2017. (See Annex 4 for a list of all interviewees.)
7. Comprehensive desk-based background research and literature review. (See Annex 5 for a list of all secondary sources consulted.)

Annex 2. Baseline Methodology

Survey objectives

The WOLTS baseline survey had three linked objectives:

1. To develop a basic understanding of the community and local socio-economy.
 - E.g. demographic structure of the community, relative wealth/poverty, main livelihoods and land use, gendered divisions of labour, nature of land tenure arrangements and state of tenure security, scale and importance of involvement in mining and pastoralism etc.
2. To serve as a benchmark on issues around land, gender, pastoralism and mining against which to measure impacts of WOLTS work with the community over time.
 - E.g. types and extent of current land disputes and threats to women's land rights, perceptions of pastoralist tenure security, levels of participation in land governance, perceptions of impacts of mining companies' activities etc.
3. To support the detailed methodological design of subsequent phases of WOLTS research and community engagement, by uncovering key issues needing further exploration.
 - Information from the *questionnaire content* helped inform the research questions for the participatory fieldwork.
 - Information from the *survey administration process* helped inform the research design for the participatory fieldwork, in terms of identifying key 'change-makers', measures needed to support participation, and the participatory methods and tools likely to be most effective.

Survey instrument

A questionnaire consisting of four sections was designed and translated into Kiswahili as follows:

Section A: to gather basic demographic information about all members of the household and people living in the house.

Section B: to gather additional demographic information about marital status, religion, ethnicity and education levels, and socio-economic information about sources of cash income, divisions of labour, household land usage and livelihood activities, location and tenure status of household land and housing, involvement in mining etc.

Section C: to elicit respondent perceptions of key issues around land rights, gender, mining, pastoralism and natural resources, and gather information about land disputes.

Section D: to gather information about household possessions, house structures and access to services and infrastructure (e.g. water, sanitation, transport and electricity).

Sampling strategy and process

The baseline survey was conducted in 10% of households in each community, evenly distributed as 10% of households in each kitongoji within the community. The total number of households was obtained from the Village Executive Officer (VEO) at the start of the survey process. Of the 10% of households surveyed, 80% were randomly sampled, and 20% were additionally targeted female-headed households. The survey was split in this way to boost representation of female-headed households so as to ensure enough data would emerge to support understanding of complex gender issues.

Kitongoji lists were obtained from each VEO and the following method was used to randomly sample households from each list:

- Take each kitongoji household list and count down 9 from the top and number this survey household 1.
- Count up 9 from the bottom and number this survey household 2.
- Go back to household 1 and count down 9 more, so the 18th household from the top of the list becomes survey household 3.
- Go back to household 2 and count up 9 more, so the 18th household from the bottom of the list becomes survey household 4.
- Continue like this until the middle of the kitongoji list is reached, stopping only when there are less than 9 spaces between the last two households chosen.
- Write a list of the chosen households for that kitongoji and work through it in order, carrying out surveys until the required total of households chosen by random list method is complete, skipping households only if the household head and/or other responsible adults in the household refuse to take part or if all household members are away.

In cases where households were unavailable for interview, the survey team continued working through the randomly sampled list, using the extra households chosen during the initial sampling process. In a few cases where a household was absent, the physically nearest neighbour was interviewed in order to save valuable time in travelling the long distance between households in rural Tanzania.

The randomly sampled list for each kitongoji was supplemented with specific targeting of female-headed households, selected through the following method:

- Take each original kitongoji household list to the VEO.
- Indicate which households have already been randomly selected for the baseline survey.
- Inform the VEO of the number of additional female-headed households needed to be added for the sample for each kitongoji, and ask them to indicate (from among all those not yet selected for the survey) the needed number, plus 2 or 3 extra/spare.
- Put their details on a separate list and work through it, carrying out surveys until the required total of female-headed households chosen this way is complete for each kitongoji.

Numbers of households surveyed

196 questionnaires were carried out in Tanzania, of which 160 households (or 82% of the total sample) were generated completely by the random list method and 36 households (or 18% of the total sample) were specifically added to boost representation of female-headed households. The breakdown of sampling numbers in each village is given in the tables below.

Mundarara

Kitongoji/ Village	Total number of households (as at 12 October 2016)	Total number of households surveyed	Randomly sampled households	Additional female- headed households
Olorien	175	18 (10.3%)	14 (77.8% of kitongoji sample)	4 (22.2% of kitongoji sample)
Kitarini	105	11 (10.5%)	9 (81.8% of kitongoji sample)	2 (18.2% of kitongoji sample)
Les Mundarara	104	10 (9.6%)	8 (80% of kitongoji sample)	2 (20% of kitongoji sample)
Olongalu	110	11 (10%)	9 (81.8% of kitongoji sample)	2 (18.2% of kitongoji sample)
Injalai	207	21 (10.1%)	17 (81% of kitongoji sample)	4 (19% of kitongoji sample)
Mundarara	701	71 (10.1% of total)	57 (80.3% of village sample)	14 (19.7% of village sample)

Naisinyai

Kitongoji/ Village	Total number of households (as at 9 August 2016)	Total number of households surveyed	Randomly sampled households	Additional female- headed households
Naisinyai Kati	425	42 (9.9%)	34 (81% of kitongoji sample)	8 (19% of kitongoji sample)
Oloshonyoki	348	36 (10.3%)	29 (80.6% of kitongoji sample)	7 (19.4% of kitongoji sample)
Naepo	470	47 (10%)	40 (85.1% of kitongoji sample)	7 (14.9% of kitongoji sample)
Naisinyai	1,243	125 (10.1% of total)	103 (82.4% of village sample)	22 (17.6% of village sample)

Survey administration process and data entry

The survey was conducted by the same team of two enumerators and one supervisor in both communities. It took place over a period of two weeks in August 2016 in Naisinyai, immediately preceded by two days' intensive training, and over a period of two weeks in October 2016 in Mundarara, following a day of refresher training, with all training led by the WOLTS Researcher. Three guiding principles were adhered to throughout:

1. People's participation in the baseline survey was willing and voluntary.
2. People's information has been treated confidentially. The results have been analysed anonymously and all questionnaires were carried out in a private place.
3. Where possible the questionnaire was carried out with the household head and their spouse if they had one, otherwise with the most responsible adult present. No children were interviewed.

The breakdown of respondents by gender in each village is given in the tables below.

Mundarara

Respondent sex	Respondent relationship to household head	Random sample	Additional female-headed household	Grand Total
Female	Household head	7	14	21
	Spouse	40		40
	Son/daughter	2		2
	Total	49	14	63
Male	Household head	8		8
	Total	8		8
Grand total		57	14	71

Naisinyai

Respondent sex	Respondent relationship to household head	Random sample	Additional female-headed household	Grand Total
Female	Household head	4	20	24
	Spouse	49		49
	Son/daughter	2	1	3
	Son/daughter in law	1		1
	Grandchild	1		1
	Total	57	21	78
Male	Household head	45		45
	Spouse	1		1
	Grandchild		1	1
	Total	46	1	47
Grand total		103	22	125

All questionnaire data were checked in the field and then entered into a Microsoft Excel workbook ready for analysis once the survey was complete. Spot checks of data entry were subsequently carried out on approximately 20% of questionnaires by other team members who had neither conducted questionnaires themselves nor done any of the original data entry.

Photographs, where taken, were always with the explicit permission of the respondents.

Annex 3. Participatory Fieldwork Methodology

Participatory fieldwork objectives

The participatory fieldwork was designed to build on the baseline findings and explore them in more depth. In particular, the baseline enabled identification of key issues in each community meriting further research, and of some key social groups (and in some cases specific individuals) whom it would be productive to include as participants in the next round of research. The two key objectives of the participatory fieldwork were as follows:

1. To develop more detailed and nuanced understanding of the community, local socio-economy, and of key local issues around land, gender, pastoralism and mining.
2. To create and facilitate a safe space for community members to start raising and identifying possible solutions to the land and natural resource related issues, problems and threats that affect them, including issues for the tenure security of women and vulnerable groups.

Methods, tools and exercises used

The participatory fieldwork was carried out using a mixture of focus group discussions and one-to-one biographic interviews. Both methods allowed plenty of opportunity for spontaneous discussion.

All the focus group sessions included structured discussions about natural resources and mining. The team also utilised five different tools and exercises during the focus group discussions, with the specific mix of tools and exercises varied for the different targeted groups. The five tools and exercises were as follows:

1. Natural resource mapping
2. Migration mapping
3. Proportional piling of tenure types tool
4. Stakeholders/institutions analysis exercise
5. Seasonal labour analysis exercise

All the biographic interviews followed the same structured question guide, with questions organised to elicit information on three broad themes: childhood and changing access to land; current livelihoods; and women's access to land. However, there was much free-ranging discussion in all these interviews, and the emphasis of the questioning varied according to the responses of participants and their particular life situation.

Focus group discussions

A total of 80 people in Mundarara and 102 people in Naisinyai participated in 13 focus group discussions with specific groups in each village as follows:

Mundarara

Code	Type of participants	Kitongoji
FGD1	Local leaders including Village Executive Officer, Village Chair and vitongoji chairs	All
FGD7	Maasai Council members (Legwanak)	All
FGD8	Monogamously married women	Les Mundarara
FGD9	Widows	Injalai
FGD10	Men engaged in any sort of mining	Injalai
FGD11	Men and women members of the Village Land Council	All

Code	Type of participants	Kitongoji
FGD12	Monogamously married men	Les Mundarara
FGD13	Polygamously married women who are second, third etc. wives but not first wives	Kitarini
FGD14	Polygamously married men (including at least two who claim to have exclusive rights to some areas of grazing land)	Kitarini
FGD15	Young unmarried men	Olongelu
FGD16	Polygamously married women who are first wives	Olongelu
FGD17	Men engaged in any sort of mining	Olorien
FGD18	Young unmarried women with a mix of different education levels	Olorien

Naisinyai

Code	Type of participants	Kitongoji
FGD2	Local leaders including Village Executive Officer, Village Chair and vitongoji chairs	All
FGD3	Maasai Council members (Legwanak)	All
FGD4	Monogamously married women	Naisinyai Kati
FGD5	Widows	Oloshonyoki
FGD6	Men engaged in any sort of mining	Oloshonyoki
FGD19	Men and women members of the Village Land Council	Naisinyai Kati
FGD20	Monogamously married men	Naisinyai Kati
FGD21	Polygamously married women who are second, third etc. wives but not first wives	Naepo
FGD22	Polygamously married men (including at least two who claim to have exclusive rights to some areas of grazing land)	Naepo
FGD23	Young unmarried men	Oloshonyoki
FGD24	Polygamously married women who are first wives	Oloshonyoki
FGD25	Men engaged in any sort of mining	Naepo
FGD26	Young unmarried women with a mix of different education levels	Naepo

Biographic Interviews

Twelve biographic interviews with targeted individuals were conducted in each village as follows:

Mundarara

Code	Type of interviewee	Kitongoji
BI5	Polygamously married man who has regular employment in a mining company	Les Mundarara
BI6	Female household head who owns a small-scale artisanal mining enterprise	Les Mundarara
BI7	Male herder whose household has over 1000 livestock and employs herding assistants	Injalai
BI8	Polygamously married widow who moved to Mundarara for marriage and is not Maasai and whose main source of cash income is herding	Injalai
BI9	Recently married young man who moved to Mundarara specifically for mining work	Les Mundarara
BI10	Monogamously married woman whose main source of household income is from selling crops	Les Mundarara
BI11	Married male herder who moved to Mundarara for marriage and is not Maasai and who regularly migrates for livestock grazing	Kitarini
BI12	Married woman whose household's main source of cash income is from mining	Kitarini
BI13	Young-middle aged divorced or separated female household head whose main household livelihood is non-herding (i.e. from farming, mining or other source)	Olongelu
BI14	Male household head born in the village whose household owns at least 20ha of land for crop farming and with exclusive rights to grazing on that land	Olongelu
BI15	Married man born in the village who owns a small-scale artisanal mining enterprise	Olorien
BI16	Elderly married woman born in the village and from a household containing a disabled person, who sends livestock to be grazed by other people	Olorien

Naisinyai

Code	Type of interviewee	Kitongoji
BI1	Polygamously married man who has regular employment in a mining company	Naisinyai Kati
BI2	Polygamously married woman who was a second wife	Naisinyai Kati
BI3	Male household head whose household has over 1000 livestock and employs herding assistants	Oloshonyoki
BI4	Monogamously married woman whose household's main source of cash income is mining	Oloshonyoki
BI17	Unmarried single man	Naisinyai Kati
BI18	Female household head whose main source of household income is from selling crops	Naisinyai Kati
BI19	Married man born in the village who owns a small-scale artisanal mining enterprise	Naepo
BI20	Elderly widowed woman born in the village, who sends livestock to be grazed by other people	Naepo
BI21	Married male herder who moved to Naisinyai for marriage and is not Maasai and who regularly migrates for livestock grazing	Oloshonyoki
BI22	Polygamously married woman who moved to Naisinyai for marriage and is not Maasai and whose main source of cash income is herding	Oloshonyoki
BI23	Young-middle aged widowed female household head whose main household livelihood is non-herding (i.e. from farming, mining or other source)	Naepo
BI24	Male household head born in the village whose household owns 8ha of land for crop farming and with exclusive rights to grazing on that land	Naepo

Participatory fieldwork process and documentation

The participatory fieldwork was conducted by a field team of the same five people in both communities, alternating on different days so that they always worked as two pairs. It took place over a period of three weeks in February 2017 that included two days' intensive training led by the WOLTS Team Leader. The team was assisted by the village leaders in both communities in inviting the targeted participants to the different sessions. Most focus group discussions took place outside in open public spaces. However, wherever possible the biographic interviews took place in participants' bomas. Two guiding principles were adhered to throughout:

1. People's participation in the participatory fieldwork was willing and voluntary.
2. People's information has been treated confidentially. The results have been analysed anonymously and participants were assured that their names would not be used and their contributions would not be directly attributable to them.

In each focus group discussion and each biographic interview there was a nominated lead facilitator and a nominated note-taker. The note-taker was responsible for typing up and recording all documentation for the session at the end of the fieldwork period, which was then reviewed by the lead facilitator, ready for analysis. Photographs, where taken, were always with the explicit permission of the participants.

Annex 4. Key Stakeholder Interviews

Interview Date	Interviewees: Name, Position and Organisation
Stakeholders in Dar es Salaam	
10 Feb 2016	Mr Bariki Kiriba – Land Administration Manager – Tanzania Investment Centre (TIC) Mr I. L. Ndemela – TIC
10 Feb 2016	Ms Naseku Kisambu – Programme Manager – Tanzania Women Lawyers Association (TAWLA)
10 Feb 2016	Ms Mehjabeen Alarakhia – Programme Coordinator – UN Women Tanzania Ms Margaret – Focal Point for Land Issues – UN Women Tanzania
10 Feb 2016	Mr Mabiki – Director of Policy and Planning – Ministry of Energy and Minerals (MEM) Mr Mganga – Assistant Director for Monitoring and Evaluation – MEM
11 Feb 2016	Mr Giles D’Souza – Technical Advisor and Team Leader – Land Tenure Support Programme (LTSP), Ministry of Land, Housing and Human Settlements Development (MLHSD) Mrs Jane D’Souza – LTSP, Ministry of Land Ms Rose Senga – Gender and Social Consultant – LTSP, MLHSD Mr Godfrey Machabe – Programme Coordinator – LTSP, MLHSD
11 Feb 2016	Ms Catherine Jerome – Deputy Executive Director – Envirocare
11 Feb 2016	Mrs Mary Rusimbi – Executive Director – Women Fund Tanzania (WFT) Ms Philomena Modu – WFT
11 Feb 2016	Ms Youjin Chung – PhD Researcher – Cornell University
11 Feb 2016	Ms Theodosia Nshala – Executive Director – The Women’s Legal Aid Centre (WLAC) Ms Grace Daffa – Women’s Property Rights Programme Officer – WLAC
12 Feb 2016	Prof Marjorie Mbilinyi – University of Dar es Salaam
12 Feb 2016	Mr Peter Kingu – Assistant Director of Planning – Department of Policy and Planning, Ministry of Livestock and Fisheries Mr Abel Anton – Statistician – Ministry of Livestock and Fisheries Ms Nsiande Raymond – Economist and Gender Focal Point – Ministry of Livestock and Fisheries Mr Richard – Ministry of Livestock and Fisheries
12 Feb 2016	Mr Gungu Mibavu – Assistant Director for Policy and Planning – Ministry of Agriculture, Food Security and Cooperatives Dr Hango – Ministry of Agriculture, Food Security and Cooperatives
12 Feb 2016	Mr John Mboya – Assistant Director for Investment – Prime Minister’s Office Tumaini Mrema – Coordinator – Prime Minister’s Office Mr Ruta Octavian John – Economist – Prime Minister’s Office
15 Feb 2016	Mr Tenge Tenge – Public Relations and Communication Manager – Geita Gold Mining
17 Feb 2016	Mr Immanuel Mnzava – Marketing Manager – National Ranching Company (NARCO)
18 Feb 2016	Mr Giles D’Souza – Technical Advisor and Team Leader – LTSP, MLHSD + LTSP Team
02 Mar 2016	Ms Paine Marko – Gender Coordinator – UCRT
11 Mar 2016	Ms Mary Ndaro – Program Coordinator Land Rights / Ardhi Yetu Program – CARE International Tanzania
06 Jun 2016	Mr Idrisa Kayara – Acting Assistant Commissioner for Urban Issues – MLHSD Mr Christopher Mwamasage – Principal Land Officer – MLHSD
06 Jun 2016	Mr Yefred E. Myenzi – Executive Director – HakiArdhi
06 Jun 2016	Dr Nshala – Executive Director – Lawyers’ Environmental Action Team (LEAT)
06 Jun 2016	Mr Alex Mangowi – Private Sector Development Advisor – DFID Tanzania
06 Jun 2016	Ms Yuliya Neyman – Land Governance and Legal Advisor – USAID
06 Jun 2016	Mrs Mary Rusimbi – Executive Director – WFT

Interview Date	Interviewees: Name, Position and Organisation
14 Jun 2016	Mr Timothy Mgonja – Ministry of Health, Community Development, Gender, Elderly and Children
02 Feb 2017	Mr Idrisa Kayara – Acting Assistant Commissioner for Urban Issues – MLHSD Mr Adam P. Nyaruhuma – Head of Land Investment Unit – MLHSD Ms Rachel W. Kilasi – Legal Officer – MLHSD
02 Feb 2017	Mr Ali Samaje – Minerals Commissioner – MEM
03 Feb 2017	Mr Suleiman Dabbas – Senior Technical Advisor – LTSP, MLHSD Mr Godfrey Machabe – Programme Coordinator – LTSP, MLHSD Ms Rose Senge – Gender and Social Consultant – LTSP, MLHSD
03 Feb 2017	Mr Julius Mbilinyi – Acting Director of Gender Development – Ministry of Health, Community Development, Gender, Elderly and Children
03 Feb 2017	Ms Naomi Shadrack – Women Economic Leadership Advisor – Oxfam Tanzania
Stakeholders in Arusha town	
08 Feb 2016	Ms Cara Scott – Portfolio Manager – Maliasili Initiatives
08 Feb 2016	Mr Yangalai Ole Mkulago – Pastoralism Programme Officer – Oxfam Tanzania
08 Feb 2016	Mr Moez Dalal – Finance and Administration Manager – Ujamaa Community Resource Team (UCRT) Mr Edward Lekaita – Legal Advisor/Head of Advocacy and Programme Coordinator – UCRT Ms Lillian Mono – Programme Manager – UCRT
08 Feb 2016	Ms Ruth Kihui – Pastoralism Programme Officer – Pastoral Women’s Council (PWC) Mr Timothy Ole Yaile – Programme Manager – PWC
09 Feb 2016	Mr Essau Losioki – Finance Officer – Community Research and Development Services (CORDS) Mrs Seela Sainyeye – CORDS Mrs Martha – CORDS
09 Feb 2016	Mr Godfrey Massay – Land Based Investments Programme Coordinator – Tanzania Natural Resource Forum (TNRF)
09 Feb 2016	Mr Edward Porokwa – Executive Director – Pastoralists Indigenous Non Governmental Organizations’ (PINGO’s) Forum Mr Isaya Naini Olesaibulu – Director of Programmes – PINGO’s Forum
01 Jun 2016	Mr Henry Mditu – Resident Mines Officer – Mirerani Sub-Office, Arusha Zonal Office, MEM
26 Aug 2016	Ms Lilian Looloitai – Executive Director – CORDS
10 Oct 2016	Ms Zinabu Mrisho – Acting Assistant Commissioner – Arusha Zonal Office, MEM
11 Oct 2016	Ms Zinabu Mrisho – Acting Assistant Commissioner – Arusha Zonal Office, MEM
20 Oct 2016	Mining Commissioner – Arusha Zonal Office, MEM Mr Adam Rashidi – Arusha Zonal Office, MEM
20 Oct 2016	Ms Ruth Kihui – Pastoralism Programme Officer – PWC
Stakeholders in Moshi town	
26 Aug 2016	Mr Richard – Zonal Land Officer – Moshi Zonal Office, MLHSD
Stakeholders in Simanjiro District, Manyara Region	
31 May 2016	Mr Lucas Mweri – District Executive Director (DED) – Simanjiro District Mr Zuweni Omari – District Administrative Secretary (DAS) – Simanjiro District Mr Juma Haji Juma – District Planning Officer – Simanjiro District Mr Joseph Sabore – District Community Development Officer (DCDO) – Simanjiro District Dr S. Masaza – District Livestock Officer – Simanjiro District Mr Losioky Cloudy – District Agriculture, Irrigation and Cooperatives Officer – Simanjiro District Mr John Palangyo – District Land Development Officer (DLDO) – Simanjiro District
01 Jun 2016	Mr Taiko Kurian Laizer – Village Chair, Naisinyai Village Mr Godbless Filex Mollel – Village Executive Officer (VEO), Naisinyai Village

Interview Date	Interviewees: Name, Position and Organisation
22 Aug 2016	Mr Godfrey Mkumbo – VEO – Nadonjokin Village Mr Hussein Mashika – Secretary – Manyara Regional Mining Association, Lemshuko Branch
23 Aug 2016	Ms Shangwe Jeremiah – VEO – Komolo Village Mr Saning’o Kipoon Somi – Village Chair – Komolo Village Bayo – Komolo Villager
24 Aug 2016	Secretary – Manyara Regional Mining Association, Mirerani Town Mrs Rosa – Small-Scale Mining Company Owner, Mirerani Town
20 Oct 2016	Mr Dennis Mrengo – Assistant Mining Officer – Mirerani Sub-Office, Arusha Zonal Office, MEM
02 Feb 2017	Mr Yefred E. Myenzi – DED – Simanjiro District DLDO – Simanjiro District
30 Jul 2017	Mr Yefred E. Myenzi – DED – Simanjiro District DAS – Simanjiro District
02 Aug 2017	Mr Clement – Security and Environment Officer – Tanzanite One Mr Moses – Community Liaison Officer – Tanzanite One Mr Robert Grafen Greansy – Managing Director – Tanzanite One
Stakeholders in Longido District, Arusha Region	
06 Sep 2016	Mr Dennis Silayo – Assistant Community Development Officer (ACDO) – Longido District
14 Sep 2016	Mrs Joan Foya – District Planning Officer – Longido District Mr Christopher Ntulo – DLDO – Longido District Mr Hillary Sandagila – District Lands Planner – Longido District Mr Yohana Moyaseki – VEO – Mundarara Village
5 Oct 2016	Mr Daniel Chongolo – District Commissioner (DC) – Longido District
11 Oct 2016	Mr Daniel Chongolo – DC – Longido District Mr Montera – DED – Longido District Ms Betty Majera – ACDO – Longido District Mr Lotta Ole Jacob – DCDO – Longido District Mr Yohana Moyaseki – VEO – Mundarara Village Ms Naishiye Mollel – Ward Executive Officer (WEO) – Mundarara Ward
12 Oct 2016	Mr Yohana Moyaseki – VEO – Mundarara Village Ms Naishiye Mollel – WEO – Mundarara Ward Lekin Ole Pime – Representative – Kitarini Kitongoji Mr Sembui Milya – Representative – Injalai Kitongoji Mr Mika Mnumu – Representative – Olorien Kitongoji Mr Aquilino P. Nyike – Village Chair – Mundarara Village Lotti Laizer – Livestock Officer – Mundarara Ward
19 Oct 2016	Mr Benjamin Maiga – Engineer / Geologist – Mundarara Ruby Mining Company
31 Jan 2017	Mr Raymond Mushi – DCDO – Longido District Mr Dennis Silayo – ACDO – Longido District Ms Betty Majera – ACDO – Longido District
09 Feb 2017	DLDO – Longido District Mr Dominik Ruhamvya – DED – Longido District
27 Jul 2017	DED – Longido District
28 Jul 2017	Mr Rahim – Director – Mundarara Ruby Mining Company Mr Perfect Kyara – Mining Manager – Mundarara Ruby Mining Company

Interview Date	Interviewees: Name, Position and Organisation
Stakeholders in Shinyanga Rural District, Shinyanga Region, and Shinyanga town	
02 Jun 2016	Eng Hamisi Kamando – Shinyanga Zonal Office, MEM Mr Ndemi Tuma Nkingwa – Shinyanga Zonal Office, MEM Mr Rama Muhode – Shinyanga Zonal Office, MEM
04 Jun 2016	Mr Simba Gapasita – Ward Councillor – Mwakitolyo Ward Mr Jeremiah Rusangia Budoye – VEO – Nyaligongo Village Mr Nukishomi – Village Chair – Mwakitolyo Village Mr Ezekiel Deus – VEO – Kitongwa Village Mr Matemla Michael – Ward Agricultural Officer – Mwakitolyo Ward Mr Joshua Tunge – Village Chair – Nyaligongo Village Mr Mussa Gongo – ACDO – Mwakitolyo Ward
11 Aug 2016	Mr Julius Mlongo – DED – Shinyanga Rural District District Natural Resources Officer – Shinyanga Rural District Mr Kisangule – DCDO – Shinyanga Rural District Mr Joram Magana – ACDO (Coordinator of NGOs/CSOs) – Shinyanga Rural District Ms Josephine Matiro – DC – Shinyanga Rural District
12 Aug 2016	Ms Josephine Matiro – DC – Shinyanga Rural District Eng Hamisi Kamando – Shinyanga Zonal Office, MEM Mr Ndemi Tuma Nkingwa – Shinyanga Zonal Office, MEM Mr Rama Muhode – Shinyanga Zonal Office, MEM
16 Aug 2016	Mr Julius Mlongo – DED – Shinyanga Rural District
17 Aug 2016	DAS – Shinyanga Rural District Regional Administrative Secretary – Shinyanga Region
Stakeholders in Kahama District, Shinyanga Region	
03 Jun 2016	Mr Sabai Nyansiri – Mining Sub-Officer and Acting Resident Mines Officer – Kahama Sub-Office, Shinyanga Zonal Office, MEM Mr Francis Mihayo – Geologist – Kahama Sub-Office, Shinyanga Zonal Office, MEM Ms Lucy Kashindye Msalaba – Assistant Land Officer – Msalala District Council Mr Sylvester Nkeyemba – Town Planner – Msalala District Council Mr Frances Mlay – Livestock Field Officer – Msalala District Council Dr Ntanwa Kilangwile – District Veterinary Officer – Msalala District Council Ms Mary Nziku – Deputy DED – Msalala District Council Mr Lusajo Manase Mwambogo – WEO – Lunguya Ward
Stakeholders in Nzega District, Tabora Region	
13 Aug 2016	Primary School Teacher – Mwabangu Village Mr Jacob Matlinya – DED – Nzega District District Planning Officer – Nzega District Mr Dolo Kapela – Village Chair – Mwabangu Village Mr Matias Ngala Ngomba – Mining Representative / Leader – Mwabangu Village Mayla Masanga – Mining Representative / Leader – Mwabangu Village Kashinge Oringa – Mining Representative / Leader – Mwabangu Village VEO – Mwabangu Village VEO – Nata Village
Stakeholders interviewed by telephone	
10 Mar 2016	Ms Catherine Mulaga – MIICO Projects Officer

Annex 5. Bibliography of References and Sources

Short reference	Long reference
Acacia Mining plc 2015	Acacia Mining plc (2015). <i>Acacia Mining plc total economic and tax contributions in Tanzania, 2014</i> . London, UK: Acacia Mining plc.
Acosta et al 2016	Acosta, M., Ampaire, E., Okolo, W., Twyman, J. & L. Jassogne (2016). <i>Climate Change Adaptation in Agriculture and Natural Resource Management in Tanzania: A Gender Policy Review</i> . CCAFS Info Note. Nov 2016. Copenhagen, Denmark: CGIAR Research Program on Climate Change, Agriculture and Food Security.
ActionAid 2009	ActionAid (2009). <i>Implications of Biofuels Production on Food Security in Tanzania</i> . Dar es Salaam, Tanzania: ActionAid International Tanzania.
ActionAid 2015	ActionAid (2015). <i>Take Action: Stop EcoEnergy's Land Grab in Bagamoyo, Tanzania</i> . Mar 2015. Johannesburg, South Africa: ActionAid.
Alden Wily 2006	Alden Wily, E. (2006). <i>Land Rights Reform and Governance in Africa: How to make it in the 21st century</i> . Discussion Paper. UNDP.
Alden Wily 2011	Alden Wily, L. (2011). <i>Village Land Use Planning in Kigoma and Mpanda Districts, Tanzania. Is it working for community rights and conservation? An assessment of village land use planning in the Gombe-Masito-Ugalla Programme</i> . Jane Goodall Institute.
Anderson 1984	Anderson, D. (1984). 'Depression, Dust Bowl, Demography, and Drought: The Colonial State and Soil Conservation in East Africa During the 1930s.' <i>African Affairs</i> . Vol.83, No.332, July 1984, pp.321-343.
Anyimadu 2016	Anyimadu, A. (2016). <i>Politics and Development in Tanzania: Shifting the Status Quo</i> . Africa Programme Research Paper. Mar 2016. London, UK: Chatham House, the Royal Institute of International Affairs.
Askew et al 2013	Askew, K., Maganga, F. & R. Odgaard (2013). 'Of Land and Legitimacy: A Tale of Two Lawsuits.' <i>Africa</i> . Vol.83. No.1. pp.120-141.
AU 2011	African Union (AU) (2011). <i>Nairobi Action Plan on large scale land-based investments in Africa</i> . Nairobi, Kenya: AU. 5 Oct 2011.
AU/AfDB/UNECA 2010	AU, African Development Bank (AfDB) & United Nations Economic Commission for Africa (UNECA) (2010). <i>Framework and Guidelines on Land Policy in Africa</i> . Addis Ababa, Ethiopia: AU/AfDB/UNECA.
BBC News 2017	BBC News (2017). 'Maasai displaced after huts burned in Tanzania.' <i>BBC News</i> . Webpage. 16 Aug 2017. http://www.bbc.co.uk/news/world-africa-40950383 (last accessed 27 Feb 2018)
Behrman et al 2013	Behrman, J., Billings, L. & A. Peterman (2013). <i>Evaluation of Grassroots Community-Based Legal Aid in Uganda and Tanzania: Strengthening Women's Legal Knowledge and Land Rights</i> . CAPRI Working Paper No.108. Jan 2013. Washington D.C., USA: International Food Policy Research Institute. http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/127539 (last accessed 11 Apr 2018)
Berger 2016	Berger, T. (2016). <i>Enhancing women's role in land management decisions</i> . IIED Blogpost. 24 Mar 2016. https://www.iied.org/enhancing-womens-role-land-management-decisions (last accessed 27 Feb 2018)
Bergius 2015	Bergius, M. (2015). <i>Irresponsible Investment – Agric's Broken Development Model in Tanzania</i> . Oakland, USA: The Oakland Institute, Greenpeace Africa & Global Justice Now.
Billings et al 2014	Billings, L., Meinzen-Dick, R. & V. Mueller (2014). <i>Implications of Community-based Legal Aid Regulation on Women's Land Rights</i> . IFPRI Research Brief No.20. May 2014. Washington D.C., USA: International Food Policy Research Institute. http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/128173 (last accessed 11 Apr 2018)
Boone & Nyeme 2015	Boone, C. & L. Nyeme (2015). 'Land Institutions and Political Ethnicity in Africa: Evidence from Tanzania.' <i>Journal of Comparative Politics</i> . Vol.48. No.1. October 2015.
Breakthrough Attorneys 2017	Breakthrough Attorneys (2017). <i>The Government of Tanzania Bans Transportation of Minerals Direct from Mine Sites and Notable Legal Issues</i> . Breakthrough Attorneys Webpage. 19 Jun 2017. http://breakthroughattorneys.com/government-tanzania-bans-transportation-minerals-direct-mine-sites-notable-legal-issues/ (last accessed 26 Apr 2018)
Brüntrup et al 2016	Brüntrup, M., Absmayr, T., Dylla, J., Eckhard, F., Remke, K. & K. Sternisko (2016). <i>Large-scale agricultural investments and rural development in Tanzania: lessons learned, steering requirements and policy responses</i> . Paper prepared for presentation at the '2016 World Bank Conference on Land and Poverty', The World Bank, Washington D.C., USA, 14-18 Mar 2016.

Short reference	Long reference
Bryceson & Geenen 2016	Bryceson, D. & S. Geenen (2016). 'Artisanal Frontier Mining of Gold in Africa: Labour Transformation in Tanzania and the Democratic Republic of the Congo'. <i>African Affairs</i> . Vol.115. No.459. pp.296-317.
CARE et al 2016	CARE, Help, Oxfam, Mkakati Action, Hakiardhi, Ekama Development Tanzania, Tanzania Natural Resource Forum, Pingo's Forum and Ujamaa Community Resource Team (2016). <i>CSOs statement on the amending process of the National Land Policy in Tanzania</i> . 13 Oct 2016. http://www.landcoalition.org/en/regions/africa/news/csos-statement-amending-process-national-land-policy-tanzania (last accessed 13 Apr 2018)
Chachage 2010	Chachage, C. (2010). <i>Land Acquisition and Accumulation in Tanzania. The Case of Morogoro, Iringa and Pwani Regions</i> . Oct 2010. Tanzania: Pelum Tanzania.
Chachage no date	Chachage, C. (no date). <i>Land Grabs-Cum-Acquisitions. The Case of Tanzania Mainland in the Neo-Liberal Era</i> . Powerpoint presentation.
Chavkin & Ullman 2016	Chavkin, S. & D. Ullman (2016). 'World Bank allows Tanzania to sidestep rule protecting indigenous groups'. <i>Huffington Post</i> . 20 May 2016. http://www.huffingtonpost.co.uk/entry/world-bank-allows-tanzania-to-sidestep-rule-protecting-indigenous-groups_us_57607769e4b09c926cfd6b1c (last accessed 11 Apr 2018)
Chung 2017	Chung, Y. B. (2017). 'Engendering the New Enclosures: Development, Involuntary Resettlement and the Struggles for Social Reproduction in Coastal Tanzania.' <i>Development and Change</i> . Vol.48, No.1, pp.98-120.
CIA 2018	Central Intelligence Agency (CIA) (2018). <i>The World Factbook – Tanzania Country Page</i> . Webpage. https://www.cia.gov/library/publications/the-world-factbook/geos/tz.html (last accessed 27 Feb 2018)
Citizen 2016	Citizen, The (2016). 'Tanzania: State – Project Axed to Save Wildlife.' <i>The Citizen</i> . 20 May 2016. http://www.thecitizen.co.tz/News/-/1840340/3211626/-/19frnn/-/index.html (last accessed 11 Apr 2018)
Citizen 2017a	Citizen, The (2017a). 'PM orders probe into tanzanite.' <i>The Citizen</i> . 1 Mar 2017. http://www.thecitizen.co.tz/News/PM-orders-probe-into-tanzanite/1840340-3831976-np9yb7/index.html (last accessed 27 Feb 2018)
Citizen 2017b	Citizen, The (2017b). 'Killing in Mirerani: Tanzania closes Tanzanite One Mining, Rock Venture.' <i>The Citizen</i> . 31 Jul 2017. http://www.azaniapost.com/agenda/killing-in-mirerani-tanzania-closes-tanzaniteone-mining-rock-venture-h5447.html (last accessed 17 May 2018)
Collins & Mitchell 2017	Collins, A. & M. Mitchell (2017). 'Revisiting the World Bank's land law reform agenda in Africa: the promise and perils of customary practices.' <i>Journal of Agrarian Change</i> . 2017. pp.1-20.
Coulson 1982	Coulson, A. (1982). <i>Tanzania. A Political Economy</i> . Oxford, UK: Clarendon Press.
Country Economy 2018	Country Economy (2018). <i>Tanzania – life expectancy at birth</i> . Webpage: https://countryeconomy.com/demography/life-expectancy/tanzania (last accessed 9 Apr 2018)
CPAR & U of M Students 2011	CPAR & U of M Students (2011). <i>Small-Scale Gold Mining in Bunda</i> . 1 Jul 2011. https://experienceruraltanzania.wordpress.com/2011/07/01/small-scale-gold-mining-in-bunda/ (last accessed 17 Apr 2018)
Daems 2016	Daems, E. (2016). 'Tanzania allows Maasai land to be stolen under the guise of development'. <i>Mondiaal Nieuws</i> . 8 Dec 2016. https://www.mo.be/en/reportage/tanzania-allows-maasai-land-be-stolen-under-guise-development (last accessed 11 Apr 2018)
Daily News 2016	Daily News, The (2016). 'Councils Directed to Set Funds for 'Own Land Use'.' <i>The Daily News</i> . 26 Dec 2016.
Daley 2004	Daley, E. (2004). <i>Land Tenure and Social Change in Tanzania: A Case Study of Kinyambo Village, Mufindi District</i> . PhD Dissertation. London, UK: University of London.
Daley 2005	Daley, E. (2005). 'Land and Social Change in a Tanzanian Village 2: Kinyambo in the 1990s.' <i>Journal of Agrarian Change</i> . Vol.5. No.4. pp.526-572.
Daley 2011	Daley, E. (2011). <i>Gendered Impacts of Commercial Pressures on Land</i> . Rome, Italy: ILC.
Daley & Pallas 2013	Daley, E. & S. Pallas (2013). 'Women and Land Deals in Africa and Asia: Weighing the Implications and Changing the Game.' <i>Feminist Economics</i> . 2013.
Daley & Park 2012	Daley, E. & C. M. Park (2012). <i>The Gender and Equity Implications of Land-Related Investments on Land Access and Labour and Income-Generating Opportunities: A Case Study of Selected Agricultural Investments in Northern Tanzania</i> . Rome, Italy: FAO.

Short reference	Long reference
Daley & Scott 2011	Daley, E. & S. Scott (2011). <i>Understanding Land Investment Deals in Africa – Tanzania Case Study Report</i> . Unpublished report prepared for the Oakland Institute. 29 March 2011.
Daley et al 2017	Daley, E., Kisambu, N. & F. Flintan (2017). <i>Rangelands: Securing Pastoral Women's Land Rights in Tanzania</i> . Rangelands Research Report. Nairobi, Kenya: International Livestock Research Institute (ILRI). http://www.celep.info/wp-content/uploads/2017/12/2017-ILC-rangeland-pastoral-women-tanzania.pdf (last accessed 26 Apr 2018)
Dancer 2014	Dancer, H. (2014). <i>Lessons for the New Alliance and Land Transparency Initiative: Gender Impacts of Tanzania's Land Investment Policy</i> . <i>Future Agricultures Policy Brief</i> 67. Mar 2014. Brighton, UK: IDS.
Dirlam et al 1992	Dirlam, D., Misiorowski, E., Tozer, R., Stark, K. & A. Bassett (1992). 'Gem Wealth of Tanzania.' <i>Gems & Gemology</i> . Summer 1992. Vol.28. No.2. pp.80-102.
Domasa 2016	Domasa, S. (2016). 'Village Land Purchases Banned.' <i>Tanzania Daily News</i> . 29 Aug 2016. http://allafrica.com/stories/201608290076.html (last accessed 22 May 2018)
EARC 1955	East Africa Royal Commission (EARC) (1955). <i>East Africa Royal Commission 1953-1955 Report</i> . London, UK: HMSO, Cmd 9475.
East African Business Week 2015	East African Business Week (2015). 'Tanzania offers 60,000 hectares for sugar.' <i>East African Business Week</i> . 7 Oct 2015.
Economist 2015	Economist, The (2015). 'African demography. The young continent.' <i>The Economist</i> . 12 Oct 2015.
Economist 2016a	Economist, The (2016a). 'Jobs in Africa. In praise of small miners.' <i>The Economist</i> . 7 May 2016.
Economist 2016b	Economist, The (2016b). 'City slickers on the farm. Africa's real land grab.' <i>The Economist</i> . 23 Jul 2016.
Economist 2017a	Economist, The (2017a). 'Gold mining in Africa. Golden handcuffs.' <i>The Economist</i> . 17 Jun 2017.
Economist 2017b	Economist, The (2017b). 'Tanzania's descent into autocracy. The dinosaur of Dodoma.' <i>The Economist</i> . 21 Oct 2017.
EITI 2015	Extractive Industries Transparency Initiative (EITI) (2015). <i>6th Report of the Tanzania Extractive Industries Transparency Initiative for the Year Ended 30 June 2014</i> . Nov 2015. Dar es Salaam, Tanzania: EITI https://eiti.org/sites/default/files/documents/fy2013-2014_tanzania_eiti_report.pdf (last accessed 24 Apr 2018)
EITI 2017a	EITI (2017a). <i>Tanzania Extractive Industries Transparency Initiative for the Period July 1, 2014 to June 30, 2015</i> . Jun 2017. Dar es Salaam, Tanzania: EITI. https://eiti.org/sites/default/files/documents/2014-2015_tanzania_eiti_report.pdf (last accessed 24 Apr 2018)
EITI 2017b	EITI (2017b). <i>Validation of Tanzania 2017 – Documentation</i> . EITI Webpage. https://eiti.org/document/validation-of-tanzania-2017-documentation (last accessed 24 Apr 2018)
Englert & Daley 2008	Englert, B. & E. Daley (2008). 'Introduction: women's land rights and privatization.' In Englert, B. & E. Daley (eds.), <i>Women's Land Rights & Privatization in Eastern Africa</i> . London, UK: James Currey.
Evans 2015	Evans, R. (2015). 'HIV-related stigma, asset inheritance and chronic poverty: Vulnerability and resilience of widows and caregiving children and youth in Tanzania and Uganda.' <i>Progress in Development Studies</i> . Vol.15. No.4. pp.326-342.
FAO 2012	Food and Agriculture Organization of the United Nations (FAO) (2012). <i>Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security</i> . Rome, Italy: FAO. May 2012.
Felister 2016	Felister, P. (2016). 'Government to seize acres of land under new proposal.' <i>The Guardian</i> . 19 Feb 2016. https://www.ippmedia.com/en/news/govt-seize-acres-land-under-new-proposal (last accessed 22 May 2018)
Feneyrol et al 2010	Feneyrol, J., Giuliani, G., Ohnenstetter, D., Le Goff, E., Malisa, E., Saul, M., Saul, E., Saul, J. & V. Pardiou (2010). 'Lithostratigraphic and structural controls of 'tsavorite' deposits at Lemshuku, Merelani area, Tanzania.' <i>Compte Rendus Geoscience</i> . Vol.342. pp.778-785.
Flintan 2012	Flintan, F. (2012). <i>Participatory rangeland resource mapping as a valuable tool for village land use planning in Tanzania</i> . Rome, Italy: ILC. Feb 2012.
Flowers & Shuma 2016	Flowers, K. & O. Shuma (2016). <i>Tracking Promises: Analyzing the Impact of Feed the Future Investments in Tanzania</i> . Mar 2016. Washington D.C., USA: Center for Strategic & International Studies.

Short reference	Long reference
Freedom House 2018	Freedom House (2018). <i>Freedom in the World 2018: Tanzania Profile</i> . Webpage. https://freedomhouse.org/report/freedom-world/2018/tanzania (last accessed 18 Apr 2018)
Gemdat 2017	Gemdat (2017). <i>Gemdat.org: The gemstone and gemology information website</i> . Data on Tanzania at 23 January 2017. https://www.gemdat.org (last accessed 18 Apr 2018)
Global Integrity 2010	Global Integrity (2010). <i>Global Integrity Report 2010: Tanzania</i> . Webpage. https://www.globalintegrity.org/research/reports/global-integrity-report/global-integrity-report-2010/gir-scorecard-2010-tanzania/ (last accessed 18 Apr 2018)
Goldman & Little 2015	Goldman, M. & J. Little (2015). 'Innovative Grassroots NGOs and the Complex Processes of Women's Empowerment: An Empirical Investigation from Northern Tanzania'. <i>World Development</i> . Vol.66. pp.762-777.
Goldman et al 2016	Goldman, M., Davis, A. & J. Little (2016). 'Controlling land they call their own: access and women's empowerment in Northern Tanzania'. <i>The Journal of Peasant Studies</i> .
Grabe 2015	Grabe, S. (2015). 'Participation: Structural and relational power and Maasai women's political subjectivity in Tanzania.' <i>Feminism & Psychology</i> . pp.1-21.
Grabe et al 2015	Grabe, S. Grose, R. & A. Dutt (2015). 'Women's Land Ownership and Relational Power: A Mixed Methods Approach to Understanding Structural Inequities and Violence Against Women.' <i>Psychology of Women Quarterly</i> . Vol.39. No.1. pp.7-19.
Greco 2015	Greco, E. (2015). 'Landlords in the making: class dynamics of the land grab in Mbarali, Tanzania.' <i>Review of African Political Economy</i> . Vol.42. No.144. pp.225-244.
Greco 2016	Greco, E. (2016). 'Village Land Politics and the Legacy of Ujamaa.' <i>Review of African Political Economy</i> . Vol.43. No.51. pp.22-40.
Guardian 2016	Guardian, The (2016). 'PM orders seizure of undeveloped land.' <i>The Guardian</i> . 21 Mar 2016.
Hardin 1968	Hardin, G. (1968). 'The Tragedy of the Commons.' <i>Science</i> . Vol.162.
Hart et al 2014a	Hart, A., Tumsifu, E., Nguni, W., Recha, J., Malley, Z., Masha, R. & L. Buck (2014a). <i>Participatory Land Use Planning to Support Tanzanian Farmer and Pastoralist Investment: Experiences from Mbarali District, Mbeya Region, Tanzania</i> . Jul 2014. Rome, Italy: ILC.
Hart et al 2014b	Hart, A., Tumsifu, E., Nguni, W., Recha, J., Malley, Z., Masha, R. & L. Buck (2014b). 'Village Land Use Planning: A Potential Tool for Greening Landscapes in Mbarali District, Mbeya.' <i>Ecoagriculture Policy Focus</i> . No.11. Apr 2014. Rome, Italy: ILC.
Haworth 2016	Haworth, A. (2016). 'Why Straight Women Are Marrying Each Other.' <i>Marie Claire</i> . 25 Jul 2016. https://www.marieclaire.com/culture/a21668/the-tanzanian-wives/ (last accessed 12 Apr 2018)
Helliesen 2012	Helliesen, M.S. (2012). 'Tangled up in Blue: Tanzanite Mining and Conflict in Mererani, Tanzania.' <i>Critical African Studies</i> . Vol.4. No.7. pp.58-93.
Hodgson 1999	Hodgson, D. (1999). 'Pastoralism, Patriarchy and History: Changing Gender Relations among Maasai in Tanganyika, 1890-1940.' <i>The Journal of African History</i> . Vol.40. No.1. pp.41-65.
Hogg 1987	Hogg, R. (1987). 'Development in Kenya: Drought, Desertification and Food Security.' <i>African Affairs</i> . Vol.86.
HRW 2013	Human Rights Watch (HRW) (2013). <i>Tanzania: Hazardous Life of Child Gold Miners. Government, World Bank, Donors Should Address Child Labor in Mines</i> . 28 Aug 2013. HRW Webpage. https://www.hrw.org/news/2013/08/28/tanzania-hazardous-life-child-gold-miners (last accessed 22 May 2018)
IFAD 2012	International Fund for Agricultural Development (IFAD) (2012). <i>Country Technical Note on Indigenous People's Issues: United Republic of Tanzania</i> . Rome, Italy: IFAD. Jun 2012.
ILC 2014	International Land Coalition (ILC) (2014). <i>Participatory Rangeland Resource Mapping in Tanzania. A field manual to support planning and management in rangelands including in Village Land Use Planning</i> . Sep 2014. Rome, Italy: ILC.
ILC 2016	ILC (2016). <i>Women to Kilimanjaro. Newsletter</i> . 16 Oct 2016. Nairobi, Kenya: ILC.
Iliffe 1979	Iliffe, J. (1979). <i>A Modern History of Tanganyika</i> . Cambridge, UK: Cambridge University Press.
Jamasmie 2015	Jamasmie, C. (2015). <i>World Bank grants Tanzania \$45 million to improve mining sector</i> . 11 May 2015. Mining.com Webpage. http://www.mining.com/world-bank-grants-tanzania-45-million-to-improve-mining-sector/ (last accessed 27 Feb 2018)

Short reference	Long reference
Kamugisha 2015	Kamugisha, D. (2015). 'The Minimum Age of Marriage in Tanzania and the Best Interest of the Girl Child.' <i>Journal of the Tanzania Women Judges Association (TAWJA)</i> . Second Issue. May 2015.
Kazoka 2016	Kazoka, L. (2016). 'Land Tenure Support Programme kicks off.' <i>The Daily News</i> . 19 Feb 2016.
Kilimanjaro Initiative 2016a	Kilimanjaro Initiative (2016a). <i>Women to Kilimanjaro – Charter of Demands: Actualizing Women's Land Rights in Africa</i> . Oct 2016. Arusha, Tanzania: Kilimanjaro Initiative. http://www.actionaid.org/sites/files/actionaid/english_charter_to_print_final.pdf (last accessed 12 Apr 2018)
Kilimanjaro Initiative 2016b	Kilimanjaro Initiative (2016b). <i>Women to Kilimanjaro: Stand Up for Women's Land Rights</i> . Unpublished Information Note.
Kirimi & Njeru 2016	Kirimi, L. & T. Njeru (2016). <i>Collective Land Access Regimes in Pastoralist Societies: Lessons from East African Countries</i> . ELLA Research Paper Series. ELLA Programme Website. Apr 2016. http://ella.practicalaction.org/wp-content/uploads/2016/07/REP-TEGEMEO-Collective-Land-Access-Regimes-in-Pastoralist-Societies.pdf (last accessed 22 May 2018)
Kisambu 2016	Kisambu, N. (2016). <i>Mainstreaming Gender in Tanzania's Local Land Governance</i> . London, UK: IIED.
Kisambu et al 2017	Kisambu, N., Flintan, F., Daley, E. & S. Pallas (2017). <i>Pastoral Women's Land Rights and Village Land Use Planning in Tanzania: Experiences from the Sustainable Rangeland Management Project</i> . Paper prepared for presentation at the '2017 World Bank Conference on Land and Poverty', The World Bank, Washington D.C., USA, 20-24 Mar 2017.
Kjekhus 1996	Kjekhus, H. (1996). <i>Ecology Control and Economic Development in East African History</i> . London, UK: James Currey.
Knight 2010	Knight, R. (2010). <i>Statutory recognition of customary land rights in Africa: An investigation into best practices for lawmaking and implementation</i> . FAO Legislative Study 105. Rome: FAO.
Lamtey 2016	Lamtey, G. (2016). 'Govt to seize, redistribute all idle land.' <i>The Citizen</i> . 19 Feb 2016. http://www.thecitizen.co.tz/News/Govt-to-seize--redistribute-all-idle-land-/1840340-3083770-format-xhtml-kntno6z/index.html (last accessed 22 May 2018)
Lange 2008	Lange, S. (2008). <i>Land Tenure and Mining in Tanzania</i> . Bergen, Norway: Chr. Michelsen Institute.
LARRRI 2009	Land Rights Research and Resources Institute (LARRRI) (2009). <i>The State of the then NAFCO, NARCO and Absentee Landlords' Farms/Ranches in Tanzania</i> . 14 Feb 2009. Tanzania: LARRRI/HAKIARDHI.
LARRRI 2010	LARRRI (2010). <i>Accumulation by Land Dispossession and Labour Devaluation in Tanzania: The Case of Biofuel and Forestry Investments in Kilwa and Kilolo</i> . Dec 2010. Tanzania: LARRRI/HAKIARDHI.
Locher 2016	Locher, M. (2016). 'How come others are selling our land? Customary land rights and the complex process of land acquisition in Tanzania.' <i>Journal of Eastern African Studies</i> . Vol.10. No.3. pp.393-412.
Locke et al 2013	Locke, A., Henley, G. & R. Nshala (2013). <i>Launching the Tanzania-G8 Land Transparency Partnership: Inception Report</i> . 13 Sep 2013. London, UK: Overseas Development Institute.
Looloitai et al 2008	Looloitai, L., Katete, I. & R. Scheyvens (2008). <i>End of Term Evaluation of the Gender and Women's Development Programme, CORDS, Tanzania</i> . Arusha, Tanzania: CORDS.
Loure & Lekaita 2017	Loure, E. & E. Lekaita (2017). <i>Securing Customary Land Tenure through Certificates of Customary Rights of Occupancy in Tanzania</i> . Paper prepared for presentation at the '2017 World Bank Conference on Land and Poverty', The World Bank, Washington D.C., USA, 20-24 Mar 2017.
Lugoe 2012	Lugoe, F. (2012). <i>Governance in Mining Areas in Tanzania with Special Reference to Land Issues</i> . ESRF Discussion Paper No.41. Dar es Salaam, Tanzania: The Economic and Social Research Foundation.
Lyimo 2013	Lyimo, J. (2013). 'One killed as farmers and pastoralists clash over land.' <i>The Citizen</i> . 16 Dec 2013.
Magai & Márquez-Velázquez 2011	Magai, P. & A. Márquez-Velázquez (2011). <i>Tanzania's Mining Sector and Its Implications for the Country's Development</i> . Working Paper No.04/2011. Aug 2011. Berlin, Germany: Competence Center. https://www.lai.fu-berlin.de/homepages/Alejandro_Marquez/Publicationen/wp_2011_04_Magai-Marquez_Tanzanias-Mining-Sector.pdf
Maganga with Mhinda 2009	Maganga, F. with A. Mhinda (2009). <i>Mining in Tanzania: Status and Challenges of the Extractive Resource Industry</i> . Sep 2009. Draft Paper. The Society for International Development, Regional Office for Eastern Africa.
Mahonge 2012	Mahonge, C. (2012). <i>Transforming traditional land governance systems and coping with land deal transactions</i> . LDPI Working Paper 6. Brighton, UK: The Land Deal Politics Initiative.

Short reference	Long reference
Makoye 2016a	Makoye, K. (2016a). <i>Tanzania seizes 'idle' land from investors to return to poor farmers</i> . Place Webpage. 1 Jun 2016. http://www.thisisplace.org/i/?id=99fdfeb6-5fe2-4f33-9eca-3aa9c596878d (last accessed 11 Apr 2018)
Makoye 2016b	Makoye, K. (2016b). <i>Tanzania dam halt a 'victory' for vulnerable communities, says aid agency</i> . Reuters Webpage. 27 Jun 2016. https://af.reuters.com/article/africaTech/idAFKCN0ZD2F6 (last accessed 11 Apr 2018)
Makoye 2016c	Makoye, K. (2016c). <i>Tanzania's women farmers confront customs and complex laws to access land</i> . Reuters Webpage. 21 Jul 2016.
Makoye 2016d	Mayoke, K. (2016d). <i>Tanzania orders drought-hit herders to leave national parks</i> . Reuters Webpage. 17 May 2016. https://www.reuters.com/article/us-tanzania-landrights-wildlife/tanzania-orders-drought-hit-herders-to-leave-national-parks-idUSKCN0Y828I (last accessed 27 Feb 2018)
Makoye 2016e	Makoye, K. (2016e). <i>Straight talking calms rural water conflicts in Tanzania</i> . Reuters Webpage. 3 Mar 2016. https://www.reuters.com/article/us-tanzania-water-conflict/straight-talking-calms-rural-water-conflicts-in-tanzania-idUSKCN0W51KB (last accessed 27 Feb 2018)
Maliasili Initiatives 2012	Maliasili Initiatives (2012). <i>Securing Community Land Rights: Local experiences and insights from working to secure hunter-gatherer and pastoralist land rights in Northern Tanzania</i> . Arusha, Tanzania: PWC and UCRT with Maliasili Initiatives.
Maliasili Initiatives 2014	Maliasili Initiatives (2014). <i>2013 Annual Report</i> .
Mama Ardhi no date	Mama Ardhi (no date). <i>Equal Land Rights for Women Today Equals a Better Future for All Tanzanians Tomorrow</i> .
Manji 1998	Manji, A. (1998). 'Gender and the politics of the land reform process in Tanzania.' <i>Journal of Modern African Studies</i> . Vol.36. No.4. (1998) pp.645-667.
Marrone 2016	Marrone, R. (2016). <i>CCRO: Securing Communal Land Rights in Tanzania</i> . 22 Jul 2016. http://borgenproject.org/communal-land-rights-tanzania/ (last accessed 11 Apr 2018)
Massay 2016	Massay, G. (2016). <i>Pillars of the community: how trained volunteers defend land rights in Tanzania</i> . London, UK: IIED.
Matandiko 2016	Matandiko, K. (2016). 'Solution for Land Squabbles in Sight.' <i>The Citizen</i> . 30 Mar 2016. http://www.thecitizen.co.tz/News/Solution-for-land-squabbles-in-sight-/1840340-3138098-m7wjboz/index.html (last accessed 22 May 2018)
Mbilinyi 2015	Mbilinyi, M. (2015). 'Transformative Feminism in Tanzania: Animation and Grassroots Women's Struggles for Land and Livelihoods', in Baksh, R. & W. Harcourt (eds.) <i>The Oxford Handbook of Transnational Feminist Movements</i> .
Mbilinyi 2016a	Mbilinyi, M. (2016a). 'Tanzania: The Dilemmas and Difficulties of Land Policy Reform.' <i>The Citizen</i> . 20 Sep 2016. http://www.thecitizen.co.tz/oped/The-dilemmas-and-difficulties-of-land-policy-reform/1840568-3388032-xtchtpz/index.html (last accessed 22 May 2018)
Mbilinyi 2016b	Mbilinyi, M. (2016b). 'On My Mind: Women and land: Is there light at the end of the tunnel?' <i>The Citizen</i> . 18 Oct 2016. http://www.thecitizen.co.tz/oped/Women-and-land--Is-there-light-at-the-end-of-the-tunnel-/1840568-3420720-527txd/index.html (last accessed 12 Apr 2018)
Mbilinyi & Shechambo 2015	Mbilinyi, M. & G. Shechambo (2015). 'Experiences in Transformative Feminist Movement Building at the Grassroots Level in Tanzania', in Ampofo, A. A., Rodriguez, C. & D. Tsikata (eds.) <i>Transatlantic Feminisms: Women and Gender Studies in Africa and the African Diaspora</i> .
McAuslan 2010	McAuslan, P. (2010). 'Personal reflections on drafting laws to improve women's access to land: is there a magic wand?' <i>Journal of Eastern African Studies</i> . Vol.4. No.1. pp.114-130.
McDermott 2017	McDermott, S. (2017). 'I acted as a man to get work – until I was accused of rape.' <i>BBC World Service</i> . 15 May 2017. https://www.bbc.co.uk/news/magazine-39705424 (last accessed 5 Jun 2018)
McVeigh 2017	McVeigh, K. (2017). "'Land means life': Tanzania's Maasai fear their existence is under threat.' <i>The Guardian</i> . 16 Oct 2017. https://www.theguardian.com/global-development/2017/oct/16/land-means-life-tanzania-maasai-fear-existence-under-threat (last accessed 22 May 2018)
Mfugale 2016	Mfugale, D. (2016). 'Tanzania: In defence of the rights of the poor to land, extractives resources.' <i>Tanzania Daily News</i> . 1 Feb 2016.

Short reference	Long reference
Morlin-Yron 2016	Morlin-Yron, S. (2016). 'Securing communal land rights for Tanzania's indigenous peoples'. <i>The Ecologist</i> . 25 Apr 2016. https://theecologist.org/2016/apr/25/securing-communal-land-rights-tanzanias-indigenous-peoples (last accessed 11 Apr 2018)
Mueller 2015	Mueller, V. (2015). Filling the legal void? Musings from a Community Based Legal Aid Experiment in Tanzania. 27 Apr 2015. http://capri.cgiar.org/2015/10/12/blog-filling-the-legal-void/ (last accessed 11 Apr 2018)
Mueller et al 2015	Mueller, V., Billings, L., Mogue, T., Peterman, A. & A. Wineman (2015). <i>Filling the Legal Void? Experimental Evidence from a Community-Based Legal Aid Program for Gender-Equal Land Rights in Tanzania</i> . IFPRI Discussion Paper 01434. Apr 2015. Washington D.C., USA: International Food Policy Research Institute http://ssrn.com/abstract=2591570 (last accessed 11 Apr 2018)
Must 2018	Must, E. (2018). 'Structural Inequality, Natural Resources and Mobilization in Southern Tanzania.' <i>African Affairs</i> . Vol.117. No.466. pp.86-108.
Nayopa 2015	Nayopa, J. (2015). <i>Investment Opportunities in Tanzania's Mineral Sector</i> . Presentation to Japan-Africa Mining and Resources Business Seminar 2015.
Nelson et al 2012	Nelson, F., Sulle, E. & E. Lekaita (2012). <i>Land Grabbing and Political Transformation in Tanzania</i> . Paper presented at the International Conference on Global Land Grabbing II. Cornell University, USA. 17-19 Oct 2012.
Ngoitiko 2008	Ngoitiko, M. (2008). <i>The Pastoral Women's Council: Empowerment for Tanzania's Maasai</i> . Gatekeeper 137e. Aug 2008. London, UK: IIED.
Ngoitiko & Nelson 2013	Ngoitiko, M. & F. Nelson (2013). 'What Africa can learn from Tanzania's remarkable Masai land rights victory.' <i>The Guardian</i> . 8 Oct 2013. https://www.theguardian.com/global-development/poverty-matters/2013/oct/08/africa-tanzania-masai-land-rights-victory (last accessed 27 Feb 2018)
Ng'wanakilala 2017	Ng'wanakilala, F. (2017). <i>Tanzania orders wall built around tanzanite mines to halt illegal trade</i> . Reuters Webpage. 20 Sep 2017. https://www.reuters.com/article/us-tanzania-mining-wall/tanzania-orders-wall-built-around-tanzanite-mines-to-end-illegal-trade-idUSKCN1BV1YF (last accessed 26 Apr 2018)
Nkwame 2018	Nkwame, M. (2018). 'Mimerani Wall launch today historic moment.' <i>The Daily News</i> . 6 Apr 2018.
Nwapi & Andrews 2018	Nwapi, C. & N. Andrews (2018). 'A "New" Developmental State in Africa? Evaluating Recent State Interventions vis-à-vis Resource Extraction in Kenya, Tanzania, and Rwanda'. <i>Journal of Sustainable Development Law</i> . MJS DL-RDDDM. Vol.13. Issue.2. pp.223-267.
Nyerere 1966	Nyerere, J. (1966). 'Ujamaa – The Basis of African Socialism.' In Nyerere, J., <i>Freedom and Unity. Uhuru na Umoja</i> . pp.162-71. London, UK: Oxford University Press.
Nyerere 1968	Nyerere, J. (1968). 'The Arusha Declaration: Socialism and Self-Reliance.' In Nyerere, J., <i>Freedom and Socialism. Uhuru na Ujamaa</i> . Pp.231-50. London: Oxford University Press.
OECD 2013	Organisation for Economic Co-operation and Development (OECD) (2013). <i>OECD Investment Policy Reviews: Tanzania 2013</i> . Paris, France: OECD Publishing.
PAICODEO 2013	Parakuiyo Pastoralists Indigenous Community Development Organisation (PAICODEO) (2013). <i>Report on the State of Pastoralists' Human Rights in Tanzania: Survey of Ten Districts of Tanzania Mainland 2010/2011</i> . Tanzania: PAICODEO. Mar 2013.
Pedersen 2010	Pedersen, R. (2010). <i>Tanzania's Land Law Reform; the Implementation Challenge</i> . DIIS Working Paper 2010:37. Copenhagen, Denmark: DIIS.
Pedersen 2015	Pedersen, R. (2015). 'A Less Gendered Access to Land? The Impact of Tanzania's New Wave of Land Reform.' <i>Development Policy Review</i> .
Peterman 2011	Peterman, A. (2011). 'Women's Property Rights and Gendered Policies: Implications for Women's Long-term Welfare in Rural Tanzania.' <i>The Journal of Development Studies</i> . Vol.47. No.1. pp.1-30.
Poncian & George 2015	Poncian, J. & C. George (2015). 'Mineral Extraction for Socio-Economic Transformation of Tanzania: The Need to Move from Papers to Implementation of Mining Policy and Law.' <i>Journal of Social Science Studies</i> . Vol.2. No.2. pp.160-175.
PWC et al 2014	Pastoral Women's Council (PWC), Ujamaa Community Resource Team (UCRT) and Maliasili Initiatives (2014). <i>Women's Rights and Leadership Forums. Advancing the Land Rights of Pastoralist Women in Northern Tanzania</i> .
Reuters 2016	Reuters (2016). 'A fight for land security'. <i>Himalayan Times</i> . 22 Apr 2016. https://thehimalayantimes.com/environment/fight-land-security/ (last accessed 27 Feb 2018)

Short reference	Long reference
Revocati 2015	Revocati, K. (2015). 'Adequacy of Remedies to Victims of Sexual Violence in Tanzania.' <i>Journal of the Tanzania Women Judges Association (TAWJA)</i> . Second Issue. May 2015.
Robi 2016	Robi, A. (2016). 'Local Councils Restrained From Selling Land.' <i>Tanzania Daily News</i> . 25 Aug 2016. http://allafrica.com/stories/201608250211.html (last accessed 22 May 2018)
Salcedo-La Viña & Morarji 2016	Salcedo-La Viña, C. & M. Morarji (2016). <i>Making Women's Voices Count In Community Decision-Making On Land Investments</i> . Washington D.C., USA: World Resources Institute. https://www.wri.org/sites/default/files/Making_Womens_Voices_Count_In_Community_Decision-Making_On_Land_Investments.pdf (last accessed 22 May 2018)
Sandefur et al 2015	Sandefur, J., Birdsall, N. & M. Moyo (2015). <i>Tanzania Poll Results: Can Deliberative Democracy Cure the Resource Curse?</i> 9 Aug 2015. https://www.cgdev.org/blog/tanzania-poll-results-can-deliberative-democracy-cure-resource-curse (last accessed 26 Feb 2018)
Shem 2010	Shem, M. (2010). <i>Impacts of Government Policies on Pastoralist Livelihoods in the Semi-Arid Areas of Tanzania</i> . Paper presented at the ICID+18, 16-20 Aug 2010.
Shigela 2016	Shigela, K.M. (2016). 'Tanzania Adopts New Policy to Curb Land Grabbing - Analysis.' <i>Eurasia Review: A Journal of Analysis and News</i> . 19 Dec 2016. http://www.eurasiareview.com/19122016-tanzania-adopts-new-policy-to-curb-land-grabbing-analysis/ (last accessed 13 Apr 2018)
SID 2009	Society for International Development (SID) (2009). <i>The Extractive Resource Industry in Tanzania: Status and Challenges of the Mining Sector</i> . Nairobi, Kenya: SID.
Sikar 1996	Sikar, T. (1996). <i>Conflicts over Natural Resources in Maasai District, Simanjiro, Tanzania</i> . https://vtechworks.lib.vt.edu/handle/10919/66013 (last accessed 27 Feb 2018)
Simbaya 2015	Simbaya, F. (2015). 'USAID helps 940 Iringa villagers to own land.' <i>IPPMedia.com</i> . 1 Aug 2015.
Smith 2013	Smith, D. (2013). 'Tanzania ditches plan to evict Maasai for Serengeti 'wildlife corridor'.' <i>The Guardian</i> . 7 Oct 2013. https://www.theguardian.com/world/2013/oct/07/tanzania-maasai-serengeti-wildlife-corridor (last accessed 27 Feb 2018)
Smith 2015	Smith, J. (2015). 'Survival in the Great Rift.' <i>The Nature Conservancy</i> . Dec/Jan 2015. https://www.nature.org/magazine/archives/survival-in-the-great-rift.xml (last accessed 27 Feb 2018)
Sorensen 2013	Sorensen, C. (2013). <i>Strengthening pastoral women's land rights in northern Tanzania: A review of the impacts and achievements of the Women's Leadership Forums</i> . Dec 2013. Unpublished Report for Maliasili Initiatives, PWC & UCRT.
Sosy 2013	Sosy, J. (2013). <i>Socio-Economic Constraints Among Local Artisanal Miners in Simanjiro District, Tanzania</i> . Masters Dissertation, Sokoine University of Agriculture, Morogoro, Tanzania.
SRMP 2013	Sustainable Rangeland Management Project (SRMP) (2013). <i>Village land use planning in rangelands in Tanzania: good practice and lessons learned</i> . Rome, Italy: ILC. Oct 2013.
STAMICO no date	State Mining Corporation (STAMICO) (no date). <i>State Mining Corporation</i> . STAMICO Webpage. https://www.stamico.co.tz/
Sulle 2010	Sulle, E. (2010). <i>Scramble for Land in Tanzania</i> . Presentation at PLAAS Workshop on Commercialization of Land and 'Land Grabbing' in Southern Africa. Cape Town, South Africa. 24-25 Mar 2010.
Sulle 2016a	Sulle, E. (2016a). <i>Citizen participation is key to inclusive land policy</i> . PLAAS Blog. 20 Apr 2016. http://www.plaas.org.za/blog/citizen-participation-key-inclusive-land-policy (last accessed 27 Feb 2018)
Sulle 2016b	Sulle, E. (2016b). <i>A Country Assessment Report on the Status of the Ten ILC People Centred Land Governance Commitments: United Republic of Tanzania. A Report prepared for International Land Coalition</i> . 25 Jun 2016. Unpublished draft.
Sulle & Nelson 2009	Sulle, E. & F. Nelson (2009). <i>Biofuels, land access and rural livelihoods in Tanzania</i> . London, UK: IIED.
Sundet 1997	Sundet, G. (1997). <i>The Politics of Land in Tanzania</i> . DPhil Dissertation. Oxford, UK: Oxford University.
Sundet 2005	Sundet, G. (2005). <i>The 1999 Land Act and Village Land Act: A technical analysis of the practical implications of the Acts. Working Draft</i> . 28 Feb 2005.
Swynnerton 1954	Swynnerton, R. (compiler) (1954). <i>A Plan to Intensify the Development of African Agriculture in Kenya</i> . Nairobi, Kenya: Government Printer.

Short reference	Long reference
Tanzanian CSOs 2018	Tanzanian Civil Society Organisations (CSOs) (2018). <i>Civil societies call regarding the security of citizens, human rights and rule of law in Tanzania</i> . Petition issued by CSOs Directors Forum Tanzania. 21 Feb 2018. http://africanarguments.org/wp-content/uploads/2018/03/CIVIL-SOCIETIES-CALL-REGARDING-THE-SECURITY-OF-CITIZENS-HUMAN-RIGHTS-AND-RULE-OF-LAW-IN-TANZANIA.output.pdf (last accessed 19 Apr 2018)
TAWLA & LEAT 2015	TAWLA & Lawyers' Environmental Action Team (LEAT) (2015). <i>Promoting gender-equitable and participatory community decision-making processes on land investment</i> . Unpublished draft.
Taylor 2016	Taylor, B. (2016). <i>Can confrontation and violence be avoided on Tanzania's "Day of Defiance"?</i> African Arguments Blog. 30 Aug 2016. http://africanarguments.org/2016/08/30/can-confrontation-and-violence-be-avoided-on-tanzanias-day-of-defiance/#comment-84443 (last accessed 11 Apr 2018)
Tibaijuka 1988	Tibaijuka, A. (1988). <i>The Impact of Structural Adjustment Programmes on Women: The Case of Tanzania's Economic Recovery Programme</i> . A Case Study prepared for CIDA and the Commonwealth Secretariat. London, UK: mimeo.
TNBS 2013	Tanzania National Bureau of Statistics (TNBS) (2013). <i>Population Distribution by Age and Sex. 2012 Population and Housing Census</i> . Dar es Salaam, Tanzania: National Bureau of Statistics, Ministry of Finance, and Office of Chief Government Statistician, President's Office, Finance, Economy and Development Planning, Zanzibar.
TNBS 2017	TNBS (2017). <i>Women & Men in Tanzania, Facts & Figures 2017</i> . Dar es Salaam, Tanzania: National Bureau of Statistics.
TNRF 2013	Tanzania Natural Resource Forum (TNRF) (2013). <i>Legal Tools for Citizen Empowerment: A guide to the laws governing land and investment in Tanzania</i> . London, UK: IIED.
TNRF 2014a	TNRF (2014a). <i>Current Issues on Land/Forest Related Investment in Tanzania</i> . Oct 2014. Arusha, Tanzania: TNRF.
TNRF 2014b	TNRF (2014b). <i>AU Policy Framework for Pastoralism in Africa: Key Lessons and Significance to Tanzania</i> . Information Brief 2014. Arusha, Tanzania: TNRF.
Tugendhat 2016	Tugendhat, H. (2016). <i>World Bank turns its back on pastoralist communities in Africa</i> . Bretton Woods Project Website. 23 Sep 2016. http://www.brettonwoodsproject.org/2016/09/world-bank-turns-back-pastoralist-communities-africa/ (last accessed 22 May 2018)
UCRT 2010	Ujamaa Community Resource Team (UCRT) (2010). <i>Participatory Land Use Planning as a Tool for Community Empowerment in Northern Tanzania. Gatekeeper 147</i> . Dec 2010. London, UK: IIED.
UCRT 2016	UCRT (2016). <i>Landmark Land Certificates Awarded to Tanzanian Minority Groups</i> . Arusha, Tanzania: UCRT.
UCRT no date	UCRT (no date). <i>Securing Communal Land Tenure in Northern Tanzania Using Certificates of Customary Right of Occupancy</i> . Arusha, Tanzania: UCRT.
UNDP 2016	United Nations Development Programme (UNDP) (2016). <i>Human Development Report 2016. Development for Everyone</i> . New York, USA: UNDP.
UNEP 2012	United Nations Environment Programme (UNEP) (2012). <i>Analysis of Formalization Approaches in the Artisanal and Small-Scale Gold Mining Sector Based on Experiences in Ecuador, Mongolia, Peru, Tanzania and Uganda: Tanzania Case Study</i> . Jun 2012. Nairobi, Kenya: UNEP.
UN Women 2016a	United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) (2016a). <i>Mapping Study on Gender and Extractive Industries in Tanzania</i> . Report. Mar 2016. New York, USA: UN Women.
UN Women 2016b	UN Women (2016b). <i>Mapping Study on Gender and Extractive Industries in Tanzania</i> . Presentation. 23 Mar 2016. New York, USA: UN Women.
URT 1994	United Republic of Tanzania (URT) (1994). <i>Report of the Presidential Commission of Inquiry into Land Matters - Volume 1, Land Policy and Land Tenure Structure</i> . Sweden: The Ministry of Lands, Housing and Urban Development, Government of the United Republic of Tanzania, in cooperation with The Scandinavian Institute of African Studies.
URT 1995	URT (1995). <i>National Land Policy</i> . Dar es Salaam, Tanzania: Government Printer.
URT 1999a	URT (1999a). <i>The Land Act (No. 6 of 1999)</i> . Dar es Salaam, Tanzania: Government Printer.
URT 1999b	URT (1999b). <i>The Village Land Act (No. 7 of 1999)</i> . Dar es Salaam, Tanzania: Government Printer.
URT 2004	URT (2004). <i>Employment and Labour Relations Act (No.6 of 2004)</i> . Dar es Salaam, Tanzania: URT.

Short reference	Long reference
URT 2006	URT (2006). <i>National Livestock Policy</i> . Dar es Salaam, Tanzania: Ministry of Livestock Development. Dec 2006.
URT 2009	URT (2009). <i>The Mineral Policy of Tanzania</i> . Dar es Salaam, Tanzania: MEM. Sep 2009.
URT 2010	URT (2010). <i>The Mining Act (No.14 of 2010)</i> . Dar es Salaam, Tanzania: MEM.
URT 2013a	URT (2013a). <i>National Agriculture Policy</i> . Dar es Salaam, Tanzania: Ministry of Agriculture Food Security & Cooperatives. Oct 2013.
URT 2013b	URT (2013b). <i>Basic Data for Livestock and Fisheries Sectors 2013</i> . Dar es Salaam, Tanzania: Ministry of Livestock & Fisheries Development. Jan 2014.
URT 2013c	URT (2013c). <i>Investment and Socio-Economic Profile Manyara Region</i> . Babati, Tanzania: Prime Minister's Office Regional Administration & Local Government, Regional Commissioner's Office, Manyara. Aug 2013.
URT 2014a	URT (2014a). <i>Tanzania Agriculture Climate Resilience Plan, 2014-19</i> . Dar es Salaam, Tanzania: Ministry of Agriculture Food Security & Cooperatives. Sep 2014.
URT 2014b	URT (2014b). <i>Katiba Inayopendenkezwa (Proposed Constitution)</i> . Dar es Salaam, Tanzania: Bunge Maalum (Constitutional Review Commission). Oct 2014. http://www.constitutionnet.org/sites/default/files/rasimu_ya_katiba_inayopendekezwa_na_bunge_maalum_1.pdf (last accessed 13 Apr 2018)
URT 2015	URT (2015). <i>Tanzania Mining Industry Investor's Guide</i> . Dar es Salaam, Tanzania: MEM. Jun 2015.
URT 2016a	URT (2016a). <i>Economic Profile of Simanjiro District</i> . Orkesemet, Tanzania: Simanjiro District Government. Jun 2016.
URT 2016b	URT (2016b). <i>The National Land Policy, 2016. Draft. For external consultation with stakeholders</i> . Dar es Salaam, Tanzania: MLHSD. Nov 2016.
URT 2018	URT (2018). <i>Tanzania Mining Cadastre Portal</i> . MEM Webpage. http://portal.madini.go.tz/map/ (last accessed 5 Jun 2018)
URT no date	URT (no date) <i>The Tanzania Development Vision 2025</i> . Dar es Salaam, Tanzania: Planning Commission.
USDS 2016	US Department of State (USDS) (2016). <i>Country Reports on Human Rights Practices for 2016: Tanzania</i> . Webpage. https://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm?year=2016&dliid=265310#wrapper (last accessed 18 Apr 2018)
USDS 2018	USDS (2018). <i>U.S. Relations with Tanzania. Bureau of African Affairs Fact Sheet</i> . Webpage. https://www.state.gov/r/pa/ei/bgn/2843.htm (last accessed 18 Apr 2018)
USAID 2015	United States Agency for International Development (USAID) (2015). <i>It takes a village – mapping land rights in Tanzania</i> . USAID Land Tenure and Property Rights Portal. 9 Jul 2015. https://www.land-links.org/2015/07/it-takes-a-village-mapping-land-rights-in-tanzania/ (last accessed 22 May 2018)
USAID no date	USAID (no date). <i>Tanzania: Property Rights and Resource Governance Profile</i> . Washington D.C., USA: USAID.
Wanzala 2016	Wanzala, J. (2016). <i>As pastoralist land shrinks, Maasai women take livestock lead</i> . Reuters Webpage. 26 Jul 2016. https://www.reuters.com/article/us-kenya-herders-women/as-pastoralist-land-shrinks-maasai-women-take-livestock-lead-idUSKCN1060Q4?il=0 (last accessed 12 Apr 2018)
WEF 2017	World Economic Forum (WEF) (2017). <i>The Global Gender Gap Report 2017</i> . Geneva, Switzerland: WEF.
WLAC 2010	Women's Legal Aid Centre (WLAC) (2010). <i>Assessing Rural Women's Land Ownership: Ten Years After the Enactment of the Land Laws</i> . Dar es Salaam, Tanzania: WLAC.
World Bank 2016a	World Bank, The (2016a). <i>New project to link farmers to agribusiness in Tanzania</i> . Press release. 10 Mar 2016. http://www.worldbank.org/en/news/press-release/2016/03/10/new-project-to-link-farmers-to-agribusiness-in-tanzania (last accessed 22 May 2018)
World Bank 2016b	World Bank (2016b). <i>Tanzania Economic Update: the road less travelled – unleashing public private partnerships in Tanzania</i> . Tanzania Economic Update Issue No.8. May 2016. Washington D.C., USA: The World Bank. http://documents.worldbank.org/curated/en/302151467992051044/Tanzania-economic-update-the-road-less-traveled-unleashing-public-private-partnerships-in-Tanzania (last accessed 18 Apr 2018)

Short reference	Long reference
World Bank 2018	World Bank (2018). <i>Doing Business, Measuring Business Regulations: Ease of Doing Business in Tanzania</i> . Webpage. http://www.doingbusiness.org/data/exploreeconomies/tanzania/ (last accessed 18 Apr 2018)
York 2016	York, G. (2016). 'Police killed 65, injured 270 at Barrick Mine in Tanzania, inquiry hears.' <i>The Globe and Mail</i> . 22 Sep 2016. https://www.theglobeandmail.com/report-on-business/international-business/african-and-mideast-business/police-killed-65-injured-270-at-tanzanian-mine-inquiry-hears/article32013998/ (last accessed 26 Apr 2018)

